



STRATEGIC PLAN  
**2020/21-2024/25**

ANNUAL  
PERFORMANCE PLAN  
**2022/23-2024/25**



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# STATEMENT BY THE CHAIRPERSON

The period covered in this Strategic Plan coincides with the start of a new decade, which ignites a sense of new beginnings, new ideas, new challenges and new opportunities. In the development of this Plan, the Energy Regulator took cognisance of where our mandate fits into the bigger picture of energy.

In regulating the energy industry, we acknowledge the pivotal role it plays in economic growth. In modern economies, economic growth is closely associated with increasing energy consumption. The availability of secure, reliable and affordable energy supply is essential for industrial processes and the provision of public services such as lighting, heating, cooking, information and communication technology, and mobility.

NERSA does not function in isolation and needs to take cognisance of the developments, trends and challenges within the global energy environment. This will assist in deciding on appropriate response by incorporating any relevant trends and energy-related developments into its strategy.

The global energy system is undergoing unprecedented change, driven by forces such as technological innovation, changes in consumption patterns, supply dynamics and policy shifts. These forces offer opportunities to resolve the challenges that the global energy system faces today, namely:

- providing energy access to the more than one billion people who lack it;

- meeting demand for an additional two billion people by 2050 while delivering that energy at an affordable cost; and
- ensuring that the carbon and emissions footprint decline.

In addition, the geopolitical landscape of energy is quickly shifting and environmental concerns poses a serious challenge. At the same time, the economics of competing energy sources have changed, and the advent of Fourth Industrial Revolution technologies have enabled new business models, while making others obsolete. The latter has created significant uncertainty about the pace and destination of the transformation, making a strong case for a systemic, multi-stakeholder approach that increases the transparency of the enablers and reforms needed for countries to achieve an effective energy transition.

It is important to note is that despite the continued rapid growth in renewable energy last year, it provided only a third of the required increase in energy generation, with coal providing a broadly similar contribution. The increasing use of coal within the energy sector is estimated to have more than accounted for the entire growth of global coal consumption last year. Overall,

the electricity sector is estimated to have absorbed approximately fifty percent growth in primary energy in 2018 and accounted for approximately fifty percent of the increase in carbon emissions.

Over the next 20 years, the global energy system will face a critical challenge in respect of decarbonising the power sector while at the same time endeavouring to meet the rapid increase in the demand for power, especially in developing countries. Renewable energy has a vital role to play in meeting that challenge, but it is unlikely to be able to do so on its own. A variety of different technologies and fuels are likely to be required, including extensive coal-to-gas switching and the widespread deployment of carbon capture, use and storage.

With regard to the industries that is regulated by NERSA, the following should be noted:

- Globally the dependence on electricity is growing and society is becoming more and dependent on the use of electricity for the sustainability of life as they know it. In addition, electricity is the fastest-growing source of final energy demand, and over the next 25 years, it will continue to outpace energy consumption as a whole.



- Currently renewables are the world's fastest-growing energy source and renewable energy consumption is expected to increase by an average of 2.6% per year between up to 2040.
- Natural gas is expected to grow faster than other fossil fuels in the next two decades. Abundant natural gas resources and robust production, including rising supplies of tight gas, shale gas, and coalbed methane, will contribute to the strong competitive position of natural gas. The global interest in LNG power generation is increasing. There is also a growing demand for LNG as a bunkering fuel worldwide, albeit slowly.
- With regard to liquid fuels (mostly petroleum based) the projections are that it will remain the largest source of world energy consumption, the liquids share of world market energy consumption will fall to 30% in 2040. Contributing to the decline are rising oil prices in the long term, which will lead many energy users to adopt more energy efficient technologies and to switch away from liquid fuels.
- Even though the consumption of non-fossil fuels is expected to grow faster than the consumption of fossil fuels, it is projected that fossil fuels will still account for 78% of energy use in 2040.

With regard to continental developments, Sub-Saharan Africa accounts for 4.5% of global primary energy demand. Energy demand is very low. However, there are several factors pointing towards potentially rapid and prolonged growth in demand: strong economic expansion; increasing urbanisation; industrialisation and modernisation; a burgeoning middle class in

many countries; as well as a legacy of unmet energy demand. Bioenergy demand will increase by 40% in absolute terms by 2040, exacerbating stress on the forestry stock. The sub-Saharan Africa power system is expanding rapidly, with generation capacity quadrupling to 385 GW. The power mix becomes more diverse, with coal (mainly South Africa) and hydropower (all regions), being joined by greater use of gas (Nigeria, Mozambique, Tanzania), solar (South Africa and Nigeria) and geothermal (East Africa).

The share of renewables in total capacity more than doubled to 44%. Natural gas resource-holders can power domestic economic development and boost export revenues, but only if the right regulation, prices and infrastructure are in place. It is predicted that natural gas will nearly triple its share of the energy mix in Africa to 11% by 2040.

The Southern African region is relatively well endowed with energy resources. It has vast energy potential from solar, wind, nuclear, hydro, thermal, gas and petroleum sources in several countries. However, biomass is by far the largest source of energy in most regional countries. Electricity, as the dominant source of energy in the region, is generated mainly through thermal or hydroelectric resources. The coal industry is the backbone of power generation in the region and a significant share of the resource is allocated for export. The region has a large reserve of low-cost hydroelectricity in the north [especially Inga Reservoir in the Democratic Republic of Congo (DRC)] and Kariba Dam on the Zambia/Zimbabwe border in the middle

of the regional system, as well as large reserves of cheap coal in Botswana, Mozambique, South Africa and Zimbabwe.

Natural gas is becoming more significant to the region's energy sector, as Mozambique, Namibia, South Africa and Tanzania are developing the natural gas fields in their respective countries. New natural gas discoveries by international oil companies in Mozambique and Tanzania during the past decade have ignited investor interest in this previously under-explored region.

Furthermore, the region has some of the most significant known reserves of uranium. The mineral is being mined in Namibia and South Africa for use as fuel for nuclear power plants while exploration is underway in Botswana and Zimbabwe. Nuclear technology is included in the electricity sub-sector, but it must be demonstrated that nuclear power can be a safe electricity generation option and the confidence of the population and governments must be won to endorse nuclear energy deployment in the SADC region. Only South Africa has nuclear capacity, with tentative plans for a new nuclear programme.

As we are planning going into the new decade, we need to acknowledge the developments that took place in South Africa since we published our previous Strategic Plan. The country has been able to commit to a total of 18 000MW of new generation capacity. Coal will remain a key factor in electricity generation in South Africa in the near future. Government decided to extend Koeberg's design life and the expansion of the nuclear

power programme into the future in order to ensure that nuclear power remains a factor in the energy mix. Gas to power technologies provide the flexibility required to complement renewable energy. Exploration to assess the magnitude of local recoverable shale and coastal gas are being pursued. Co-operation and partnerships with neighbouring countries is critical for South Africa.

The Government, through the National Development Plan, envisages that, by 2030, South Africa will have an energy sector that provides reliable and efficient energy service at competitive rates; that is socially equitable through expanded access to energy at affordable tariffs; and that is environmentally sustainable through reduced emissions and pollution.

In carrying out its mandate, NERSA endeavours to facilitate the availability of reliable, affordable and clean energy to which will lead to sustainable economic and social development. Therefore, contributing to the economic growth of our country through the effective and efficient regulation is a priority for the Energy Regulator. A critical factor that affects the economy of a country is the cost of energy. In the case of South Africa, where electricity is the main source of energy, the cost of electricity is paramount. NERSA therefore have to, in collaboration with key stakeholders, consider the best way to provide affordable electricity.

Another priority for NERSA is the availability of secure, adequate and reliable energy supply. The challenges South Africa experienced in the last few years with load shedding and unplanned power outages accentuated the importance of the reliable supply of energy, because it severely affected all sectors of society. NERSA is committed to collaborate with Government and all stakeholders to address this challenge, within the parameters of its mandate.

On 7 February 2019, the Honourable President Cyril Ramaphosa announced in his State of the Nation Address that Government “*we shall immediately embark on a process of establishing three separate entities – Generation, Transmission and Distribution – under Eskom Holdings*”. In this regard, NERSA will investigate what the most appropriate regulatory framework would be for the licensing of the restructured electricity supply industry following the unbundling of Eskom.

The pivotal role that NERSA plays in the energy sector is underpinned by its mandate that is enshrined in its founding legislation and is aligned to the objectives of our government. In regulating the electricity, piped-gas and petroleum pipelines industries, NERSA adheres to the regulatory principles of transparency; neutrality; consistency and predictability; independence; accountability; integrity; efficiency; and public interest.

NERSA will continue to align its regulatory mechanisms with the transformation of the energy sector by ensuring the development of a sustainable energy mix that comprises coal, solar, wind, hydro, gas and nuclear energy. NERSA will also continue to execute its mandate in such a manner that the country’s energy constraints are addressed in order to create a conducive environment for growth and to endeavour to strike a fair balance between the interests of consumers on the one hand and regulated entities on the other hand.

I would like to take this opportunity to acknowledge the important work that the Members of the Energy Regulator, the management team and staff are executing and would like to encourage a collective and innovative spirit in implementing the legislative mandate of NERSA and future strategic programmes.



**Jacob RD Modise**

*Chairperson of the National Energy Regulator of South Africa*

# STATEMENT BY THE CHIEF EXECUTIVE OFFICER

The National Energy Regulator (NERSA) was established on 1 October 2005 on terms of the National Energy Regulator Act, 2004 (Act No. 40 of 2004). Its mandate is to regulate the electricity industry in terms of the Electricity Regulation Act, 2006 (Act No. 4 of 2006), the piped-gas industry in terms of the Gas Act, 2001 (Act No. 48 of 2001), and the petroleum pipelines industry in terms of the Petroleum Pipelines Act, 2003 (Act No. 60 of 2003).

NERSA's mandate, as contained in the relevant legislation, is summarised as follows:

- Issuing of licences and setting pertinent conditions;
- Setting and/or approving tariffs and prices;
- Monitoring and enforcing compliance with licence conditions;
- Dispute resolution including mediation, arbitration and the handling of complaints;
- Gathering, storing and disseminating industry information;
- Setting of rules, guidelines and codes for the regulation of the three industries;
- Determination of conditions of supply and applicable standards; and
- Registration of import and production activities.

In carrying out its mandate, NERSA endeavours to achieve its vision to be a recognised world-class leader in energy regulation. NERSA is expected to implement its mandate and to take the necessary regulatory decisions proactively in anticipation of and in response to the changing circumstances in the energy industry. The role of NERSA is to ensure the development and sustainability of the electricity, piped-gas and

petroleum pipelines industries, while facilitating the affordability of and accessibility to these industries to balance the economic interests of all stakeholders to ensure sustainable socio-economic development of South Africa and a better life for all.

During the previous planning period, the Regulator upheld its regulatory principles of transparency, neutrality, consistency and predictability, independence, accountability and integrity in regulating the electricity, piped-gas and petroleum pipelines industries. In addition, NERSA's focus was the continued alignment of its regulatory mechanisms with the transformation of the energy sector by ensuring the development of a sustainable energy mix.

The strategy of NERSA in the previous reporting period was aligned towards the realisation of its mission and vision and emphasising NERSA as a key enabler in advancing economic growth and social development within South Africa. The Regulator continued to ensure the orderly development in the energy sector, mainly through licensing, setting and approving of prices and tariffs, compliance monitoring and enforcement, and dispute resolution in the electricity, piped-gas and

petroleum pipelines industries. In addition, NERSA also commenced with a process to contribute towards the transformation of the energy industry, within the ambit of our mandate.

NERSA is very proud to have been able to achieve consecutive clean audit reports during the past five years, which is a reflection of the strength and integrity of its corporate governance structure.

In developing this Strategic Plan, the mandate of NERSA as well as key policy priorities were taken into account. The strategic focus stated in this Strategic Plan is in line with and in support of one of the key priorities derived from the Electoral Mandate and the State of the Nation Address, namely *Economic Transformation and Job Creation*.

It also includes the National Development Plan (NDP) which is a plan for the country to eliminate poverty and reduce inequality by 2030 through uniting South Africans, unleashing the energies of its citizens, growing an inclusive economy, building capabilities, enhancing the capability of the state and leaders working together to solve complex problems.

In view of the aforementioned, NERSA remains committed to increasing delivery on its mandate as well as evaluating the impact of our actions.

Specific outcomes were identified that will guide the Regulator's programmes for the next five year and are summarised as follows in respect of each of the regulated industries:

### ELECTRICITY INDUSTRY

1. Accessible and affordable electricity for all citizens.
2. Energy supply that is certain and secure for current and future user needs through the orderly development and operation of the electricity supply infrastructure.
3. A regulatory environment that facilitates investment in electricity infrastructure.
4. Regulatory certainty within the electricity industry.

### PETROLEUM PIPELINES INDUSTRY

1. Access to petroleum infrastructure.
2. Efficient, sustainable and orderly development of a transformed petroleum pipelines industry aimed at security of supply.
3. A regulatory environment that provides regulatory certainty and facilitates investment in petroleum pipeline infrastructure.
4. A competitive petroleum pipelines industry.

### PIPED-GAS INDUSTRY

1. Access to competitive gas prices and gas services.
2. Efficient, sustainable and orderly development of the piped-gas industry aimed at security of supply.
3. A regulatory environment that facilitates investment in piped-gas infrastructure
4. A competitive piped-gas industry.
5. Regulatory certainty within the piped-gas industry.

The organisational outcome is *"An enabling environment for the benefit of internal and external stakeholders with a skilled workforce that is empowered to work in a complex and ambiguous environment."*

The achievement of these outcomes will be enabled through, among others, revised regulatory methodologies and rules; continued monitoring of licensees' performance; contributing towards the restructuring of the energy industry; periodic assessment of adequacy of competition; decreasing regulatory burden; improved critical business and regulatory processes.

We believe the aforementioned will enable NERSA to contribute towards address the challenges identified by the Department of Mineral Resources and Energy, namely the impact of high electricity prices and the security of energy supply.

NERSA will continue to place emphasis on facilitating the entry of new players into the energy sector, particularly in the light of the generally monopolistic nature of the electricity, piped-gas and petroleum pipelines industries.

Our overall aim is that the impact of implementing this Strategic Plan is to facilitate a secure, reliable, affordable, sustainable, competitive and transformed energy industry, which contributes to the economic growth of South Africa. In order to achieve this NERSA places a high premium on capacity building of its staff complement. In addition to the training and development for staff members, NERSA has been and will continue to run successful internship and learnership programmes.

NERSA is fully committed to the implementation of this Strategic Plan, with the strategic guidance and support of the Energy Regulator. I would like to take this opportunity to acknowledge the important work that the staff are executing and would like to encourage an innovative and collaborative spirit in implementing the legislative mandate of NERSA and future strategic programmes.



**Chris Forlee**

Chief Executive Officer of the National Energy Regulator of South Africa



# OFFICIAL SIGN-OFF

It is hereby certified that this Strategic Plan.

- was developed by the Executive Management of NERSA under the guidance of the Energy Regulator;
- takes into account all the relevant policies, legislation and other mandates for which the Energy regulator is responsible; and
- accurately reflects the impact, outcome and outputs that the Energy Regulator will endeavour to achieve over the period 2020/21 – 2024/25.

**Gerda Gräbe**

*Senior Manager: Strategic Planning and Monitoring*



**Nthupheni Ragimana**

*Acting Chief Financial Officer*



**Christopher Forlee**

*Acting Chief Executive Officer (Accounting Officer)*



*Approved by:*

**Jacob RD Modise**

*Chairperson (on behalf of the Accounting Authority)*



# ACRONYMS AND ABBREVIATIONS

<b>AFDB</b>	African Development Bank	<b>GDP</b>	Gross Domestic Product	<b>MPP</b>	Multi-Product Pipeline
<b>AFUR</b>	African Forum for Utility Regulators	<b>GHG</b>	Greenhouse Gases	<b>MTEF</b>	Medium-term Expenditure Framework
<b>APP</b>	Annual Performance Plan	<b>GJ</b>	Gigajoule	<b>Mtoe</b>	Million Tonnes of Oil Equivalent
<b>B-BBEE</b>	Broad-Based Black Economic Empowerment	<b>GSA</b>	Gas Supply Agreement	<b>MTPA</b>	Metric Tons Per Annum
<b>CAGR</b>	Compound Annual Growth Rate	<b>GTL</b>	Gas-to-Liquid	<b>MTSF</b>	Medium-Term Strategic Framework
<b>CBM</b>	Coal Bed Methane	<b>GUMP</b>	Gas Utilisation Master Plan	<b>MW</b>	Megawatt
<b>CCGT</b>	Closed Cycle Gas Turbine	<b>HDI/HDSA</b>	Historically Disadvantaged Individuals/ South Africans	<b>NDP</b>	National Development Plan
<b>CNG</b>	Compressed Natural Gas	<b>IBT</b>	Inclining Block Tariff	<b>NERSA</b>	National Energy Regulator of South Africa
<b>CPI</b>	Consumer Price Index	<b>ICT</b>	Information and Communication Technologies	<b>NIPF</b>	National Industrial Policy Framework
<b>CTL</b>	Coal-to-Liquid	<b>IDM</b>	Integrated Demand Management	<b>NMPP</b>	New Multi-Product Pipeline
<b>DJP</b>	Durban-to-Johannesburg Pipeline	<b>IEA</b>	International Energy Agency	<b>NFI</b>	Non-Financial Information
<b>DoE</b>	Department of Energy	<b>IEP</b>	Integrated Energy Plan	<b>OCGT</b>	Open Cycle Gas Turbine
<b>EEDSM</b>	Energy Efficiency and Demand Side Management	<b>IGU</b>	International Gas Union	<b>OECD</b>	Organisation for Economic Co-operation and Development
<b>ELR</b>	Electricity Regulation	<b>IPAP</b>	Industrial Policy Action Plan	<b>PASA</b>	Petroleum Association of South Africa
<b>ELS</b>	Electricity Subcommittee	<b>IPP</b>	Independent Power Producer	<b>PE(R)STEL</b>	Political, Economic, Regulatory, Social, Technological, Environmental and Legal
<b>EPP</b>	Electricity Pricing Policy	<b>IRP</b>	Integrated Resource Plan	<b>PICC</b>	Presidential Infrastructure Coordinating Committee
<b>ER</b>	Energy Regulator	<b>Ke</b>	Cost of Equity	<b>PFMA</b>	Public Finance Management Act, 1999 (Act No. 1 of 1999)
<b>ESI</b>	Electricity Supply Industry	<b>LNG</b>	Liquefied Natural Gas	<b>PGS</b>	Piped-Gas Subcommittee
<b>FBE</b>	Free Basic Electricity	<b>MCEP</b>	Manufacturing Competitive Enhancement Programme	<b>PPA</b>	Power Purchase Agreement
<b>FID</b>	Final Investment Decision	<b>MOA</b>	Memorandum of Agreement	<b>PPR</b>	Petroleum Pipelines Regulation
<b>FLNG</b>	Floating Liquefied Natural Gas	<b>MOU</b>	Memorandum of Understanding		
<b>GAR</b>	Piped-Gas Regulation				

<b>PPS</b>	Petroleum Pipelines Subcommittee
<b>PV</b>	Photovoltaic
<b>REC</b>	Regulator Executive Committee
<b>REIPP</b>	Renewable Energy Independent Power Producer
<b>REIPPPP</b>	Renewable Energy Independent Power Producer Procurement Programme
<b>RERA</b>	Regional Electricity Regulatory Association
<b>RESAP</b>	Renewable Energy Strategy and Action Plan
<b>RIA</b>	Regulatory Impact Assessment
<b>ROMPCO</b>	Republic of Mozambique Pipeline Investment Company
<b>SACREEE</b>	SADC Centre for Renewable Energy, Energy and Efficiency
<b>SADC</b>	Southern African Development Community
<b>SAPIA</b>	South Africa Petroleum Industry Association
<b>SAPP</b>	Southern African Power Pool
<b>SCOA</b>	Standard Chart of Accounts
<b>SFF</b>	Strategic Fuel Fund
<b>SIP</b>	Strategic Integrated Project
<b>SQAM</b>	Standards, Quality Assurance, Accreditation and Metrology

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# PART A \ OUR MANDATE

## 1. CONSTITUTIONAL MANDATE

- 1.1. The National Energy Regulator of South Africa is listed as a public entity in terms of Schedule 3A of the Public Finance Management Act, 1999 (Act No. 1 of 1999).
- 1.2. The Constitution of South Africa is applicable to NERSA in conduct of its business, with specific reference to the Bill of Rights.
- 1.3. NERSA's responsibility is carried out through licensing, setting or approving of prices and tariffs, compliance monitoring and enforcement, and dispute resolution in the electricity, piped-gas and petroleum pipelines industries. It facilitates, through its regulatory functions, the construction of power stations, pipelines and storage facilities to ensure continued access to energy and security of supply in the country. NERSA's commitment to the protection of the environment and the growth of cleaner, more resource-efficient production of energy is built into its regulatory functions.

## 2. LEGISLATIVE AND POLICY MANDATES

### 2.1. RELEVANT LEGISLATION

- 2.1.1. NERSA is the regulatory authority established in terms of the National Energy Regulator Act, 2004 (Act No. 40 of 2004) with the mandate to 'undertake the functions of the National Electricity Regulator as set out in the Electricity Regulation Act, 2006 (Act No. 4 of 2006), undertake the functions of the Gas Regulator as set out in the Gas Act, 2001 (Act No. 48 of 2001), undertake the functions of the Petroleum Pipelines Regulatory Authority as set out in the Petroleum Pipelines Act, 2003 (Act No. 60 of 2003) and to perform such other functions as may be assigned to it by or under these Acts'.

- 2.1.2. NERSA's mandate is anchored in the following four primary Acts:

- the National Energy Regulator Act, 2004 (Act No. 40 of 2004);
- the Electricity Regulation Act, 2006 (Act No. 4 of 2006) (ERA);
- the Gas Act, 2001 (Act No. 48 of 2001); and
- the Petroleum Pipelines Act, 2003 (Act No. 60 of 2003).

- 2.1.3. The regulatory functions of NERSA, as contained in the legislation relevant for the regulation of the energy industry, are summarised as follows:

- issuing of licenses with conditions;
- setting and/or approving tariffs and prices;
- monitoring and enforcing compliance with license conditions;
- dispute resolution including mediation, arbitration and the handling of complaints;
- gathering, storing and disseminating industry information;
- setting of rules, guidelines and codes for the regulation of the three industries;
- determining of conditions of supply and applicable standards;
- consulting with government departments and other bodies with regard to industry development and regarding any matter contemplated in the three industry Acts;
- expropriating land as necessary to meet the objectives of the relevant legislation;
- registration of import and production facilities; and
- performing any activity incidental to the execution of its duties

- 2.1.4. Each one of the industry-specific Acts that NERSA is deriving its mandate from, has certain objects that should be achieved if NERSA carries out its functions as defined in these Acts.

a) The objects of the Electricity Regulation Act as stipulated in section 2 of the Act, are to:

- achieve the efficient, effective, sustainable and orderly development and operation of electricity supply infrastructure in South Africa;
- ensure that the interests and needs of present and future electricity customers and end users are safeguarded and met, having regard to the governance, efficiency, effectiveness and long-term sustainability of the electricity supply industry within the broader context of economic energy regulation in the Republic;
- facilitate investment in the electricity supply industry;
- facilitate universal access to electricity;
- promote the use of diverse energy sources and energy efficiency;
- promote competitiveness and customer and end user choice; and
- facilitate a fair balance between the interests of customers and end users, licensees, investors in the electricity supply industry and the public.

b) The objects of the Gas Act as stipulated in section 2 of the Act, are to:

- promote the efficient, effective, sustainable and orderly development and operation of gas transmission, storage, distribution, liquefaction and re-gasification facilities and the provision of efficient, effective and sustainable gas transmission, storage, distribution, liquefaction, re-gasification and trading services;
- facilitate investment in the gas industry;
- ensure the safe, efficient, economic and environmentally responsible transmission, distribution, storage, liquefaction and re-gasification of gas;
- promote companies in the gas industry that are owned or controlled by historically disadvantaged South Africans by means of licence conditions so as to enable them to become competitive;

- ensure that gas transmission, storage, distribution, trading, liquefaction and re-gasification services are provided on an equitable basis and that the interests and needs of all parties concerned are taken into consideration;
- promote skills development among employees in the gas industry;
- promote employment equity in the gas industry;
- promote the development of competitive markets for gas and gas services;
- facilitate gas trade between the Republic and other countries; and
- promote access to gas in an affordable and safe manner.

c) The objects of the Petroleum Pipelines Act as stipulated in section 2 of the Act, are to:

- promote competition in the construction and operation of petroleum pipelines, loading facilities and storage facilities;
- promote the efficient, effective, sustainable and orderly development, operation and use of petroleum pipelines, loading facilities and storage facilities;
- ensure the safe, efficient, economic and environmentally responsible transport, loading and storage of petroleum;
- promote equitable access to petroleum pipelines, loading facilities and storage facilities;
- facilitate investment in the petroleum pipeline industry;
- provide for the security of petroleum pipelines and related infrastructure;
- promote companies in the petroleum pipeline industry that are owned or controlled by historically disadvantaged South Africans, by means of licence conditions to enable them to become competitive;
- promote the development of competitive markets for petroleum products;
- promote access to affordable petroleum products; and
- ensure an appropriate supply of petroleum to meet market requirements.



d) The object of the National Energy Regulator Act as stipulated in section 1 of the Act, is to:

- establish a National Energy Regulator for the regulation of the electricity, piped-gas and petroleum pipelines industries

2.1.5. The Electricity Regulation Act, the Gas Act and the Petroleum Pipelines Act gives the Minister of Mineral Resources and Energy (the Minister) the power to make Regulations in terms of which NERSA must discharge its mandate.

a) The Minister has published the following Electricity Industry Regulations:

- the Electricity Regulations for Expropriation on behalf of a licensee;
- the Electricity Regulations for compulsory norms and standard for reticulation services;
- the Electricity Regulations on deviation from set or approved tariffs; and
- the Revised New Generation Regulations were issued on 4 May 2011.

b) The Minister has published the following Piped-Gas Industry Regulations on 20 April 2007, which deal with, amongst others:

- third-party access to transmission and storage facilities;
- expropriation procedures and timelines;
- mechanisms to promote historically disadvantaged South Africans;
- mediation and arbitration procedures; and
- price regulation principles and procedures.

c) The Minister has published the following Petroleum Pipelines Industry Regulations on 4 April 2008. The Regulations deal with, amongst others:

- third-party access to storage facilities;
- setting of tariffs for petroleum pipelines and approval of tariffs for petroleum loading and storage facilities;
- expropriation procedures and timelines;
- mechanisms to promote historically disadvantaged South Africans; and
- mediation and arbitration procedures.

2.1.6. NERSA derives its revenue by, among others, imposing prescribed levies on the regulated industries following a prescribed transparent procedure. In this regard, the following Acts govern the imposition of such levies:

- the Gas Regulator Levies Act, 2002 (Act No. 75 of 2002);
- the Petroleum Pipelines Levies Act, 2004 (Act No. 28 of 2004); and
- section 5B of the Electricity Act, 1987 (Act No. 41 of 1987).

2.1.7. Apart from the afore-mentioned industry specific legislation that anchors NERSA's mandate and the imposition of levies, the following facilitating and foundational legislation are also applicable to NERSA's conduct of its business:

- the Public Finance Management Act, 1999 (Act No. 1 of 1999) (PFMA), which specifies the accounting of NERSA as a Section 3A Public Entity;
- the Promotion of Access to Information Act, 2000 (Act No. 2 of 2000) (PAIA), which determines the way that NERSA has to treat access to information;
- the Promotion of Administrative Justice Act, 2000 (Act No. 3 of 2000) (PAJA), which determines just administrative action of NERSA;
- the Protection of Personal Information, 2013 (Act No 4 of 2013), which determines the way that NERSA has to treat personal information; and
- all other applicable laws of the Republic of South Africa.

## 2.2. RELEVANT POLICIES

NERSA's mandate is further derived from published government policies and regulations developed by the Minister in terms of the Electricity Regulation Act, Gas Act and Petroleum Pipelines Act. As outlined in these legislative prescripts, NERSA must make decisions that are not at variance with published government policy. The relevant applicable policies are:

- White Paper on Energy Policy for South Africa of 1998;
- Electricity Pricing Policy (EPP) of the South African Electricity Supply Industry;
- Free Basic Electricity Policy;
- White Paper on Renewable Energy Policy for South Africa of 2003;
- Energy Security Master Plan: Liquid Fuels published by the Department of Energy in 1998 and 2007;
- National Development Plan;
- Industrial Policy Action Plan (IPAP); and
- Integrated Resource Plan (IRP) 2019.

## 3. INSTITUTIONAL POLICIES AND STRATEGIES OVER THE FIVE-YEAR PLANNING PERIOD

- 3.1. Although policy formulation is outside of NERSA's realm of authority, specific policy gaps are continuously identified that require ongoing dialogue and strategic engagement with the Department of Mineral Resources and Energy in order to ensure that there is alignment between NERSA's strategic direction and the Department's policy thrusts.
- 3.2. In the previous five-year planning period, NERSA has seen that there are developments in the three industries that are not covered by the current industry-specific Acts. This requires a review of the regulatory legislation.

3.3. In addition to its mandate as per the legislation mentioned in the previous section, the Energy Regulator's decisions are informed by published policies of government. Within the parameters of NERSA's mandate and the resultant functions, NERSA contributes towards critical government priorities and programmes. Below is a summary of NERSA's contributions towards the:

- enabling milestones in the National Development Plan (NDP);
- strategic integrated projects in the National Infrastructure Plan; and
- seven priorities announced by the Honourable President, Mr Cyril Ramaphosa during the State of the Nation Address (SONA) in Parliament on 20 June 2019

### 3.3.1. Nersa's contribution to the national development plan

The National Development Plan (NDP) is a plan for the country to eliminate poverty and reduce inequality by 2030 through uniting South Africans, unleashing the energies of its citizens, growing an inclusive economy, building capabilities, enhancing the capability of the state and leaders working together to solve complex problems. The high-level objectives of the NDP are to:

- reduce the number of people who live in households with a monthly income below R419 per person (in 2009 prices) from 39% to zero; and
- reduce inequality, as measured by the Gini Coefficient, from 0.69 to 0.6.

Chapter 4 of the NDP deals with Economic infrastructure – the foundation of social and economic development. This chapter places emphasis on the need for South Africa to maintain and expand, among others, its electricity infrastructure in order to support economic growth and social development goals. In respect of the regulation of the energy sector, NERSA noted that the NDP calls for more emphasis on stimulating market competition and promoting affordable access to quality services when issuing licences and setting tariffs.

In order to achieve the NDP goals by 2030, 19 enabling milestones were identified. Even though NERSA contributes indirectly to most of the enabling milestones, NERSA contributes specifically to 4 pertinent enabling milestones. Table 1 below summarises NERSA's contribution to the relevant enabling milestones.

**Table 1: NERSA's contribution to the NDP**

RELEVANT ENABLING MILESTONES	NERSA'S CONTRIBUTION
<p>1: Increase employment from 13 million in 2010 to 24 million in 2030</p>	<ul style="list-style-type: none"> <li>• Implementation of the Youth Employment Accord;</li> <li>• Implementation of a Learnership Programme as well as an Internship Programme;</li> <li>• Training and development of staff and stakeholders;</li> <li>• Techno Girls programme where ten girls from grade 9 to grade 12 are exposed to NERSA's activities through visits to the organisation during school holidays.</li> </ul>
<p>4: Establish a competitive base of infrastructure, human resources and regulatory frameworks</p>	<ul style="list-style-type: none"> <li>• Publication of rules, codes and guides for the regulation of the electricity, piped-gas and petroleum pipelines industries;</li> <li>• Setting rules and frameworks that facilitate the building of new infrastructure;</li> <li>• Setting and/or approving cost reflective tariffs and market related prices that encourage investment;</li> <li>• Facilitating and enforcing third-party access to facilities through licence conditions;</li> <li>• Monitoring compliance through undertaking technical audits leading to regular maintenance and refurbishment of infrastructure and thus contributing to an increase in quality of supply;</li> </ul>
<p>5: Ensure that skilled, technical, professional and managerial posts better reflect the country's racial, gender and disability makeup</p>	<ul style="list-style-type: none"> <li>• NERSA ensures continued compliance with the Skills Development Act. No. 97 of 1998;</li> <li>• Implementation of an Employment Equity Plan;</li> <li>• When recruiting new staff members, NERSA ensures as far as possible that the representation within the relevant department and division reflects the country's racial, gender and disability makeup.</li> </ul>
<p>6: Broaden ownership of assets to historically disadvantaged groups</p>	<ul style="list-style-type: none"> <li>• Licensing and the setting and/or approving of tariffs and prices, as in this manner NERSA creates pre-conditions towards the achievement of this milestone;</li> <li>• Issuing licences to eligible applicants to facilitate the meeting of stated socio-economic development targets;</li> <li>• Facilitating and enforcing third-party access to facilities;</li> <li>• Promoting companies that are owned and controlled by Historically Disadvantaged Individuals (HDIs) to become competitive; and</li> <li>• Regulatory advocacy for strengthening the powers of the Regulator.</li> </ul>

RELEVANT ENABLING MILESTONES	NERSA'S CONTRIBUTION
<p>10: Produce sufficient energy to support industry at competitive prices, ensuring access for poor households, while reducing carbon emissions per unit of power by about one-third</p>	<ul style="list-style-type: none"> <li>• Regulating in a manner that facilitates security of supply;</li> <li>• Taking affordability into consideration when setting and/or approving tariffs and prices;</li> <li>• Determining inclining block tariffs and free basic electricity tariffs to protect the low income electricity consumers;</li> <li>• Facilitating the conclusion of Power Purchase Agreements between the buyer and the renewable energy Independent Power Producers;</li> <li>• Facilitation of the implementation of the Integrated Resource Plan (IRP) through considering concurring with determinations made by the Minister in line with section 34 of the Electricity Regulation Act, 2006 (Act No. 4 of 2006);</li> <li>• Development and implementation of the Grid Code for renewable energy to facilitate the introduction of renewable energy power producers;</li> <li>• Registration of gas importation and production facilities;</li> <li>• Monitor the implementation of the Gas Utilisation Master Plan (once promulgated).Facilitating access to electricity in setting aside some funds for the Electrification Cross-subsidy as part of determining electricity prices;</li> <li>• Incorporating compliance with the National Environmental Management Act, 1998 (Act No. 107 of 1998) into licence conditions;</li> <li>• Promoting energy efficiency in general in South Africa and in particular in the NERSA building;</li> <li>• Facilitating the transition to a low carbon economy; and</li> <li>• Regulatory advocacy with regard to cleaner fuels policy.</li> </ul>

### 3.3.2. NERSA'S CONTRIBUTION TO THE MEDIUM TERM STRATEGIC FRAMEWORK 2019-2024

- a) The Medium Term Strategic Framework (MTSF) is a five-year plan of government that is intended to implement the electoral mandate and the National Development Plan Vision (NDP) 2030.
- b) It aims to address the challenges of unemployment, inequality and poverty through three pillars of the NDP:
  - Achieving a more capable State
  - Driving a strong and inclusive economy
  - Building and strengthening the capabilities of South Africans
- c) The seven priorities, which will be achieved through more focused implementation, coordination and integration by the various levels of government including state owned enterprises, the private sector and civil society, are as follows:
  - **Priority 1:** A capable, ethical and developmental state
  - **Priority 2:** Economic transformation and job creation
  - **Priority 3:** Education, skills and health
  - **Priority 4:** Consolidating the social wage through reliable and quality basic services
  - **Priority 5:** Spatial integration, human settlements and local government
  - **Priority 6:** Social cohesion and safe communities
  - **Priority 7:** A better Africa and world
- d) NERSA identified the following government priorities to which it can contribute – as part of implementing its mandate:
  - **Priority 2:** Economic transformation and job creation
  - **Priority 3:** Education, skills and health
  - **Priority 7:** A better Africa and world



**Table 2: NERSA's contribution to government's priorities**

RELEVANT PRIORITIES	NERSA'S CONTRIBUTION
<p><b>2: Economic Transformation and Job Creation</b></p>	<p>By facilitating investment in the energy industry and thereby contributing to economic growth, leading to job creation, NERSA contributes through:</p> <ul style="list-style-type: none"> <li>• licensing and the setting and/or approving of tariffs and prices, as in this manner NERSA creates pre-conditions towards the achievement of this priority;</li> <li>• approving renewable energy licenses to ensure that the socio-economic development commitments specified in the bidding process are met;</li> <li>• promoting companies that are owned and controlled by Historically Disadvantaged Individuals (HDIs) to become competitive; and</li> <li>• regulating in a manner that facilitates security of supply.</li> </ul> <p>Contributing to a competitive and responsive economic infrastructure network through:</p> <ul style="list-style-type: none"> <li>• Setting rules and frameworks that facilitate the building of new infrastructure;</li> <li>• Setting and/or approving cost reflective tariffs and prices that encourage efficient investment;</li> <li>• Facilitating and enforcing third-party access to facilities;</li> <li>• Monitoring compliance and undertaking technical audits leading to regular maintenance and refurbishment of the infrastructure and therefor to the improvement in quality of supply; and</li> <li>• Promoting competition and competitiveness in the energy industry.</li> </ul>
<p><b>3: Education, skills and health</b></p>	<ul style="list-style-type: none"> <li>• Implementation of the Learnership and Internship Programmes;</li> <li>• Implementation of the bursary programme for qualifying external applicants;</li> <li>• Coordinating the design of a regulatory course at an accredited institution of higher learning; and</li> <li>• Coordinating the development of a technical regulatory training and development programme.</li> </ul>
<p><b>6: A Capable, Ethical and Developmental State</b></p>	<ul style="list-style-type: none"> <li>• Transparent regulatory processes;</li> <li>• All decisions and reasons thereof are made public through being published on the website;</li> <li>• The public is invited to make comments prior to decisions being made (written or in public hearing);</li> <li>• Customer education programmes and awareness campaigns;</li> <li>• Training and development of staff and stakeholders, including training to electricity distributors on the completion of the forms requesting information from them; and</li> <li>• Techno Girls programme - where ten girls from grade 9 to grade 12 are exposed to NERSA's activities through visits to the organisation during school holidays.</li> </ul>

### 3.3.3. NERSA'S CONTRIBUTION TO THE NATIONAL INFRASTRUCTURE PLAN

The South African Government adopted a National Infrastructure Plan (NIP) in 2012 that intends to strengthen the delivery of basic services and transform South Africa's economic landscape, while simultaneously creating significant numbers of new jobs. The plan also supports the integration of African economies. The New Growth Path sets a goal of five million new jobs by 2020, identifies structural problems in the economy to be overcome and points to opportunities in specific sectors and markets or 'jobs drivers'.

In order to address these challenges and goals, a total of 18 strategic integrated projects (SIPs) have been developed. The following three SIPs were identified for energy:

1. **SIP 8: Green energy in support of the South African economy**
  - Support sustainable green energy initiatives on a national scale through a diverse range of clean energy options as envisaged in the Integrated Resource Plan (IRP2010).
  - Support bio-fuel production facilities.
2. **SIP 9: Electricity generation to support socio-economic development**
  - Accelerate the construction of new electricity generation capacity in accordance with the IRP2010 to meet the needs of the economy and address historical imbalances.
  - Monitor implementation of major projects such as new power stations: Medupi, Kusile and Ingula.
3. **SIP 10: Electricity transmission and distribution for all**
  - Expand the transmission and distribution network to address historical imbalances, provide access to electricity for all and support economic development.
  - Align the 10-year transmission plan, the services backlog, the national broadband roll-out and the freight rail line development to leverage off regulatory approvals, supply chain and project development capacity.

Table 3 on the next page summarises NERSA's contribution to the relevant strategic integrated projects.

**Table 3: NERSA's contribution to the NIP**

RELEVANT PRIORITIES	NERSA'S CONTRIBUTION
<p><b>8: Green energy in support of the South African economy</b></p>	<ul style="list-style-type: none"> <li>• Facilitating the conclusion of Power Purchase Agreements between the buyer and the renewable energy Independent Power Producers;</li> <li>• Incorporating compliance with the National Environmental Management Act, 1998 (Act No. 107 of 1998) into licence conditions;</li> <li>• Facilitation of the implementation of the Integrated Resource Plan (IRP) through considering concurring with determinations made by the Minister in line with section 34 of the Electricity Regulation Act, 2006 (Act No. 4 of 2006);</li> <li>• Facilitating the transition to a low carbon economy; and</li> <li>• Regulatory advocacy with regard to cleaner fuels policy.</li> </ul>
<p><b>9: Electricity generation to support socio-economic development</b></p>	<ul style="list-style-type: none"> <li>• Regulating in a manner which facilitates security of supply and investment;</li> <li>• Facilitating the conclusion of Power Purchase Agreements between the buyer and the renewable energy Independent Power Producers;</li> <li>• Setting rules and frameworks that facilitate the building of new infrastructure;</li> <li>• Setting and/or approving cost reflective tariffs and prices that encourage investment;</li> <li>• Monitoring compliance through undertaking technical audits leading to regular maintenance and refurbishment of infrastructure and thus contributing to an improvement in quality of supply.</li> </ul>
<p><b>10: Electricity transmission and distribution for all</b></p>	<ul style="list-style-type: none"> <li>• Facilitating access to electricity in setting aside some funds for the Electrification Cross-subsidy as part of determining electricity prices;</li> <li>• Taking affordability into consideration when setting and/or approving tariffs and prices, while allowing a provision for expansion of current operations;</li> <li>• Determining inclining block tariffs and free basic electricity tariffs to protect the low income electricity consumers;</li> <li>• Facilitating reliability of supply;</li> <li>• Determining benchmarks and monitoring maintenance of infrastructure;</li> <li>• Auditing of the implementation of the Transmission Development Plan;</li> <li>• Monitoring compliance with licence conditions; and</li> <li>• Dispute resolution, including mediation, arbitration and handling of complaints.</li> </ul>

## 4. RELEVANT COURT RULINGS

The ruling by the courts in the following two cases have a significant impact on the operations or service delivery obligations:

### 4.1. INTERRUPTION OF SUPPLY OF ELECTRICITY TO EMFULENI, WHICH INCLUDES SUPPLY TO CAPE GATE PTY (LTD).

4.1.1. Applicant: Cape Gate Pty (Ltd) and Others

4.1.2. Defendant / Respondent: Eskom, Emfuleni, NERSA and other

4.1.3. Synopsis: The Applicant sought an:

- interdict against Eskom to prevent it from implementing its power supply interruption decision;
- order that the decision to implement interruptions in the electricity supply be reviewed and set aside; and
- order that Eskom supply electricity on an uninterrupted basis to the Municipality on the basis that direct payment will be made to Eskom.

4.1.4. Court ruling: The following orders were issued:

- The dispute regarding non-payment by Emfuleni to Eskom was referred to the respondents for resolution in terms of section 41(3) of the Constitution.
- Eskom was interdicted from interrupting electricity supply to Emfuleni, pending resolution of the dispute within six months of this order or pending the outcome of the final determination of Part B of the application, whichever is earlier.

- The applicants were authorized, subject to appropriate oversight by NERSA, performing its statutory functions, to discharge their debt to Emfuleni by:
  - › Making payment directly to Eskom for electricity they consume at the rate of Eskom, and submitting proof thereof to Emfuleni.
  - › Continuing to pay the difference between the municipal tariff and Eskom tariff (the municipal portion) to Emfuleni.
  - › The respondents, including NERSA, were directed to do all things necessary to give effect to the temporary order.
  - › Emfuleni's obligations and duties to the Applicants will not be affected by this order.

4.1.5. Ongoing impact on operations or service delivery obligations:

- The order authorising end users to make direct payments to Eskom for electricity they consume is not in line with the current legal framework. It was made as a just and equitable relief.
- It has serious implications for municipalities and the work that NERSA does.
- There is no timeline that the court has set for the operation of this disruptive process.

4.1.6. What has been done to remedy the disruptive effect of the judgement?

- Gauteng Provincial Government (COGTA Department) has kick started the intergovernmental process to deal with the effect of the judgement and soliciting means to remedy it.
- Eskom and NERSA is part of the IGR process.

## 4.2. ISSUES RELATED TO THE APPROVED MAXIMUM PRICES OF GAS AND APPROVED TRANSMISSION TARIFFS FOR SASOL GAS

4.2.1. Applicant: NERSA and Sasol Gas

4.2.2. Defendant / Respondent: PG Group and Others

4.2.3. Synopsis:

- PG Group & Others, together called the Gas Users Group (GUG), were unhappy about the maximum prices of gas and transmission tariffs approved for Sasol Gas by NERSA, which came into operation on 26 March 2014. GUG submitted that the prices are excessive and therefore sought an order to:
  - > review and set aside the abovementioned approvals by NERSA; and
  - > review and set aside the methodology used by NERSA to consider the abovementioned maximum price application, or declaring such methodology to be invalid for purposes of such consideration. NERSA contests the action by the applicants.
- After the Court granted judgement in favour of NERSA and SASOL, the GUG appealed.

4.2.4. Court ruling:

- Both the Supreme Court of Appeal and the Constitutional Court granted a judgement against NERSA and Sasol. The Constitutional Court effectively criticised the price indicator method used to determine maximum prices.

4.2.5. Ongoing impact on operations or service delivery obligations:

- Following the ruling of the Constitutional Court, the Energy Regulator has been unable to process any maximum price applications using the price indicator approach. Work is in progress to develop an interim mechanism, while attending to the review of the Maximum Price Methodology, in line with the Constitutional Court ruling.

4.2.6. What has been done post the judgement?

- NERSA has reviewed the Methodology to align it with the ConCourt judgement.



# PART B \ OUR STRATEGIC FOCUS

## 1. VISION

NERSA strives to regulate the South African electricity, piped-gas and petroleum pipelines industries by ensuring that the most efficient and effective industries are in place to exceed the requirements of existing and future energy customers. This is encapsulated in our vision statement, which is:

*‘To be a recognised world-class leader in energy regulation’*

In this context, being ‘world-class’ means that NERSA:

- Is recognised as a leader within the league of Regulators.
- Regulates the energy industry within its mandate without losing sight of its shared vision and values.
- Creates an environment that has low regulatory risk as viewed by all stakeholders.
- Promotes competition and competitiveness and continues to provide sound, objective and professional regulation of monopolies given the existing socio-economic conditions.
- Subscribes to the best regulatory practices and standards, including corporate governance principles.
- Continually evaluates its performance and benchmark itself against the “best-in-class energy regulators in the world”.
- Is passionate and sensitive to the needs of its stakeholders, especially employees, consumers, energy suppliers and government, to ensure equity.
- Is considered as an efficient and effective regulator.
- Encourages new ideas, innovation, processes and systems that engender economic efficiency, effectiveness and continuous improvement to meet its aim to be a learning organisation.
- Maintains synergy between input, work processes and results through its capable, diverse, highly motivated and dedicated teams.

## 2. MISSION

By regulating the energy industry in accordance with government laws and policies, NERSA makes a valuable contribution to the socio-economic development and prosperity of the people of South Africa. Our mission statement, commits NERSA:

*‘To regulate the energy industry in accordance with government laws and policies, standards and international best practices in support of sustainable socio-economic development’*

## 3. VALUES

Values are the expression of what we stand for and how we will conduct ourselves. In this context and in addition to our commitment to comply with the requirements of section 9 (11) of the National Energy Regulator Act, 2004 (Act No. 40 of 2004) and its Code of Conduct, we have adopted the following values:

### Passion

We conduct our business with a sense of urgency and commitment and are proud to be part of NERSA.

### Spirit of Partnership

In working with all our stakeholders, we deliver on our promises for the purpose of sustainable development.

### Excellence

In striving for the best results, we promote growth/development of our staff, and benchmark ourselves against the ‘best-in-class’ energy regulators across the globe.

### Inclusivity

We embrace, value and treat all our stakeholders fairly and equally.

### **Innovation**

As a learning organisation, we strive to set trends and promote creativity by challenging the norm in order to continuously improve.

### **Integrity**

Being honest, fair and sincere with all stakeholders and among ourselves.

### **Responsibility**

We practice responsibility and take ownership of our actions and decisions.

### **Professionalism**

We encourage maintenance of high standards of professional competence, responsiveness, respect, trust and collaboration between our teams

### **Pride**

We take pride in what we do

## **4. REGULATORY PRINCIPLES**

In regulating the three industries, NERSA must adhere to sound principles and approaches to be able to deliver on its mandate and achieve its objectives. NERSA has given consideration both to international best practice and the key principles stated in the African Forum for Utility Regulators (AFUR) Framework for Utility Regulation in Africa<sup>1</sup>. Following the completion of the *Benchmarking the National Energy Regulator of South Africa against international good practice*, NERSA reviewed the literature on good regulatory principles and identified those principles that emerge strongly and consistently as international good practice. Supported by its legal mandate, NERSA adopted the following internationally accepted regulatory principles to underpin its regulatory approach:

### **Transparency**

We are required to explain its decisions and processes to regulated entities and other interested parties, which implies that the data or information on which the decision is based is readily available and the reasoning behind it is readily explained. This covers public consultation and accessibility.

### **Neutrality**

We should be neutral to all market players without favouring any one group (non-discriminatory).

### **Consistency and Predictability**

Our decisions must be consistent and should have a reasonable degree of predictability based on previous rulings in similar cases.

### **Independence**

The independence of NERSA from the regulated companies is a prerequisite for any sound regulatory system. Independence from political influence is also desirable to ensure the long-term stability of regulatory practices. Avoidance of regulatory capture by some customer groups is also necessary for successful regulation.

### **Accountability**

We should be accountable for its actions and decisions. Independence must not be confused with the lack of accountability.

### **Integrity**

We should exercise professionalism, honesty and objectivity in the management of the Energy Regulator's affairs and in all its dealings with stakeholders.

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1 This Framework was adopted by AFUR in November 2003.

## 5. SITUATIONAL ANALYSIS

### 5.1. EXTERNAL ENVIRONMENT ANALYSIS

The performance environment of NERSA is impacted upon by energy demand and supply trends and developments in the global, continental, regional and national environments.

#### 5.1.1. Global Trends

According to the World Economic Forum insight report<sup>2</sup>, the following key issues of the energy system and energy transition are worth noting, as summarised below:

- a) Energy is a key element of the modern economy. The availability of secure and reliable energy supply is essential for industrial processes and the provision of public services such as lighting, heating, cooking, information and communication technology, and mobility.
- b) The energy system is undergoing unprecedented change, driven by forces such as technological innovation, changes in consumption patterns, supply dynamics and policy shifts. These forces offer opportunities to resolve the challenges that the global energy system faces today, namely:
  - providing energy access to the more than one billion people who lack it;
  - meeting demand for an additional two billion people by 2050 while delivering that energy at an affordable cost; and
  - ensuring that the carbon and emissions footprint decline.
- c) The geopolitical landscape of energy is quickly shifting and environmental concerns have shaken the system's foundations. At the same time, the economics of competing energy sources have changed, and the advent of Fourth Industrial Revolution technologies have enabled new business models, while making others obsolete. The latter has created significant uncertainty about the pace and destination of the transformation, making a strong case for a systemic, multi-stakeholder approach that increases the transparency of the enablers and reforms needed for countries to achieve an effective energy transition.
- d) Energy systems are complex and are at the heart of every country's economy. These systems aim to support society in the three dimensions of the energy triangle, namely:
  - inclusive economic development;
  - environmental sustainability; and
  - secure and reliable access to energy.
- e) The boundaries of energy systems have recently started shifting. The stakeholders are diverse, including:
  - end users and industrial consumers;
  - energy companies;
  - financial sector entities;
  - policy-makers;
  - cities;
  - international energy organizations; and
  - civil society.

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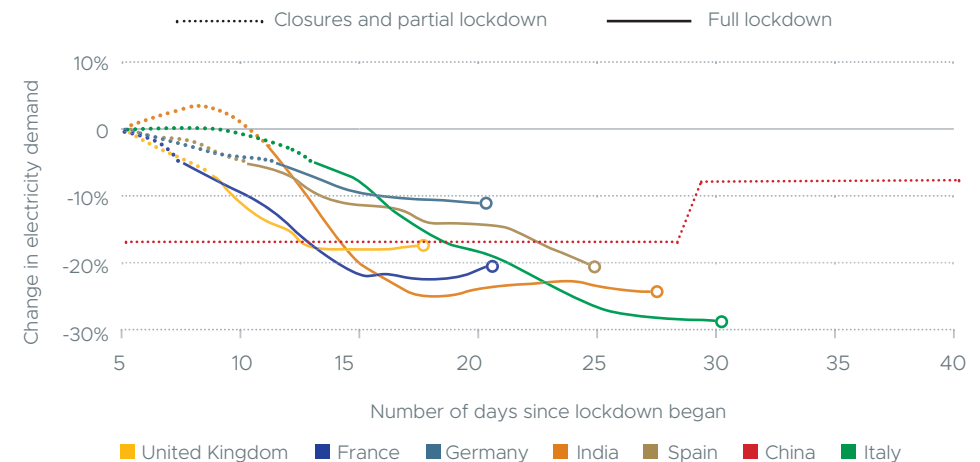
<sup>2</sup> World Energy Forum report (2018) on Fostering Effective Energy Transition: A Fact-Based Framework to Support Decision-Making

- f) In the last decade the following trends have emerged:
- Technological progress has allowed new forms of producing, storing, transforming and consuming energy, altering the nature of the energy system.
  - Energy consumption patterns have fundamentally shifted, resulting in new demand dynamics.
  - Policy-makers have started to adapt energy policies, and new coalitions have been formed to address challenges and harness opportunities associated with these developments.
- g) Countries can use these game-changing trends to enhance their energy systems and improve the wellbeing of their populations.
- h) The COVID-19 pandemic is unprecedented in its scale and speed in recent times, and it has the potential to redefine economic, political and social aspects relevant to the energy transition. It has forced countries around the world to change and relinquish valuable commodities and freedoms to collectively address this COVID-19 outbreak. An effect of similar magnitude is required for a successful energy transition. Beyond the uncertainty over its long-term consequences, it has unleashed gushing effects in real time. Compounded disruptions from the erosion of almost a third of global energy demand, delayed or stalled investments and projects, uncertainties over the employment prospects of millions of energy-sector employees, in addition to unprecedented oil price volatilities and subsequent geopolitical implications have created a perfect storm for energy markets. The 'new Earth' that will emerge after COVID-19 will be a 'new normal', but many fundamental challenges will still exist. Chief among them is the imperative to collectively work towards an effective and inclusive energy transition (World Economic Forum insight report).

## 5.1.2. The impact of the COVID-19 crisis on global energy demand and CO2 emissions

- a) International Energy Agency (IEA) (2020) daily data shows that through mid-April countries in full lockdown experienced an average 25% decline in energy demand per week and countries in partial lockdown an average 18% decline. Daily data collected for 30 countries until 14 April, representing over two-thirds of global energy demand, show that demand depression depends on duration and stringency of lockdowns (see Figure 1).
- b) Global energy demand declined by 3.8% in the first quarter of 2020, with most of the impact felt in March as lockdown measures were enforced in North America, Asia, Europe and elsewhere.

Figure 1: Evolution of electricity demand following lockdown implementation<sup>3</sup>

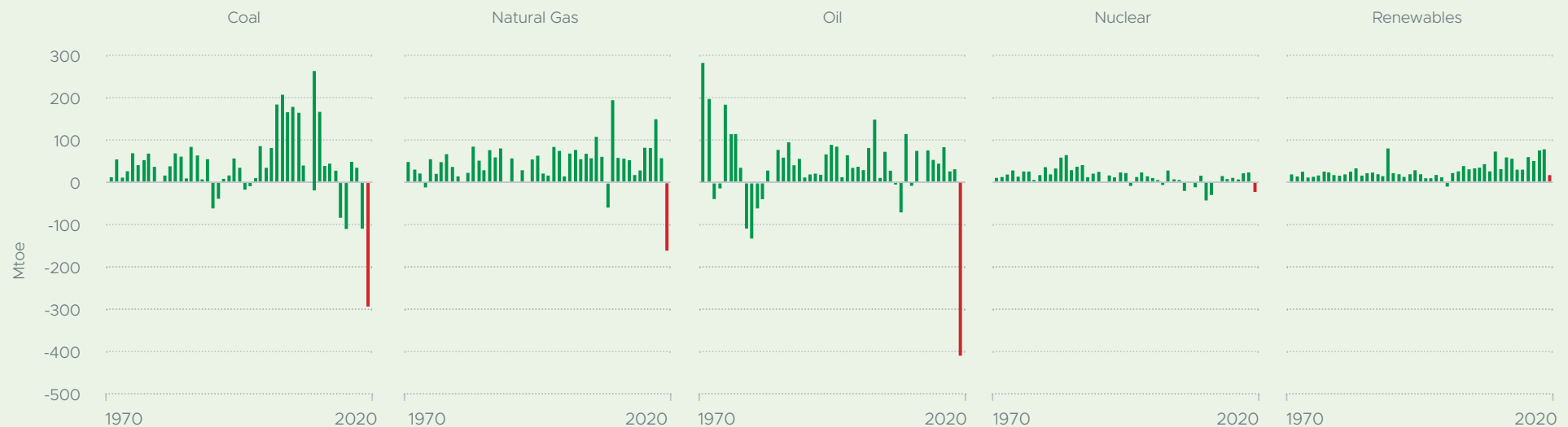


Source: International Energy Agency (2020)

<sup>3</sup> Electricity demand drops to Sunday levels under lockdown, with dramatic reductions in services and industry only partially offset by higher residential use. Service-based economies suffer the most.

- c) **Global coal demand** was hit the hardest, falling by almost 8% compared with the first quarter of 2019 (see Figure 2 below). There are three reasons that have advanced to explain falling global coal demand, First, China – a coal-based economy – was the country the hardest hit by COVID-19 pandemic in the first quarter of 2020; Second, cheap gas and continued growth in renewables elsewhere challenged the usage of coal; and third, mild weather also capped coal use.
- d) **Oil<sup>4</sup> demand** was also hit strongly, down nearly 5% in the first quarter, mostly by curtailment in mobility and aviation, which account for nearly 60% of global oil demand. By the end of March, global road transport activity was almost 50% below the 2019 average and aviation 60% below.
- e) The impact of the pandemic **on gas demand** was more moderate, at around 2%, as gas-based economies were not strongly affected in the first quarter of 2020.
- f) **Renewables** were the only source that posted a growth in demand, driven by larger installed capacity and priority dispatch.
- g) **Electricity demand** has been significantly reduced as a result of lockdown measures, with knock-on effects on the power mix (see Figure 1 on the previous page). Electricity demand has been depressed by 20% or more during periods of full lockdown in several countries, as upticks for residential demand are far outweighed by reductions in commercial and industrial operations. For weeks,

**Figure 2: Change in global energy demand by fuel, 1970– 2020<sup>5</sup>**



Source: International Energy Agency (2020)

4 Oil means crude oil and the refined product produced from oil.  
 5 Coal is set for the largest decline since World War II, alongside sharp reductions for gas and oil. Nuclear power is less affected by lockdown measures, while renewables are the only energy source on the rise in 2020.

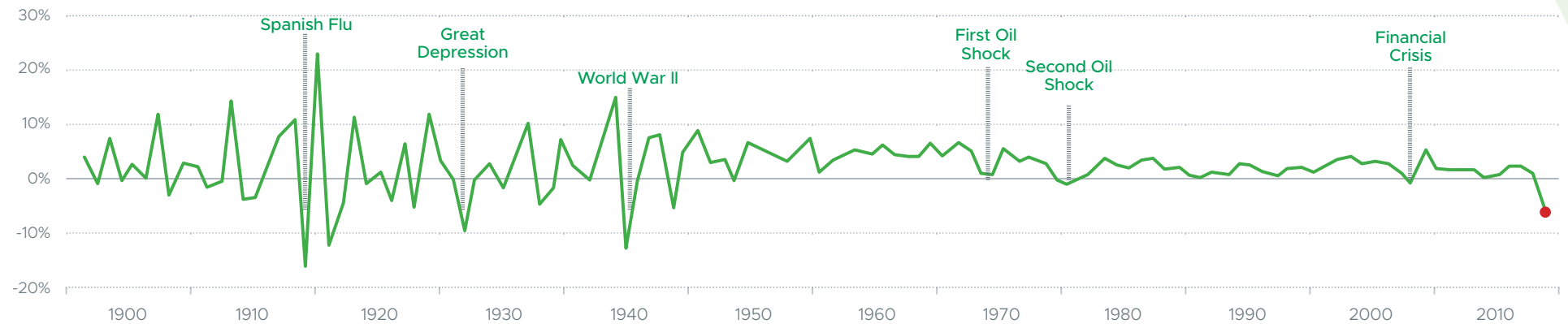
the shape of demand resembled that of a prolonged Sunday. Demand reductions have lifted the share of renewables in the electricity supply, as their output is largely unaffected by demand. Demand fell for all other sources of electricity, including coal, gas and nuclear power. Global electricity demand falls by 5%, with 10% reductions in some regions. Low-carbon sources would far outstrip coal-fired generation globally, extending the lead established in 2019.

h) Looking at the full year ahead (2020), the International Energy Agency (2020) explored a scenario that quantifies the energy impacts of a widespread global recession caused by months-long restrictions on mobility and social

and economic activity. Within this scenario (forecast), the recovery from the depths of the lockdown recession is only gradual and is accompanied by a substantial permanent loss in economic activity, despite macroeconomic policy efforts.

i) The IEA (2020) forecasts that energy demand contracts by 6%, the largest in 70 years in percentage terms and the largest ever in absolute terms. The impact of COVID-19 on energy demand in 2020 would be more than seven times larger than the impact of the 2008 financial crisis on global energy demand (see Figure 3 below).

**Figure 3: Change in global energy demand, 1990-2020**



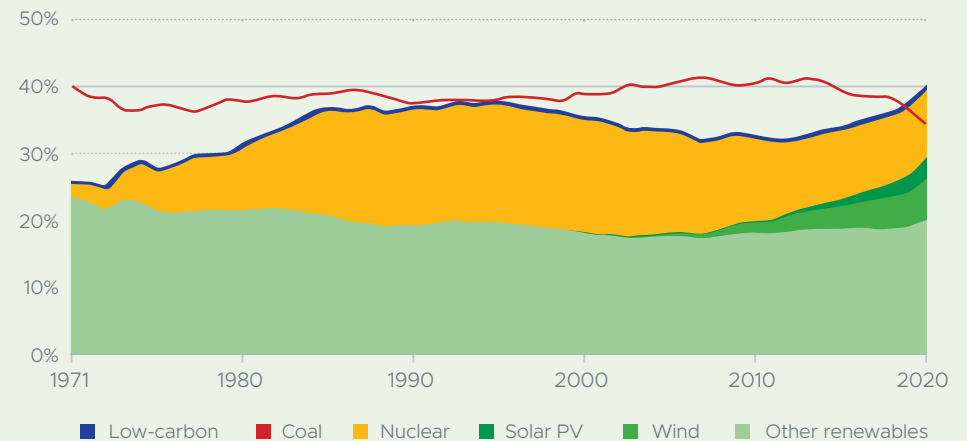
j) All fuels will be affected as follows:

- i) **Oil demand** could drop by 9%, or 9 mb/d on average across the year, returning oil consumption to 2012 levels.
- ii) **Coal demand** could decline by 8%, in large part because electricity demand will be nearly 5% lower over the course of the year. The recovery of coal demand for industry and electricity generation in China could offset larger declines elsewhere.
- iii) **Gas demand** could fall much further across the full year than in the first quarter, with reduced demand in power and industry applications.
- iv) **Nuclear power demand** would also fall in response to lower electricity demand.
- v) **Renewables demand** is expected to increase because of low operating costs and preferential access to many power systems. Recent growth in capacity, some new projects coming online in 2020, would also boost output.

k) Global CO2 emissions are expected to decline by 8%, or almost 2.6 gigatonnes (Gt), to levels of 10 years ago (see Figure 4). Such a year-on-year reduction would be the largest ever, six times larger than the previous record reduction of 0.4 Gt in 2009 – caused by the global financial crisis – and twice as large as the combined total of all previous reductions since the end of World War II. As after previous crises, however, the rebound in emissions may be larger than the decline, unless the wave of investment to restart the economy is dedicated to cleaner and more resilient energy infrastructure.

l) CO2 emissions drop the most due to the COVID-19 crisis (see Figure 5 on the next page). Global energy-related CO2 emissions are set to fall nearly 8% in 2020 to their lowest level in a decade. Reduced coal use contributes the most. However, evidence suggests that a large rebound is likely post the COVID-19 crisis.

**Figure 4: Global generation shares from coal and low-carbon sources, 1971-2020<sup>6</sup>**

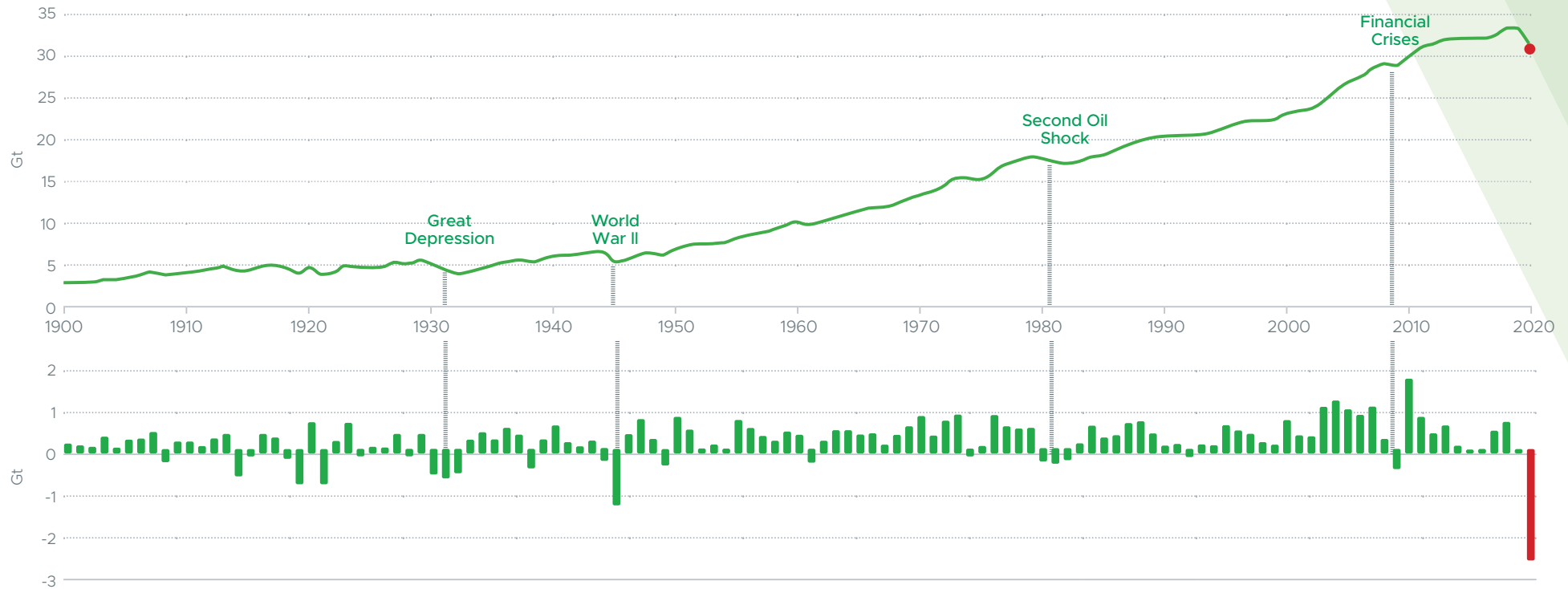


m) The COVID-19 crisis and measures taken to slow its spread have had a profound impact on energy demand, the likes of which have not been seen for 60-70 years. The full impact of the current situation, is yet unknown, will be determined by the duration of lockdown measures and the recovery paths taken around the world. This unprecedented situation and the stimulus packages that governments around the world are putting in place will shape the energy sector for years to come, with significant consequences for the energy industry at large, energy security and clean energy transitions.

n) The industry is feeling the financial impact throughout value chains, with most energy companies losing substantial revenues. In effect, they are being hit twice, first by lower demand for their products – including oil, gas, coal and electricity – and again by lower prices for these products. Average oil prices fell sharply, with West Texas Intermediate hitting negative prices for the first time in history as excess storage became scarce.

<sup>6</sup> For the first time in 50 years, low carbon technologies overtook coal as the leading source of electricity in 2019, and they are moving further ahead in 2020

**Figure 5: Global energy-related CO2 emissions and annual change 1900-2020**



o) LNG prices have declined to all-time lows in European and Asian markets, which were abundantly supplied even before the COVID-19 crisis depressed demand. Natural gas prices have gone negative in parts of the United States, where storage is full. The smallest impact is on coal: as the supply chain is less affected by logistical constraints than oil and natural gas. A combination of cheap gas and weakening demand have also led to power prices declining by one-third to one-half in liberalised wholesale markets. Market prices for electricity have dipped below zero in the United States and a number of countries in Europe, including Germany, Denmark, France, Belgium, Sweden, Finland and Switzerland.

p) The energy sector that emerges from the COVID-19 crisis may look significantly different from what came before. Low prices and low demand in all subsectors will leave energy companies with weakened financial positions and often strained balance sheets. Business lines that are insulated to a degree from market signals, including those with renewable electricity projects, will emerge in the best financial position. Private firms that are the most exposed to market prices will experience the most severe financial impacts. Market concentration and consolidations are likely.



- q) Across the energy sector, the COVID-19 crisis will have a significant impact on investment. This could raise concerns about energy security because investment is necessary even if global energy demand takes a long time to return to the pre-crisis trajectory. A considerable proportion of global energy investment is devoted to just sustaining existing levels of energy supply: maintaining oil and gas production at current levels, replacing aging power generation capacity – often with a capital-intensive combination of renewables and flexibility sources – and reinvesting in aging electricity networks. Investment in these activities will have to remain robust even with a subdued recovery.
- r) Energy security has been put to the test in new ways by the crisis, including in oil and gas markets. Simultaneous supply and demand shocks have sent oil markets into turmoil. Oil plays a central role in global macro finance, both as a share of international trade and as a critical source of government revenues for several major producers. National lockdown measures have caused unprecedented demand declines, whose speed and magnitude greatly exceed the normal market flexibility of supply. As a result, even with attempts at coordinated management, a disorderly production shutdowns resulted some places. The consequent macroeconomic and financial disruptions could undermine the industry’s ability to ramp up production as the world economy and oil demand recover. The supply situation has stabilised as countries globally relaxed lock down restrictions.
- s) The supply of **natural gas** is critical to operations in all sectors, including industry, residential and services heating, and electricity supply. Due to large investments in recent years and the slump in demand because of COVID-19, global gas markets are abundantly supplied and storage levels are very high. At the same time, intense financial strain is hurting the industry, including companies who own and operate critical infrastructure facilities. Policymakers and regulators need to ensure that operational, maintenance and safety expenditures are prioritised and appropriately maintained. US liquefied natural gas (LNG) has played a major role in improving energy security and market efficiency in several regions, but the ongoing challenging market conditions risk significant shut-in of US LNG facilities.
- t) **Electricity** security’s place at the heart of modern economies has been underscored by the COVID-19 crisis. A robust, uninterrupted electricity supply is a key precondition of both the functioning of the health care system and the maintenance of social welfare and online economic activity. Robust power systems have enabled adaptations to the ongoing crisis, including a huge expansion of teleworking activities, particularly in advanced economies. In some parts of the world, however, a reliable supply cannot be taken for granted. In Africa, several thousand hospitals and health care facilities have no access to electricity. In both Africa and South Asia, electricity reliability problems limit social distancing.
- u) Electricity security has remained robust as the COVID-19 crisis has accelerated the shift to renewable energy in the power mix. The share of renewables has jumped several years ahead of pre-pandemic expectations, including the shares of wind and solar, curbing CO2 emissions and air pollution. The rise of renewables has posed some problems for electricity security. However, in advanced economies, the main cause of blackouts is the inability of the system to manage sudden changes in power flows and various network problems. Lower electricity demand paired with continued growth of wind and solar PV has stepped up the share of variable renewables, calling for more flexibility to keep the lights on. At the same time, available flexibility has been limited by the shutdown of industrial facilities that provide demand response and because dispatchable power plants are idle because power prices are extremely low. As the energy industry’s financial challenges grow, the cost of restarting dispatchable power capacity that had been mothballed could emerge as a significant energy security concern as economies and electricity demand recover. To date, electricity systems in major economies have maintained robust reliability, but continuous vigilance will be needed from system operators, regulators and governments.
- v) The COVID-19 crisis is also influencing the path for **clean energy transitions**. Global CO2 emissions are set for the largest year-to-year reduction on record, but a sustainable energy pathway calls for continuous efforts and commitment. The unprecedented decline in emissions in 2020 may only be temporary

without structural changes. Recoveries from past crises have caused immediate rebounds in CO2 emissions, including the highest year-on-year increase on record in 2010.

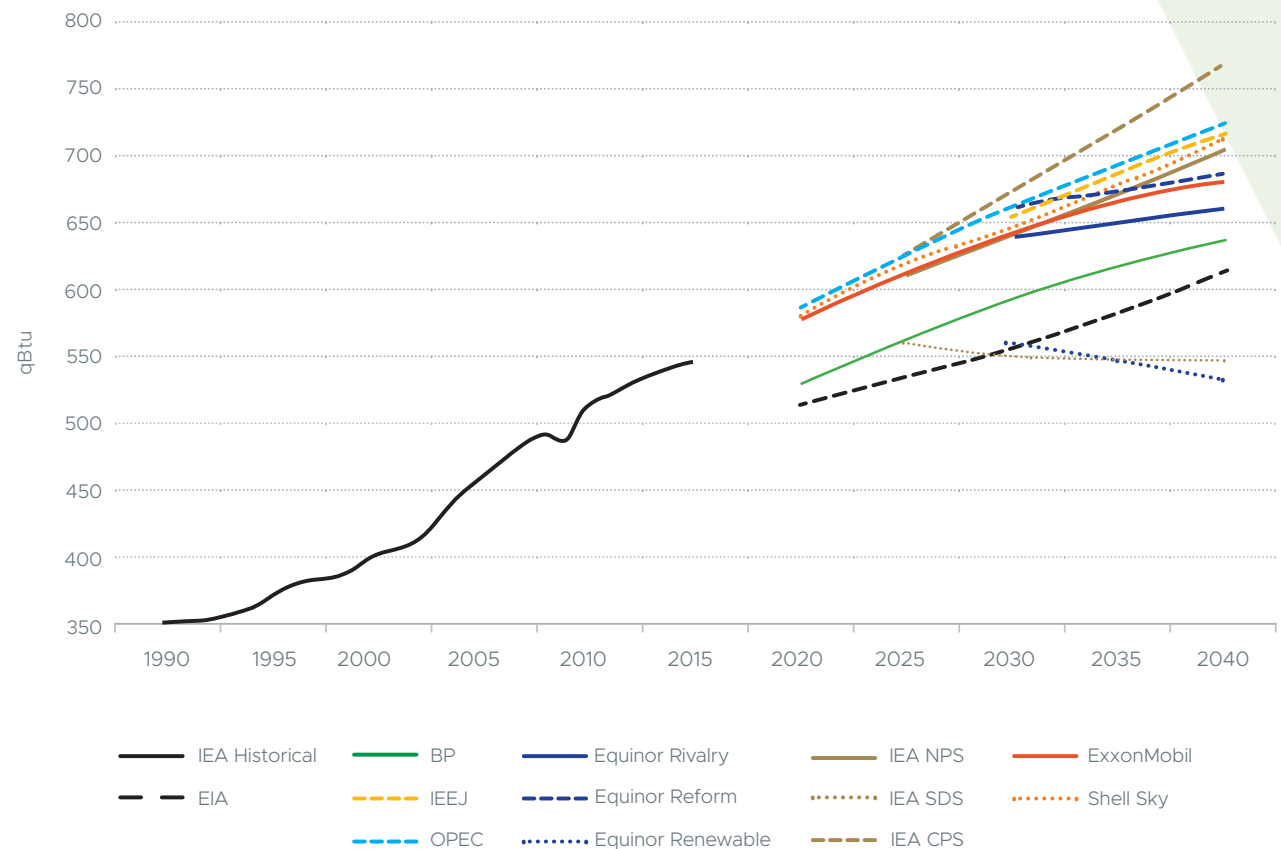
w) Importantly, governments around the world will play a major role in shaping the energy sector's recovery from the COVID-19 crisis, just as they have long been in the driving seat in orienting energy investment. In particular, the design of economic stimulus packages presents a major opportunity for governments to link economic recovery efforts with clean energy transitions – and steer the energy system onto a more sustainable path. While the clean energy transitions and stimulus discussions are gathering momentum, a co-ordinated policy effort will be needed to harvest its opportunities and lead to a more modern, cleaner and more resilient energy sector for all.

### 5.1.3. Global Energy Consumption And Demand Trends

a) The global energy sector has changed dramatically over the last 25 years, with larger changes possible over the next 25. The magnitude and direction of these changes, however, is highly uncertain. According to the Global Energy Outlook (2019), global primary energy consumption has grown

rapidly over the past 25 years, reaching 546 quadrillion Btu (qBtu) in 2015, more than 190 qBtu higher than 1990 levels. Over the next 25 years, growth is projected to slow down, increasing by roughly 110 to 160 qBtu in Evolving Policies scenarios, and declining by as much as 4 qBtu under Ambitious Climate scenarios (see Figure 6 below).

Figure 6: Global primary energy consumption<sup>7</sup>



7 Global Energy Outlook (2019)

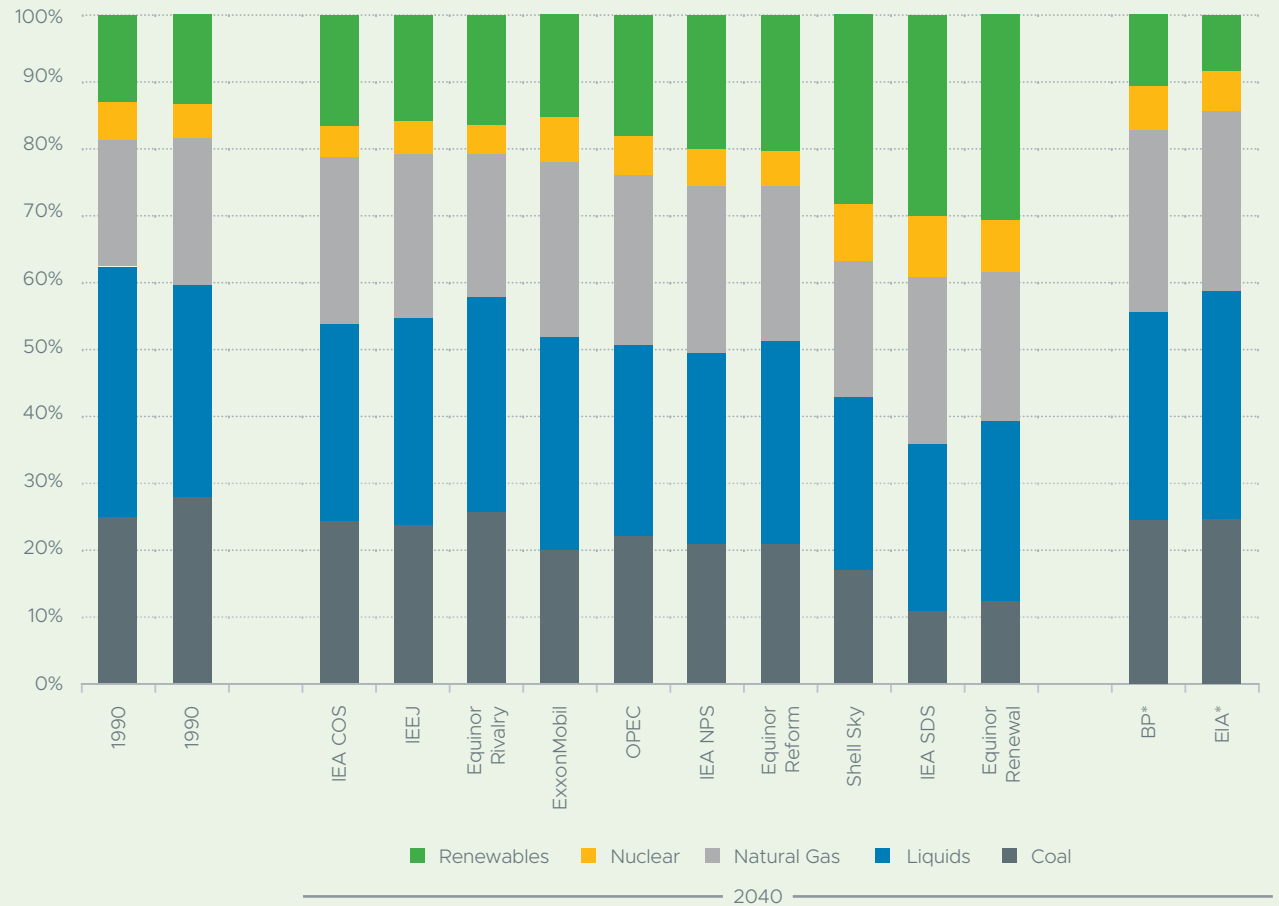
b) Global energy consumption is marked by a series of deep disparities with more than 1 billion people with no access to electricity. In addition, the gap between expectations of fast, renewables-driven energy transitions and the reality of today's fossil fuel-dependent energy remains significant.

c) The International Energy Outlook current policies scenario (IEA CPS) shows the highest consumption in 2040 at 767 qBtu, an increase of 41% over 2015. OPEC and the Institute of Energy Economics Japan (IEEJ) project consumption of roughly 720 qBtu in 2040, similar to the absolute levels of growth from the previous 25 years. Evolving Policies scenarios project moderately slower growth, led by the IEA new policy scenario (NPS) (703 qBtu), ExxonMobil (681 qBtu), and Equinor's Reform Scenario (659 qBtu). Under two of three Ambitious Climate scenarios (IEA sustainable development scenario (SDS) and Shell Sky), global energy consumption is roughly flat to 2040. In the IEA SDS, demand is 544 qBtu in 2040, while Equinor Renewal projects consumption falling to 534 qBtu in 2040. On the other hand, under Shell's Sky, demand grows to 711 qBtu by 2040, higher than any Evolving Policies scenarios.

d) With regard to the shares of global primary energy consumption by fuel projections, the Global Energy Outlook (2019) report states that fossil fuels, which made up 82% of global primary

energy in 2015, dominate across Reference and Evolving Policies scenarios, ranging from 74% to 79% in 2040 (see Figure 7 below). Under Ambitious Climate scenarios, fossil fuels decline from 60% to 62%.

**Figure 7: Shares of global primary energy consumption by fuel<sup>B</sup>**



8 Source: Global Energy Outlook (2019)

- e) Liquid fuels (primary oil) will continue to be the single largest fuel source in the energy mix across most outlooks, though its share shifts from 32% in 2015 to between 28% and 32% in the Evolving Policies scenarios. Under ambitious climate policies, liquids still account for 26% to 27% by 2040, but of a smaller aggregate energy base in the case of IEA SDS and Equinor Renewal.
- f) On the other hand, natural gas becomes the second largest source in most outlooks, rising from 21% in 2015 to between 21% and 27% by 2040.
- g) According to forecasts, coal loses market share across all projections. Under Ambitious Climate scenarios, coal declines from 28% of the mix in 2015 to between 12% and 17% by 2040. Under Evolving Policies, it falls to 20% to 22%.
- h) Renewables, led by wind and solar, will grow under all projections, though the rate of growth varies widely. Under Reference scenarios, renewables increase from 14% of the mix in 2015 to between 16% and 17%. Under Ambitious Climate scenarios, they become the largest source of global primary energy, overtaking petroleum to reach as high as 31% in 2040.
- i) Projections for nuclear's share of the mix also vary substantially, and is highest under Ambitious

Climate scenarios, where it provides 8% to 9% of global primary energy, up from 5% in 2015. For other scenarios, nuclear accounts for 4% to 7% of the mix.

- j) According to the BP Report (2019)<sup>9</sup>, world energy demand is projected to grow by 1.3% per annum from 2016 to 2040 with all the growth coming from emerging economies. China and India will account for over a quarter of this increase. Global energy intensity [the ratio of energy demand to Gross Domestic Product (GDP)] is projected to decline by 1.9% per annum over this period. Renewables are the fastest growing fuel source, however oil and gas are still expected to account for more than half of global energy in 2040. Coal demand peaks, with its share of primary energy expected to fall to 21% by 2040. Natural gas is expected to replace coal as the second largest source of energy, after oil.
- k) The World Energy Outlook (2018) report notes that as economies continue to grow, energy demand grows as well. Average GDP in the non-Organisation for Economic Co-operation and Development (OECD). Over the past 25 years, world economic growth has been led by the non-OECD countries, accompanied by strong growth in energy demand in those countries. From 1990 to 2015, real GDP grew by 4.9% per year in the non-

OECD, compared with 2.1% per year in the OECD. In the future, the difference in economic growth rates between OECD and non-OECD countries is expected to narrow somewhat, as economic growth in non-OECD countries moderates, and as their industrial sectors move from reliance mainly on production in energy-intensive industries to more service-oriented industries.

- l) The emerging trends are as follows<sup>10</sup>:

- Renewables are the world's fastest-growing energy source over the projection period. Renewable energy consumption is expected to increase by an average of 2.6% per year between 2012 and 2040.
- Nuclear power is the world's second fastest growing energy source, with consumption increasing by 2.3% per year over that period.
- Even though the consumption of non-fossil fuels is expected to grow faster than the consumption of fossil fuels, it is projected that fossil fuels will still account for 78% of energy use in 2040.
- Natural gas is expected to grow faster than other fossil fuels in the next two decades. Abundant natural gas resources and robust production, including rising supplies of tight gas, shale gas, and coalbed methane, will contribute to the strong competitive

9 BP Statistical Review of World Energy, 2019

10 World Energy Outlook (2018) report: The gold standard of energy analysis

position of natural gas. Shell has warned in its annual report released in March 2018 that there could be a shortage in the Liquefied Natural Gas (LNG) market in the next decade unless new investment is undertaken soon. Investment decisions on new LNG supply have come to a near standstill over the last two years. In 2017, only one large-scale LNG project reached Final Investment Decision, namely the 3.4 MTPA Coral South FLNG in Mozambique, marking the lowest volume of sanctioned LNG in nearly twenty years (IGU, 2018)<sup>11</sup>. According to the IGU (2018), the total volume and number of LNG contracts signed has declined consistently over the past three years.

- Although liquid fuels (mostly petroleum based) will remain the largest source of world energy consumption, the liquids share of world market energy consumption falls from 33% in 2012 to 30% in 2040. Contributing to the decline are rising oil prices in the long term, which lead many energy users to adopt more energy efficient technologies and to switch away from liquid fuels.
- Coal, the world's slowest growing energy source, will rise by 0.6% per annum and will be surpassed by natural gas by 2030.

## Oil/Petroleum

- m) World consumption of liquid fuels rises from 95 million barrels per day (b/d) in 2015 to 113 million b/d in 2040 (International Energy Organisation, 2017). Most of this growth is seen in the transportation and industrial sectors with an average increase of 0.7% per year from 2015 to 2040. Non-OECD nations account for most of the increase, with demand rising by 1.3% per year compared with a slight decrease in the OECD. Most of the growth (80% of the total increase) in world liquid fuels consumption from 2015 to 2040 comes from non-OECD countries, where strong economic and population growth increase the demand for liquid fuels by 39%.
- n) The use of petroleum and other liquids in the industrial sector to power equipment and serve as chemical feedstocks will increase slowly between 2015 and 2040. Furthermore, the use of petroleum and other liquids to generate electricity declines over the projection period as a result of increasing oil prices and relatively less costly natural gas, encouraging producers to switch to alternative energy sources.
- o) Energy security remains paramount, and oil remains in the spotlight, as a result, a broader and dynamic approach is required to ensure energy security.

## Natural gas

- p) Global natural gas consumption is expected to grow in both the OECD and non-OECD countries from 2015 to 2040. However, the growth is higher with an expected average of 1.9% per year in non-OECD countries that have expanding industrial sectors and electricity demand, in contrast to 0.9% per year in OECD countries. The share of world natural gas consumption in non-OECD countries increases from 53% in 2015 to 59% in 2040. Natural gas continues to be an attractive fuel for the electric power and industrial sectors in many countries, accounting for nearly 75% of the projected increase in total consumption between 2015 and 2040. Natural gas-fired generation is attractive for new power plants because of low capital costs, favourable heat rates, and relatively low fuel cost. Natural gas-intensive industries, such as chemicals, refining, and primary metals, are expected to expand over the period of 2015 to 2040 – particularly in non-OECD countries – driving industrial demand higher. The largest increases in natural gas production from 2015 to 2040 occur in the Middle East (11.8 Tcf), China (9.5 Tcf), the United States (10.7 Tcf), and Russia (4.8 Tcf).
- q) Demand for natural gas is expected to grow by more than half, the fastest rate among the fossil fuels, and increasingly flexible global trade in LNG offers some protection against the risk of supply

disruptions. The growth in LNG increased by 29 million tonnes to 293 million tonnes in 2017. The main regions that push global gas demand higher are China and the Middle East, but gas is also expected to become the leading fuel in the OECD energy mix by around 2030. China has overtaken South Korea to become the second-largest importer of LNG as a result of switching its policies from coal to gas to reduce air pollution<sup>12</sup>. Japan is still the largest LNG importer, but according to Capital Markets Outlook 2018, a structural change in its energy policy could see it lose the top slot by as early as 2020. The key uncertainty is whether gas can be made available at prices that are attractive to consumers while still offering incentives for the necessary large capital-intensive investments in gas supply.

- r) The global interest in LNG power generation is increasing. There is also a growing demand for LNG as a bunkering fuel worldwide, albeit slowly. From 2018, ships operating in European waters will be required to report their annual greenhouse gas emissions. At the moment, ships operating in Europe must comply with a 0.5% sulphur limit, but there are options aside from using LNG as a fuel, such as installing scrubbers. The 0.5% limit will apply globally from 2020, down from the current 3.5%<sup>13</sup>. LNG exports from the Americas are set to rise from 2018 as supplies ratchet up from the United States, Trinidad and Tobago and Peru.

The three countries exported a combined 19.74 mt of LNG during the first nine months of 2017, a year-on-year increase of 51.5%. The LNG market is expected to grow going forward (2017 – 2021)<sup>14</sup>. The contributing factors for this rapid increase is the start-up of several new projects in Australia and Indonesia, rapid economic growth especially of emerging economies, and rising demand for environmentally cleaner fuels. Global Gas Analytics (GGA) forecasts that LNG exports from the Americas to increase by 10% year-on-year in 2018, to 28.4 mt.

### Coal

- s) According to the Coal transitions in South Africa Report, 2018), South Africa's Nationally Determined Contribution (NDC) is based on the long-term benchmark emissions trajectory range, which is contained in the National Climate Change Response Strategy White Paper (DEA, 2011). The NDC commits to limiting emissions to a range between 398 and 614 Mt CO<sub>2</sub>-eq, between 2025 and 2030. Known as the Peak, Plateau, and Decline trajectory (PPD), the goal is to peak emissions between 2020 and 2025, plateau for approximately a decade and decline in absolute terms thereafter (RSA, 2016). The National Climate Change Policy Framework thus extends the NDC commitment to 2050, with a goal to reduce emissions to between 212

and 428 Mt CO<sub>2</sub>-eq in 2050 (DEA, 2011). The key finding of the NDC scenario is that South Africa can meet its NDC and mid-PPD primarily through decarbonising the electricity sector. The scenario results in 71% of electricity generated from wind and solar photovoltaic (PV) by 2050. There is substantial investment in gas capacity because of a conservative assumption that renewable energy cannot be considered firm capacity during the peak, though the gas plants contribute relatively less to electricity generated (14%).

- t) Considering the role of coal in South Africa's economy, it should be noted that coal is an important foreign exchange earner. It accounts for approximately 12% of the total merchandise exports from South Africa over the period 1993 to 2015 (CoM, 2016). The State benefits via taxes and royalties associated with coal mining. Coal royalties are approximately 18% of total mining royalties. The coal-mining sector employed around 77,000 workers in 2015. In comparison, the entire mining sector employed approximately 457,000 workers in 2016 (Chamber of Mines, 2016), out of a total employed workforce of 15.8 million people (StatsSA, 2017). Coal jobs therefore account for nearly 0.5% of the national workforce<sup>15</sup>.
- u) According to the International Energy Outlook, forecast worldwide coal consumption remains roughly the same between 2015 and 2040 (about

12 4th Quarter report on the development of new gas sources in South Africa and neighbouring countries  
 13 4th Quarter report on the development of new gas sources in South Africa and neighbouring countries  
 14 [http://www.researchandmarkets.com/research/s9wds5/global\\_liquefied](http://www.researchandmarkets.com/research/s9wds5/global_liquefied)  
 15 Coal transitions in South Africa Report, 2018

160 quadrillion Btu), with decreasing consumption in China and the United States offsetting growth in India. China remains the largest single consumer of coal in 2040 (about 73 quadrillion Btu), despite a steady decline in the country's consumption over time. A slowing economy and plans to implement policies to address air pollution and climate change emphasises the decline over the projection period. India's coal consumption continues to grow by an average of 2.6% per year from 2015 to 2040, with the country surpassing the United States as the second-largest coal consumer before 2020.

- v) In OECD countries, coal consumption declines by an average 0.6% per year over the period of 2015 to 2040 because of increasing competition from natural gas and renewables and only moderate increases in electricity demand. Africa, the Middle East and other non-OECD countries, are projected to gradually expand coal capacity and generation through 2040, but their use of this resource starts from a low base. Despite significant increases in coal consumption, coal's share in overall energy consumption in India is projected to decrease from 49% in 2015 to 43% by 2040, due in part to policies promoting renewable and nuclear-based generation.

## Electricity

- w) According to the World Energy Outlook (2018) report, electricity is the fastest-growing source of

final energy demand, and over the next 25 years, it continues to outpace energy consumption as a whole. The power sector now attracts more investment than oil and gas combined – necessary investments as the generation mix changes and ageing infrastructure is upgraded.

- x) According to forecasts, net electricity generation in OECD Europe is expected to increase slowly, by an average of 1.1% per year from 2015 to 2040, compared to the world average increase of 1.5% per year (International Energy Outlook, 2018). India's net electricity generation increases by an average of 3.2% per year over the same period, driven by strong industrial growth and policies to increase the availability of electricity in rural areas.
- y) The generation mix in OECD Europe changes considerably by 2040, with renewables and natural gas growing, coal remaining flat, and nuclear power and liquid fuels declining. Nuclear generation's share is expected to decline from around 25% in 2015 to less than 15% by 2040. This is a result of stated policies to either cap or phase out nuclear power, including those adopted in France, Germany, and Sweden. The use of natural gas electricity generation in OECD Europe does not expand until 2030, mostly because of the large increases in projected renewables generation. In OECD Europe, when natural gas begins to gain market share in 2030, it displaces nuclear power, coal, and renewable generation.

- z) The number of people without access to electricity declined from 1.7 billion in 2000 to 1.1 billion in 2016 and is forecast at 650 million by 2030 (World Energy Outlook, 2018). The remaining population without access becomes increasingly concentrated in sub-Saharan Africa as developing countries in Asia reach a 99% electrification rate, with universal access achieved by the mid-2020s in India and Indonesia (see Figure 3 below).
  - aa) The number of people without access to clean cooking falls, but only to 2.2 billion by 2030. According to the World Energy Outlook (2018) report, the greatest challenge in achieving universal access to electricity is providing access to people living in the most remote areas in sub-Saharan Africa. Although most of the access is done through generation from renewables, the grid expansion also has an important part to play.
  - bb) Universal access strategies should be diverse. Local conditions and practices need to be underpinned by firm political commitments with supportive and enabling regulatory frameworks; engagement with the private sector; appropriate financing options and investment; capacity building and close consultation from the outset with local communities, especially women (World Energy Outlook, 2017).



cc) Globally the dependence on electricity is growing and society is becoming more and dependent on the use of electricity for the sustainability of life as they know it. Cities would not survive without electricity. Yet as this is taking place, there are growing concerns about the security of supply. Apart from all the normal reasons for this, there is a new threat that is attracting attention globally – cybersecurity and the vulnerability of the power system to cyber-attacks. This is a global problem and South Africa is not excluded. However, this is an area of regulation that has not yet been addressed.

dd) Globally, the trend in renewable energy that is receiving the most attention from regulators is the installation of rooftop solar PV from a domestic customer point of view. This is putting a big dent in utility revenues and there are implications for regulators as well, among others:

- the sustainability of licensees;
- restructuring of tariffs by licensees in response to Small-Scale Energy Generation;
- tariff structures for feeding power onto the grid;
- the network impact of these installations; and
- control of quality of supply for other customers.

The most difficult implication to deal with is the sustainability of the licensees. NERSA has addressed these issues in varying degrees, but it requires ongoing attention.

#### 5.1.4. Continental Developments

- a) Sub-Saharan Africa accounts for almost 14% of the world’s population, but only 4.5% of global primary energy demand [619 million tonnes of oil equivalent (Mtoe)]. According to latest statistics from the World Energy Outlook (2017) report, the number of people without access to electricity in sub-Saharan Africa continues to decline, albeit slowly. Over 200 million people have gained access since 2000, less than the overall population increase. As a result, there remain more than 600 million people without access, despite an increase in the access rate of 20 percentage points to 43%.
- b) Average energy consumption per person in most African countries is well below the world average of around 2 tonnes of oil equivalent (toe) per capita and is broadly comparable to India’s average of 0.7 toe/capita.

African energy demand has been driven by the growing needs of North Africa, Nigeria and South Africa. In 2018, primary energy demand in Africa was more than 830 million tonnes of oil equivalent (Mtoe): North Africa (24%), Nigeria (19%), and South Africa (16%) together accounted for almost 60% of this despite making up only 35% of the population.

c) Furthermore, recent efforts have been uneven, with around 60% of the progress seen since 2011 concentrated in just four countries (Kenya, Ethiopia, Tanzania and Nigeria), which together account for only 31% of the population without electricity access in sub-Saharan Africa. In Kenya, the access rate has increased by over 65 percentage points in 2000, to 73% today, and the Last Mile Connectivity Project aims to deliver universal access by 2022. In Ethiopia, electricity now reaches 45% of the population compared with 5% in 2000. The National Electrification Programme, launched in 2017, outlines a plan to reach universal access by 2025, aiming to reach 35% of the population with off-grid solutions.

d) In South Africa, while the current electrification rate is relatively high (84%) it has been declining since 2014, in large part because electrification in urban areas has not kept pace with migration from rural areas.

e) Energy demand in sub-Saharan Africa is very low. However, there are several factors pointing towards potentially rapid and prolonged growth in demand: strong economic expansion; increasing urbanisation; industrialisation and modernisation; a burgeoning middle class in many countries; as well as a legacy of unmet energy demand. The sub-Saharan Africa energy system is expected to expand rapidly by 2040 and so do the demands placed upon it. According to the World Energy Outlook Report (2018), the sub-Saharan Africa economy will quadruple in size, the population will



nearly double (to 1.75 billion) and energy demand grows by around 80% by 2040. The capacity and efficiency of the system improve, and access to modern energy services grows, but many of the existing energy challenges are only partly overcome.

- f) Bioenergy demand will increase by 40% in absolute terms by 2040, exacerbating stress on the forestry stock. However, the share of bioenergy in the energy mix declines from above 60% to below half and the share of modern fuels edges higher. Oil demand will more than double to 4 million barrels/day (Mb/d) in 2040 [over 0.5 Mb/d is the residential use of Liquid Petroleum Gas (LPG) and kerosene] and becomes the second-largest fuel in the mix, overtaking coal. Natural gas use grows by nearly 6% per year, to reach 135 bcm.
- g) According to BP, Africa will have the highest Compound Annual Growth Rate ('CAGR') for oil and gas consumption over the next 20 years while having the lowest existing energy consumption base<sup>16</sup>. There is an urgency to address the current and future power supply, transmission and distribution needs. Therefore, the proven nature of Open Cycle Gas Turbines (OCGT) and Combined Cycle Gas Turbines (CCGT) technology coupled with the increased global volumes of LNG and potential for subdued future prices appear to

offer an opportunity for African gas to power to grow. Africa has significant natural gas reserves, with increasing numbers of countries joining the list of countries that have discovered resources. For countries lacking domestic gas today, importing LNG for gas to power projects has become feasible due to the reason that there is an increase in countries that have discovered natural gas.

- h) The sub-Saharan Africa power system is expanding rapidly, with generation capacity quadrupling to 385 GW. The power mix becomes more diverse, with coal (mainly South Africa) and hydropower (all regions), being joined by greater use of gas (Nigeria, Mozambique, Tanzania), solar (notably in South Africa and Nigeria) and geothermal (East Africa). The share of renewables in total capacity more than doubled to 44%. The total power sector investment averages around \$46 billion per year, with just over half of it in transmission and distribution.
- i) Oil production will rise above 6 Mb/d by 2020, but will then taper off to 5.3 mb/d in 2040. Nigeria and Angola remain the dominant producers, although Uganda and Kenya are expected to ramp up oil output in the 2020s. Gas production will rise to 230 bcm in 2040, led by Nigeria, and there will be an expansion of the output from Mozambique (60 bcm in 2040), as well as Angola and Tanzania

(each 20 bcm). Coal supply is expected to grow by 50% to reach 325 Mtoe, still concentrated in South Africa, but joined increasingly by Mozambique and others. Sub-Saharan energy exports are drawn increasingly towards Asian markets. Crude oil net exports will decline to just over 3.8 Mb/d by 2040, partly due to a greater share being refined and consumed domestically. Rising gas output from Mozambique and Tanzania will bring sub-Saharan LNG export towards 100 bcm by 2040 (around 17% of inter-regional LNG trade), and Mozambique joins South Africa as a key coal exporter.

- j) Furthermore, sub-Saharan Africa makes only a small contribution to the global energy-related CO<sub>2</sub> emissions. It is envisaged that it will account for a mere 3% of the total in 2040, but is on the front line when it comes to the potential impacts of a changing climate. In particular, hydropower prospects can be affected by changing patterns of rainfall. The fuelwood and charcoal sectors operate largely outside the formal economy, meaning that policymakers have few levers to promote more sustainable forestry.
- k) Sub-Saharan Africa is rich in energy resources and holds approximately 50% of the continent's oil and gas resources and nearly all of the coal resources, but very poor in energy supply (International Energy Agency, 2017). The political instability in

16 PwC (2018). Staking on tomorrow: Africa oil and Gas review report

Sub-Saharan Africa limits the realisation of future gas infrastructure. A clear and comprehensive plan is needed to attract Foreign Direct Investment (FDI) into a country's gas sector.

- l) Natural gas resource-holders can power domestic economic development and boost export revenues, but only if the right regulation, prices and infrastructure are in place. The incentives to use gas within sub-Saharan Africa are expected to grow as power sector reforms and gas infrastructure projects move ahead. International Energy Agency, (2017) predicts that natural gas will nearly triple its share of the energy mix in Africa to 11% by 2040.
- m) Sub-Saharan Africa has 221.6 trillion cubic feet of proved natural gas reserves. The Middle East has almost 13 times that amount and Eurasia has almost 10 times that amount. Sub-Saharan Africa produced 1.69 trillion cubic feet of natural gas in 2011, accounting for 1% of total global natural gas production. Natural gas production in Sub-Saharan Africa grew by an annual average of 10% over the past ten years. The growth was led by Nigeria, Equatorial Guinea, and Mozambique. Nigeria produces around two-thirds of the region's natural gas. The largest gas discovery was made in Egypt in the Zohr field with more than 30tcf of gas, which is located within the offshore Shorouk Block. Over

the next year or two, Egypt plans to bring online all four trains of the first phase of Zohr, as well as expanding operations at the Abu Qir acreage and starting up the Atoll project and Phase 9B of the West Delta Deep Marine project<sup>17</sup>.

- n) Sub-Saharan Africa exports about 1.22 tcf of natural gas and LNG via pipeline. Nigeria, Equatorial Guinea, and Mozambique are the only sizable natural gas exporters in the region. Angola joined the group in 2013 when it began exporting LNG. According to the IGU (2019) report<sup>18</sup>, several new gas projects came online in Algeria, leading to an increase of 0.8 MT to reach 12.4 MT of exports, which is the country's highest since 2014.
- o) The African Energy market has a required energy investment of US\$65 to US\$90 billion, with actual current investment at US\$23 billion. This translates to a funding gap of between US\$40 and US\$60 billion. To address this issue, the African Development Bank (AFDB) has since established a new fund for energy that is aimed at achieving universal access to energy by 2025. It envisages 200 million connections and doubling the continent's generation capacity by 2025. The AFDB fund aims to increase new off-grid connections by 130 million, new generation capacity by 160 GW and new clean cooking solutions by a further 150 million.

- p) With all these developments and growth in energy demand and supply, there is a need to harmonise regulations with regulatory authorities across the continent to ensure efficient energy landscape.

### 5.1.5. Regional Developments

- a) Energy is vital to development in the Southern African Development Community (SADC). Beyond its use in daily life, fuel and electricity catalyse infrastructure projects that drive both regional integration and economic growth. As the SADC region industrialises on its path to improved human development, energy production and distribution will only increase in importance. Recognising the fundamental role of energy in accomplishing its goals, the SADC passed the Protocol on Energy in 1996, which provides a framework for cooperation on energy policy among SADC Member States.
- b) Since the adoption of the Protocol on Energy, the SADC has enacted several strategic plans for energy development in the region. Although implementation of these strategies has been slow, the region has made significant strides, particularly in electricity. At present, nine Member States of the SADC have merged their electricity grids into the Southern African Power Pool (SAPP), reducing costs and creating a competitive common market for electricity in the region. Similarly, the SADC has

17 "1st phase of Zohr gas field about to be finished: Min." Egypt Today. January 2018

18 IGU World Gas LNG Report – 2018 Edition, 27th World Gas Conference Edition

established the Regional Electricity Regulatory Association (RERA), which has helped in harmonising the region's regulatory policies on energy and its subsectors.

c) While the SADC is enacting a number of initiatives to address these issues, it has identified two chief points of focus, as follows:

- Electricity Generation – Southern Africa has ample resources for electricity generation, though it occasionally lacks the capacity for development.
- Hydropower and Renewable Energy – Renewable energy has grown in importance for both regional and global energy markets.

d) In 2015, the SADC also launched the Industrialisation Strategy and Road Map for 2015–2063. Based on the Strategy and Roadmap, a SADC Industrialisation Action Plan had been drafted which covers how industrialisation should unfold; competitiveness; regional integration; crosscutting issues; institutional arrangements; and the monitoring and evaluation process. The successful implementation of this roadmap is essential for socio-economic development in the region and will have a bearing on the activities undertaken by regulators – the energy requirements for meeting the regional growth targets of 4–7% per annum as part of the industrialisation process are expected to be enormous. There has also been cooperation by

SADC Member States on the establishment of the SADC Centre for Renewable Energy, Energy and Efficiency (SACREEE) in Namibia and the Southern Africa Research and Documentation Centre, which will function as platforms for capacity building, distribution of energy-related information, and energy-related projects.

e) The region is relatively well endowed with energy resources. The SADC region has vast energy potential from solar, wind, nuclear, hydro, thermal, gas and petroleum sources in several countries. However, biomass is by far the largest source of energy in most regional countries.

f) Electricity, as the dominant source of energy in the region, is generated mainly through thermal or hydroelectric resources. The coal industry is the backbone of power generation in the region, supplying almost 62% in Southern Africa and a significant share of the resource is allocated for export. The region has a large reserve of low-cost hydroelectricity in the north [especially Inga Reservoir in the Democratic Republic of Congo (DRC)] and Kariba Dam on the Zambia/Zimbabwe border in the middle of the regional system, as well as large reserves of cheap coal in Botswana, Mozambique, South Africa and Zimbabwe.

g) Natural gas is becoming more significant to the region's energy sector, as Mozambique, Namibia, South Africa and Tanzania are developing the natural gas fields in their respective countries.

New natural gas discoveries by international oil companies in Mozambique and Tanzania during the past decade have ignited investor interest in this previously under-explored region. The nascent petroleum and gas sub-sector is however plagued by volatile prices. Although the region is endowed with some petroleum and gas resources, these are not directly available to the region due to either foreign commitments or the lack of the necessary infrastructure to exploit, process, store and distribute throughout the region.

h) Furthermore, the region has some of the most significant known reserves of uranium. The mineral is being mined in Namibia and South Africa for use as fuel for nuclear power plants while exploration is underway in Botswana and Zimbabwe. Nuclear technology is included in the electricity sub-sector, but it must be demonstrated that nuclear power can be a safe electricity generation option and the confidence of the population and governments must be won to endorse nuclear energy deployment in the SADC region. Only South Africa has nuclear capacity, with tentative plans for a new nuclear programme.

i) The region has great potential for renewable energy, including hydropower, which is already being utilised on a commercial scale. However, the necessary infrastructure for grid connection is poor. The prices for most renewable energy technologies are decreasing, but more must be

done in the form of innovative financing. A key factor of the SADC energy sector is the fact that the region has faced an electricity deficit since 2007 due to a combination of factors that have contributed to a diminishing generation surplus capacity against an increasing growth in demand. In recent years, the sub-region has experienced a power deficit situation due to a number of reasons, including growing demand against limited expansion in generation capacity.

## Electricity

- j) Only 32% of rural areas in the region have access to electricity, as a result the SADC region falls behind in Africa regarding access to electricity.
- k) Although plans have been put in place to address the supply shortage by 2020, projects intended to address the shortage lag behind the deadline due to failure to package projects for funding, below-cost tariffs, poor project preparation, issues with Power Purchase Agreements (PPAs), and the absence of regulatory frameworks, among other constraints. Massive investment in generation, transmission and distribution infrastructure will be required to sustain the projected increase in power demand in the region. Between US\$93 billion and US\$212 billion is required for short and long-term projects to boost power supply by 2027.
- l) One of the most pressing constraints is the need to improve the transmission line capacity and strengthen the regional grid. Approximately 60–70% of the matched bids in the Southern African Power Pool cannot take place due to transmission capacity constraints. Eskom, for example, would be able to sell all of its ‘excess’ capacity to its northern neighbours if the transmission capacity existed.
- m) More than 24,000 MW of new generation capacity was commissioned between 2014 and 2017. A number of rehabilitation and new generation projects are being undertaken to address the generation supply gap. The SAPP Plan indicates that 57,000 MW would need to be commissioned in the next 20 years. The generation mix is expected to change in the future with more emphasis on renewable energy particularly hydropower development. Currently, hydropower constitutes 21% of the generation mix, which will increase to at least 26% in the next 20 years. However, there is a need to diversify the energy source base in view of the experiences of Zambia and Zimbabwe, particularly in 2015, when hydropower generation dropped by nearly 40% due to low water levels in the Zambezi river and the Kariba Dam as a result of poor rainfall. This, therefore, calls for the prioritisation of solar and other renewable energy projects in line with the climate change efforts being pursued internationally.
- n) Nearly all the SAPP Member States have high solar penetration levels, which provide great potential and a meaningful contribution of solar energy to the current power deficit. The total renewable energy contribution is expected to rise to at least 35% of the regional energy mix by 2030.
- o) Renewable energy targets in the SADC region are provided in Table 4 on the next page.

**Table 4: Renewable Energy Targets in the SADC Member States<sup>19</sup>**

COUNTRY	SECTOR/TECHNOLOGY	TARGET
Angola	Electricity access Renewable energy (small-scale) Hydropower Biofuels	Increase in renewable energy capacity of the following amounts by 2025: <ul style="list-style-type: none"> <li>• Small hydro: 100 MW, with 60 MW for municipalities</li> <li>• Solar: 100 MW, with 10 MW off-grid</li> <li>• Wind: 100 MW</li> <li>• Biomass: 500 MW</li> </ul>
Botswana	Energy access Renewable electricity Renewable energy	<ul style="list-style-type: none"> <li>• 82 per cent access to modern energy services by 2016; 100 per cent access by 2030</li> <li>• Capacity increases expected from REFIT programme (delayed)</li> <li>• 15 per cent renewable share in final energy consumption by 2036, but may increase to 20 per cent in 2017 Renewable Energy Strategy once approved</li> </ul>
DRC	Energy access (non-renewable energy-specific)	<ul style="list-style-type: none"> <li>• 60 per cent overall energy access (not renewable-specific) by 2025 (from 9 per cent currently)</li> </ul>
Lesotho	Grid extension (non-renewable energy-specific)	<ul style="list-style-type: none"> <li>• Targets pending completion of Sustainable Energy Strategy 2018</li> </ul>
Madagascar	Renewable electricity	<ul style="list-style-type: none"> <li>• 85 per cent renewable share in electricity generation by 2030</li> </ul>
Malawi	Electricity access Electricity efficient device Renewable energy Biofuels	By 2025/2030: <ul style="list-style-type: none"> <li>• 30 per cent access to electricity (up from 9 per cent since 2010)</li> <li>• 100 per cent use of efficient cook stoves in off-grid households</li> <li>• 6 per cent renewable share in energy mix (up from 1 per cent)</li> <li>• Biofuels mandate of 20 per cent ethanol and 30 per cent biodiesel</li> </ul>
Mauritius	Renewable electricity	<ul style="list-style-type: none"> <li>• 35 per cent of electricity from renewables by 2025; generation shares of 17 per cent bagasse, 8 per cent wind, 4 per cent waste, 2 per cent solar, 2 per cent geothermal by 2025 (under review)</li> </ul>

<sup>19</sup> SADC Renewable Energy And Energy Efficiency Status Report, 2018

COUNTRY	SECTOR/TECHNOLOGY	TARGET
Mozambique	Renewable electricity	400 MW increase in installed renewable energy capacity by 2024, including: <ul style="list-style-type: none"> <li>• Wind: 150 MW</li> <li>• Hydro: 100 MW large-scale, 100 MW small-scale</li> <li>• Solar: 30 MW</li> <li>• Biomass: 30 MW</li> </ul>
Namibia	Renewable electricity	<ul style="list-style-type: none"> <li>• 70 per cent renewable share in electricity generation by 2030</li> </ul>
Seychelles	Renewable electricity	<ul style="list-style-type: none"> <li>• 5 per cent renewable share in electricity generation by 2020; 20 per cent by 2030</li> </ul>
South Africa	Renewable electricity Transport	<ul style="list-style-type: none"> <li>• 21 per cent renewable share in electricity generation by 2030</li> <li>• 17.6 GW solar capacity, 37.4 GW wind capacity by 2050 (IRP 2016)</li> </ul>
Eswatini	Renewable electricity	<ul style="list-style-type: none"> <li>• 60 MW of intermittent resources such as solar PV by 2030</li> <li>• 50 per cent renewable share in energy consumption by 2030</li> </ul>
Tanzania	Renewable electricity	<ul style="list-style-type: none"> <li>• 5 per cent renewable share in electricity generation by 2030 (up from less than 1 per cent)</li> </ul>
Zambia	Electricity access Biofuel	<ul style="list-style-type: none"> <li>• 200 MW increase in renewable energy capacity by 2020</li> </ul>
Zimbabwe	Electricity access Renewable energy Hydropower (small-scale) Biofuel	<ul style="list-style-type: none"> <li>• 1,100 MW increase in renewable energy capacity by 2025; 2,100 MW increase by 2030 (16.5 per cent increase overall)</li> <li>• 2,400 GWh increase in renewable energy generation by 2025; 4,600 GWh increase by 2030 (26.5 per cent increase overall)</li> <li>• Note: targets are conditional on final approval by government</li> </ul>

p) In its bid to meet the rising demand of electricity, the SADC region is implementing several Generation and Transmission projects across the region. Some of the projects include the following:

- Zambia–Tanzania–Kenya Interconnector
- Mozambique–Malawi Interconnector and Namibia–Angola Interconnector
- Zimbabwe–Zambia–Botswana–Namibia Interconnector
- Mozambique–Zimbabwe–South Africa Interconnector

## Petroleum and Gas

- q) The SADC region is endowed with significant deposits of coal (and associated coal bed methane gas), crude oil, shale gas and natural gas. This optimal exploitation could potentially prove to be the 'missing ingredient' in terms of diversifying the region's energy mix, reducing the cost of energy and improving its accessibility to the citizens of the region. It could also reduce carbon dioxide emissions, which are associated with advancing global warming and climate change. Natural gas is becoming more significant to the region's energy sector as Angola, DRC, Madagascar, Mozambique, Namibia, South Africa and Tanzania develop natural gas fields in their respective countries. Parallel to these developments, countries endowed with coal resources, particularly Botswana, Mozambique, South Africa and Zimbabwe, are redoubling efforts to extract coal-bed methane gas on a commercial scale.
- r) Investments in the oil and gas sector are rising, particularly in Angola, Mozambique and Tanzania due to the vast resources found in those countries. However, the sector is plagued by volatile prices, which have been uncharacteristically low in the past two years, thus generally discouraging investment.
- s) The petroleum and gas industries in the region only exist in the national context with isolated

underdeveloped regulatory systems where they do exist. The SADC region has no developed common frameworks aimed at facilitating the development of regional markets and integration of the petroleum and gas sectors within the region.

- t) Presently, most Member States in the petroleum sector have no domestic fuel production capability, but import fuel from other Member States, at different standards. The fuel standards should be harmonised to allow the ease of movement of blended fuels as well as biofuels as blending feedstock within the region. Furthermore, the issues around refinery and storage capacity in the region must be addressed to encourage intra-regional trade especially between the landlocked and coastal Member States.
- u) The projected demand for petroleum products/ liquid fuels in the SADC region is expected to grow significantly in the period up to 2027. The projected growth in demand will have to be matched by the expansion of the necessary infrastructure for production, refinery, storage and pipeline/ transport that goes with uninterrupted supply to the region.
- v) In 2009, SADC adopted a Framework on Sustainable Biofuels, which provides guidelines for production and development of biofuels. Some Member States are already blending bioethanol with petrol/gasoline, and producing biodiesel to

optimise the utilisation of their natural resources while reducing the importation of fuel products. However, the success of this programme will also depend on the harmonisation of fuel specifications and standards in the region. Since 2015, the SADC has been advocating for the migration of the region towards low Sulphur fuels and the introduction of cleaner vehicles, since the use of high Sulphur fuel diesel is still common in the region.

- w) There are several ports to import product to South Africa, but the Port of Durban is deemed the port of entry. From there, the inland areas as well as a number of adjacent SADC countries are supplied. Matola in Mozambique is also an alternative supply route to the Mpumalanga and Gauteng provinces.
- x) Only six countries have proven gas reserves, with Namibia being the only one with no gas production. The remaining SADC countries Lesotho, Madagascar, Malawi, Mauritius, Seychelles, Swaziland, and Zambia have no known reserves.
- y) The main producers of gas in the SADC region are Angola, Tanzania, DRC and Mozambique. Angola leads the region in deposits of gas and petroleum, while South Africa is rich in shale gas and coal-bed methane gas. Tanzania is emerging as a force in this sector as new discoveries of natural gas continue to be made along its Indian Ocean coast. Mozambique has also seen a rapid expansion of its gas industry since the commissioning of the 865

km-long gas pipeline from the Pande and Temane gas fields in south-central Mozambique to Secunda in South Africa by the multinational Republic of Mozambique Pipeline Investment Company (ROMPCO), headquartered in South Africa.

- z) The Rovuma area, in the far north of Mozambique near the Tanzanian border, has seen positive results of natural gas exploration. Between 150 to 200 trillion cubic feet of gas has been found offshore Mozambique's Cabo Delgado province and final investment decisions have already been made for two liquefied natural gas (LNG) projects, the most recent being Anadarko's Rovuma Area 1 Mozambique LNG project. The final capital estimate has not been made, but Anadarko has indicated that the project will involve two LNG trains with total yearly nameplate capacity of 12.88-million tons.
- aa) Separately, the Italian Energy Group, Eni, is building the \$4.7-billion Coral South floating LNG facility, while Eni and ExxonMobil are making progress on an LNG project based on the Rovuma Area 4 block offshore, which will share infrastructure with Anadarko's project. Over the coming two decades, it is estimated that more than \$100-billion will be invested in the territory because of the gas projects and several countries, including Portugal, Brazil and France that are actively mobilizing their business communities around the opportunities associated with Mozambican LNG projects.

bb) State-owned freight logistics firm, Transnet, plans to launch a tender next year for South Africa's first terminal to import liquefied natural gas (LNG) at Richards Bay port, with first gas expected to land in 2024. The target source of gas for this project is LNG from Mozambique. For this project to be successful, it is of vital importance for South Africa to secure the new gas supplies. Angola and Mozambique are potential LNG suppliers due to their shorter shipping distances, which would give South Africa advantage in securing relatively favourable delivered ex-ship prices.

cc) In addition, there is also an opportunity for South African companies to explore other business opportunities that will arise from the development of the three multibillion-dollar gas projects in Mozambique. The region in which these megaprojects are to be developed is both rural and remote, which means just about everything that is needed to support the projects, from ports and roads, to housing and retail developments, still has to be built. In other words, this is not only a game changing prospect for Mozambique, but also a significant business opportunity for South African companies, especially those willing to collaborate with local companies in line with Mozambique's localization requirements.

## 5.1.6. Economic Outlook

- a) According to the South African Reserve Bank, South Africa's current domestic economic performance can be summarised as follows:
  - South Africa's potential is significant, yet growth over the past ten years has not benefitted from the global recovery.
  - The economy is globally positioned, sophisticated, and diversified.
  - The following were identified as binding constraints to growth:
    - › policy uncertainty;
    - › the regulatory environment not being conducive to investment; and
    - › there is no sustained long-term partnership/cooperation between government, business and labour (Social Compact).
    - › SA credit ratings downgrade: South Africa's rapidly worsening fiscal metrics during the course of 2019 alerted all three major ratings agencies to place the country on a negative outlook during the second half of 2019. This has had an impact on the inflow of the FDI
  - A recent World Bank Study (2018)<sup>20</sup> on South Africa reveals that it is one of the most unequal economies in the world, with consumption inequality having increased since 1994. Wealth inequality is high and has been rising over time.



- Currently, more than 50% of the population lives in poverty and the economy is not generating sufficient jobs, with 29% of the labour force being unemployed.
  - According to statistics from StatsSA, investment as a percentage of GDP has been declining since 2014. The total investment is now at 19.4% of the GDP, down from 23.5% in 2009.
- b) South Africa's per capita growth rate is currently just above 1%, alongside Colombia with 1.8%, Chile with 1.5%, Brazil with 1.1% and Venezuela with -3.9 (2014 data). Among the highest per capita growth rate in 2018 is China with 6.9%, Malaysia with 5.9% and Indonesia with 5.1%.
- c) Real GDP growth in South Africa is expected to remain below 2% through 2019. However, this is not sufficient to make a meaningful dent in unemployment, poverty, and inequality. Global events, including the Eurozone debt crisis (2010–2012) and weak commodity prices (2014–2015) have contributed to the poor domestic growth performance since 2010. However, at least since 2012, a worsening domestic political, policy and socioeconomic climate ensured that SA was unable to benefit fully from the more recent broad-based improvement in global growth and rebound in key commodity prices. Year-on-year,
- economic growth improved slightly from 0.6% in 2016 to 1.3% in 2017. However, there was a slight dip in 2018 with 0.7% growth recorded.
- d) The average annual consumer price inflation (CPI) was 4.7% in 2018, down from 6.4% in 2016 and 5.3% in 2017. CPI has averaged 5.4% over the past five years, which is in line with the South African Reserve Bank inflation target range. After averaging below 5% in 2018, headline CPI inflation is projected to average of 5.06% during the period of 2019-2023 (BER 2019). This implies that CPI will remain stuck at the lower end of the South African Reserve Bank's (SARB) inflation target band.
- e) The petrol price has increased considerably over the years, with a percentage change of 13.00% in 2018 up from 8.1% in 2017 and 1.4% in 2016. This petrol price is still expected to increase over the coming years, starting with a decrease of approximately 1.2% in 2019. Cumulatively, the 2018 petrol price has increased with 106.2% since 2007 and is expected to continue increasing to 118.2% in 2023.
- f) Impact of COVID-19 on the South African economic outlook can be summarised as follows:
- Real GDP decreased by a record 51% in the second quarter of 2020 owing to the impact of the COVID-19 lockdown restrictions since the end of March 2020. This follows a 2.1% decline in the first quarter of 2020.
    - › The biggest negative contributors to GDP growth were the manufacturing (-10.8%), trade (-10.5%) transport (-6.6%) mining (-6%) and finance (-5.4%) sectors.
    - › National Treasury and the SARB bank forecasts GDP to decline by -7% and -8.2% in 2020 respectively.
  - The Covid-19 pandemic is projected to increase poverty, inequality and unemployment.
    - › Estimates suggest that an additional 3.5 million people have been falling into poverty since the beginning of national lockdown restrictions in March 2020.
    - › Unemployment increased from 29.1% (6.6million) in December 2019 to 30.1% (7million) in March 2020. Latest statistics show the unemployment rate at 23.3% representing 4.3million people.
- g) In response to the COVID 19-pandemic, the Department of Mineral Resources and Energy (DMRE) and its entities presented economic interventions in response to the economic impact induced by the Covid 19 pandemic and the economic downgrade of the country. The interventions focused on DMRE's operational readiness, SAMI Health & Safety readiness,

interventions and responses within the broader mining and energy sectors. For example;

- Additional procurement of electricity capacity from existing IPPS (approximately 128 MW and Eskom to procure short-term power (approximately 128 MW).
- Acceleration of the nuclear-built programme
- Ensuring of fuel price benefits being passed to end consumers
- Energy security: shifting of power stations (open cycle turbines) demand from diesel to natural gas within the next 5 years.
- Energy security: conversion of PetroSA from being a gas-2-liquid to be a liquid refining facility.

### 5.1.7. Impact of BRICS on the Energy Sector

a) The establishment of the New Development Bank (BRICS Bank) has highlighted its main funding areas as sustainable development and sustainable infrastructure among BRICS countries (Brazil, Russia, India, China and South Africa) and other strategic developing countries (especially in Africa). One of the focus areas of the Bank is to scale up low carbon and climate-resilient investments for sustainable infrastructure, including in particular speeding up the energy transition consistent with the Paris Agreement. The envisaged approach to this is aligning their financial flows with the countries' pathways to low carbon and climate resilient development, increasing the predictability

and ease of access to concessional resources, such as the Green Climate Fund, and leveraging private finance for climate investments.

b) Most of the Bank's projects involve green energy or infrastructure. According to the Bank, between 1 and 1.5 trillion US dollar is needed to fully harness renewable energy among the trading bloc. The bank approved two infrastructure projects with a loan value of US\$413.8 million during the 12th Board of Directors meeting in Shanghai on November 2017. Non-resident portfolio flows into BRICS nations rose to \$166.5 billion in May 2017, up from \$28.3 billion in outflows 12 months prior, according to data compiled by the Institute of International Finance and EPFR Global. The bank sold its first 3 billion (\$437 million) yuan-denominated bonds in China in July 2017, to fund clean energy projects in member states.

c) The BRICS Bank has 25 projects at various stages of preparation for 2018 to 2019, with a total lending amount of \$6 billion. Three of these projects are in South Africa and include the Greenhouse Gas Emissions Reduction and Energy Sector Development Project (US\$300m), Durban Container Terminal Berth Reconstruction Project (US\$200m) and Eskom Renewable Energy (Transmission) project (US\$180m).

d) Between 2003 and 2017, BRICS has invested about US\$3383m in 11 South African Energy projects. This investment translated to 809 jobs created (Deloitte, 2018). However, in January 2018, an

agreement was signed between the Russian state energy company Rosatom and the South African government to construct small hydropower plants in Mpumalanga to power rural regions of the country. This is a key component of South Africa's energy security strategy. Each mini hydropower plant is expected to power 250 to 400 houses. This project could be the first of several small hydro projects aimed at generating innovative and affordable energy in South Africa and across the continent.

### 5.1.8. SA credit ratings downgraded

a) South Africa's rapidly worsening fiscal metrics during the course of 2019 alerted all three major ratings agencies to put the country on a negative outlook during the second half of 2019. These led to credit rating downgrades in March and April 2020, taking the country to general sub-investment grade and SA exiting the Financial Times Stock Exchange (FTSE) World Government Bond Index on 30 April following the final downgrade from investment-grade status by Moody's at the end of March. The impact of the COVID-19 pandemic added to reasons for the downgrade and has since overshadowed the economic fight. Different projections of sustained contractions in real GDP for the full year range between 5% and 10%.

b) In April 2020, both Fitch and Standards & Poor's (S&P) Global Ratings downgraded SA's sovereign credit rating by another notch to push it deeper into sub-investment grade (sub-IG) territory. Fitch

rating agency highlighted that the downgrade was due to “the lack of a clear path towards government debt stabilisation”, with a further shock to government finances and growth due to COVID-19. Fitch had South Africa’s foreign currency rating two notches below investment grade, while S&P Global Ratings is at three notches below IG.

- c) On 20 November 2020, South Africa sunk deeper into junk territory after Moody’s Investors Service joined Fitch Ratings in lowering the country’s credit ratings. Moody’s cut the nation’s foreign and local-currency ratings to Ba2, two levels below investment grade, from Ba1. The outlook remains negative (Bloomberg). Fitch cut the nation’s foreign and local-currency ratings to BB-, three levels below investment grade, from BB, also with a negative outlook. S&P kept its assessment of South Africa’s foreign-currency debt three levels below investment grade, with a stable outlook<sup>21</sup>.

## 5.1.9. National Environment

### Electricity

- a) There is currently no annual growth in electricity demand – there has not been for the last 10 years and there is no sign of that changing. Eskom has 51 943MW of licenced capacity and the renewable

licenced capacity is 6 592.7MW. In April 2018, the then Minister of Energy announced the signing of the agreements for the 27 projects procured under the Renewable Energy Independent Power Producer Procurement Programme (REIPPPP) Bid Windows 3.5 and 4. This is by far the biggest Independent Power Producer (IPP) procurement by the Department of Energy to date, representing a total of R56 billion of investment and about 2300MW of generation capacity to be added to the grid over the next 5 years. This investment is injected into the economy by the private sector, with no contribution from Government other than support to Eskom in the event of a default by the buyer. The new projects are as detailed below:

- 15 new wind, solar PV and concentrated solar power (CSP) projects, Northern Cape;
- 4 new wind projects, Eastern Cape;
- 4 new solar PV projects, North West;
- 2 wind projects, Western Cape;
- 1 a biomass project, Mpumalanga; and
- 1 small hydro project, Free State.

- b) The Integrated Resource Plan (IRP) 2010–2030 estimated that South Africa would require over 40,000 MW of new generation capacity by 2025. The IRP 2018 was released in August 2018 and should provide clarity on the way forward as well as a predicted price path.

- c) The percentage of South African households that were connected to the main electricity supply increased from 76.7% in 2002 to 84.7% in 2018.

- Mains electricity was most common in Limpopo (92.7%), Northern Cape (91.7%), Free State (91.2%) and Mpumalanga (90.7%), and least common in Gauteng (77.7%), KwaZulu-Natal (83.5%) and North West (83.7%).
- The largest increases between 2002 and 2018 were observed in Eastern Cape (36.7%), and Limpopo (21.6%).
- The percentage of households with access to mains electricity actually declined in Gauteng (12.2%) and Western Cape (0.68%). These declines can be associated with the rapid in-migration experienced by these provinces.

- d) Industrial and commercial demand is higher than residential consumption across different forms of energy.

### Petroleum and Gas Sector

- e) Inputs of petroleum products play an important role in transport and production activities of various other sectors of the South African economy. However, South Africa does not have its own economically extractable natural crude oil resources, therefore, South Africa relies on

21 Source: <https://businesstech.co.za/news/finance/450475/what-the-latest-rating-downgrades-mean-for-the-average-south-african/>

imports of crude oil and refined fuels to meet its liquid fuels needs.

- f) Approximately 11 142 million litres of petrol and 12 539 million litres of diesel were consumed in South Africa in 2018 representing a decrease of 0.28 per cent and an increase of 3.12 per cent respectively compared to 2017 (DoE, 2018). More illuminating and power paraffin was consumed in 2018 than in 2017, with 702 million litres and 648 million litres consumed respectively. This represents a 7.69 per cent increase in paraffin consumption. Approximately 552 million litres of furnace oil were consumed in 2018, representing a 5.25 per cent increase from consumption in 2017. Furthermore, there was a decrease of 9.32 per cent in the consumption of LPG, with 504 million litres and 551 million litres being consumed in 2018 and 2017 respectively.
- g) The majority of South Africa's refinery output is transported via pipeline, but product is also uplifted directly using road, or transported by rail, to other distribution facilities. The Transnet Pipelines Division operates the main liquid petroleum pipeline system running between Durban and the inland region, comprising the Multi-Product Pipeline (MPP) and the crude oil pipeline to Sasolburg servicing the NATREF refinery. It then extends into the northern network with delivery depots in Gauteng (Alrode, Langlaagte, Waltloo, OR Tambo International Airport, Tarlton), North

West (Klerksdorp, Rustenburg) and Mpumalanga (Witbank) as well as Free State (Kroonstad). The MPP has a coastal accumulation facility as well as an Inland Accumulation facility. At each of these, as well as at the aforementioned delivery depots, the various NERSA licensees have storage facilities interconnecting to the pipeline system. In the eight national ports, there are also marine loading facilities interconnecting to the coastal refineries and/or storage facilities located within or adjacent to the ports. In the inland areas, the storage facilities are mainly replenished by road or rail. In total, NERSA has issued licences to operate 194 storage facilities, 23 marine loading facilities and 19 pipelines to 59 licensees. As of 31 March 2018, TPL has stopped injecting petroleum products into the Durban-to-Johannesburg Pipeline (DJP) and this pipeline will be decommissioned. In an effort to alleviate the supply burden resulting from demand growth, there were plans to build a 300 000 boe/d refinery located in the Eastern Cape Province called 'Project Mthombo'. However, the Government recently announced new plans for the refinery to be located in Richards Bay. Current refinery operators are reluctant to expand present capacity due to the high investment cost involved in meeting cleaner fuel standards while there is a surplus of liquid petroleum products available in the international market. Nonetheless, South Africa's refineries are well placed on a cash operating basis within its regional peer group (European and African countries that have

more than one refinery), indicating their current competitive situation relative to these other manufacturers.

- h) It is expected that small-scale importation and trading of LNG will precede the establishment of LNG storage and gasification terminals in South Africa. In this regard, the Energy Regulator has recently licenced the operations of Volco (Pty) Ltd (Volco) and Volco Alfa (Pty) Ltd (Volco Alfa), which will import the small-scale LNG into South Africa in the Western Cape Province. The LNG will then be transported to customers' sites via trucks using 40' ISO containers, where it will be stored, regasified and traded to the customers in gaseous form.
- i) Renergen is the first company in South Africa to build a small-scale onshore LNG plant. It intends to monetise its LNG by developing between 12 - 18 LNG filling stations across South Africa by 2023. Renergen has signed a deal with Total under which the French major will rebrand two of its filling stations on the N3 national route between Johannesburg and Durban as LNG outlets. The LNG sold at these filling stations would be exclusively for the use of trucks and buses. The first phase of the project is planned to supply 400 trucks from 2021, with the second phase supplying approximately 3,000 - 5,000 trucks from 2023.

- j) South Africa's intentions to expand the role of LNG in its energy mix is reflected in the country's Integrated Resource Plan (IRP), which was published in October 2019. The IRP envisages the creation of an additional 8 100MW of gas and diesel-fired generation capacity by 20230 in order to support energy security.
- k) Sasol has confirmed the much speculated intention to sell its equity interests in the ROMPCO. Speculations emerged as early as April this year that the petrochemicals producer was seeking to sell off some of its African assets as part of its restructuring. It was said that the company had appointed advisers to sell its stakes in a power plant in Mozambique and a gas pipeline running from the country into South Africa. Sasol said that the sale is part of the its drive to raise as much as \$5 billion through asset sales amid cost overruns and lower oil prices by end of its 2021 financial year.
- l) Sasol's gas supply from Mozambique is scheduled to start falling from 2023 onwards, with a forecasted yearly shortfall of 98 million gigajoules from 2025 onwards.
- m) The gas sector looks forward to a potential increased investment due to a boost in investor confidence affirmed by the second gas-condensate discovery

by Total in the Western Cape, 175 kilometers off the southern coast of South Africa.

- n) Total made a significant gas condensate discovery after drilling its Brulpadda prospects on Block 11B/12B in the Outeniqua Basin, offshore South Africa. The area is 175km off the southern coast of South Africa. The estimated gas reserves are in the range of 56 million cubic meters, of which around 450 million cubic meters can be recovered<sup>22</sup>.

### Gas-to-Power procurement programme

- o) In order to support the implementation of the Integrated Energy Plan, the DMRE is currently finalising the Gas Utilisation Master Plan (GUMP) for South Africa. The GUMP would act as a roadmap for the development of the gas industry in the South African economy. It analyses the potential and opportunity for the development of South Africa's gas economy and sets out a path of how this could be achieved. One of the main objectives is to enable the development of indigenous gas resources and to create the opportunity to stimulate the introduction of a portfolio of gas supply options.
- p) The key challenges in the sector are to bring gas demand and supply on stream at the same time and spread geographically to stimulate broader localised demand. Without local demand, it would

be difficult to develop distributed gas supply and without such distributed gas supply, it would be difficult to develop local gas demand. One way of overcoming this challenge is to develop a Gas-to-Power Programme. This would potentially anchor gas demand while creating a long-term sustainable gas demand. The intention of the Gas-to-Power Programme is not only supplying power, but also supplying a limited amount of gas, marketed in the form of a Gas Supply Agreement (GSA), for use by industrial and other users.

- q) The Gas-to-Power Programme has stalled until the completion and publishing of the Integrated Energy Plan (IEP) and the updated Integrated Resource Plan.

### Regulated Energy Industry

- r) Energy is at the core of current and future industrial and technological development. The National Development Plan envisages that the country will have an energy sector that promotes economic growth and development through adequate investment in energy infrastructure by 2030. Furthermore, the plan envisages that South Africa will have an adequate supply of electricity and liquid fuels to ensure that economic activity and welfare are not disrupted and that 95% of the population will have access to some form of energy.

s) NERSA has commenced with a process to determine the size of the NERSA-regulated activities within the energy sector (Electricity, Piped-Gas and Petroleum Pipelines).

- The Energy Regulator has seen a rapid increase in the number of operational licensees over the 2014 to 2018 period with the exception of 2017 to 2018, where a significant decrease occurred in the electricity distribution space. Currently, there are 367 licensees operating under the regulation of the Energy Regulator. The bulk of these licensees are in the Electricity sector, followed by the Petroleum Pipelines and Piped-Gas sectors respectively.
- In particular, electricity generation has seen a rapid increase in licences issued since the implementation of the DMRE's REIPPPP that was officially launched in 2011. Between 2014 and 2018, an additional 31 licensees were licensed (13% increase).
- In 2017, a decrease of 11 licensees (-5.8%) occurred due to mergers of 26 distribution licensees into 12. Of the 26 merged licensees, four (Indaka, Imbabazane, Ezingoleni and Khara Hais) were under Eskom Distribution.
- The Petroleum Pipelines industry's regulated facilities had a regulated capacity of 16,764,237 m3 transported by pipelines, 12,014,534 m3 in storage facilities and 16,173,861 MT in loading

facilities in 2017. Of particular interest is the storage sub-sector, which saw a 12% increase in regulated facilities from 2014 to 2015. There was a slight decline from 2015 to 2016, due to the implementation of the bulk determination by the Regulator.

- The Petroleum Pipelines industry's regulated facilities had a regulated capacity of 22,127,097 m3 transported by pipelines in 2018, 12,329,854 m3 in storage facilities and 16,177,014 MT in loading facilities. Of particular interest is the storage sub-sector, which saw a 12% increase in regulated facilities from 2014 to 2015. There was a slight decline from 2015 to 2016, due to the implementation of the bulk determination by the Regulator.
- With regard to the Electricity sector, there are 131 regulated facilities, of which 30 are owned by Eskom, 16 by general IPPs, 78 by renewable IPPs and 7 by municipalities. This jointly represents 61 074.90MW of electricity generation in the country. There is a 15.48% decrease in the number of regulated facilities from 2017. Interestingly, IPPs combined represent 94 facilities with a capacity of 8 593MW in 2018. This represents an increase of 2.76 per cent of electricity added to the national grid since 2017.
- In addition, as per the Gas Act, the Energy Regulator is mandated to register certain gas activities in order to keep abreast of key

developments in the gas industry. As of 2018, 118 biogas facilities and 35 biogas registrants are registered with the Energy Regulator.

- t) There is a significant amount of energy assets in operation under the ambit of the Energy Regulator. As of 2018, there are R830.020 billion worth of operational assets under regulation, with the Electricity industry being the dominant player representing 94.32%, and 4.56% and 1.11% for Petroleum Pipelines and Piped-Gas respectively.
- u) The energy sector is undergoing major reforms with the construction of a number of projects that will add significant amounts of capacity in the short term. As of 2018, there are R430 180 billion assets under construction, of which R146 896 billion assets are in the Electricity sector, R265million in Petroleum Pipelines and R18 283 million in Piped-Gas. The electricity sector's construction projects include the approved DoE REIPPPP projects and Eskom power projects. IPPs, in particular, have investment projects worth R66.478billion (45.2%) and Eskom, through its new build programme, accounts for R80 418billion (54.7%), with projects such as Medupi and Kusile power stations still under construction. It should be noted that some of these projects are nearing completion and will be adding significant amounts of electricity to the South African power grid.

## 5.1.10. PE(R)STEL Factors Analysis

The specific factors considered in the environmental scan are shown in the tables below.

**Table 5: Political factors**

POLITICAL FACTORS	IMPACT IF FACTOR IS NOT ADDRESSED	NERSA RESPONSE TO THE FACTOR
<b>Electricity Industry Regulation</b>		
1. Municipalities' executive authority for funding of municipal infrastructure	<ul style="list-style-type: none"> <li>Some municipalities are unable to fund, build, operate and maintain adequate electricity infrastructure – which has a negative impact on security of supply</li> <li>Ring-fencing of municipal electricity revenues</li> <li>Unsustainable cross subsidising of municipal services</li> </ul>	<ul style="list-style-type: none"> <li>Engage with relevant ministries regarding municipal funding more broadly</li> <li>Base municipal tariffs within the broader municipal funding model</li> </ul>
2. Role of SOEs in economic recovery	<ul style="list-style-type: none"> <li>Regulatory mandates that promote a just energy transition undermined</li> <li>Reputational damage to NERSA</li> </ul>	<ul style="list-style-type: none"> <li>Eskom Political Task Team (PTT) involvement</li> <li>Establish and execute Eskom Engagement Task Team under steer of the PTT</li> <li>Develop collaborative relationships with key delivery ministries, such as, inter alia, National Treasury (Operation Vulindlela), Department of Public Enterprises, COGTA etc.</li> </ul>
<b>Piped-Gas Industry Regulation</b>		
1. Delays in finalisation of legislative amendments and developments (with specific reference to the Gas IPP and the Gas Utilisation Master Plan)	<ul style="list-style-type: none"> <li>Cost of gas may be too high</li> <li>It may deter / delay entry into the gas market</li> </ul>	<ul style="list-style-type: none"> <li>Develop a report on regulatory advocacy and engagements with relevant policy makers</li> </ul>
2. Lack of policy on gas infrastructure investment	<ul style="list-style-type: none"> <li>Uncertainty for investment</li> <li>Lost opportunity to encourage competition in piped-gas industry</li> <li>Impedes growth of the gas market in SA</li> <li>It may deter / delay entry into the gas market</li> </ul>	<ul style="list-style-type: none"> <li>Continued regulatory advocacy and engagements with relevant policy makers</li> <li>Advocate the development of the Gas Utilisation Master Plan, Gas IP, Gas Infrastructure Plan</li> </ul>



POLITICAL FACTORS	IMPACT IF FACTOR IS NOT ADDRESSED	NERSA RESPONSE TO THE FACTOR
<b>Piped-Gas Industry Regulation (continued)</b>		
3. Emerging gas policy in Mozambique	<ul style="list-style-type: none"> <li>• Security of gas supply – Supply diversification</li> </ul>	<ul style="list-style-type: none"> <li>• Monitor ability of SASOL to supply</li> <li>• Undertake regulatory and intergovernmental engagements</li> <li>• Monitor utilisation of excess capacity in ROMPCO Pipeline</li> <li>• Approve tariffs for SA side of cross border assets to facilitate investment and additional gas supply</li> </ul>
4. Regulating the gas market – bundled and unbundled approach to LNG projects	<ul style="list-style-type: none"> <li>• May deter infrastructure investments</li> <li>• Regulatory uncertainty</li> </ul>	<ul style="list-style-type: none"> <li>• Develop a NERSA position paper on regulating the gas market – bundled and unbundled</li> <li>• Continued regulatory advocacy and engagements with relevant policy makers</li> <li>• Revisit the Gas Rules</li> </ul>
5. Alignment of Gas Infrastructure Plan, the IRP and IEP	<ul style="list-style-type: none"> <li>• Possible duplication or contradictions</li> <li>• Regulatory uncertainty</li> </ul>	<ul style="list-style-type: none"> <li>• Continued regulatory advocacy and engagements with relevant policy makers</li> </ul>
<b>Petroleum Pipelines Industry Regulation</b>		
1. Geo-political upheavals impacting on petroleum producing transient countries	<ul style="list-style-type: none"> <li>• Higher and volatile fuel prices</li> <li>• Rand/dollar exchange rate volatility</li> </ul>	<ul style="list-style-type: none"> <li>• Regulatory advocacy on price regulation by the DMRE</li> <li>• Participate in fuel price policy and regulatory framework reviews</li> <li>• Participating in regional structures dealing with petroleum matters</li> </ul>
2. Neighbouring countries finding alternative sources of fuel	<ul style="list-style-type: none"> <li>• Low tariffs through the NMPP and concomitant high tariffs</li> <li>• Threats to security of supply</li> </ul>	<ul style="list-style-type: none"> <li>• Monitor interventions by Transnet to increase the volumes</li> <li>• Regulate in a manner that promotes immigration from pipelines to other modes of transport</li> <li>• Participate in supply managers forums and other security of supply committees</li> <li>• Continued regulatory advocacy</li> </ul>



**Table 5: Political factors (continued)**

POLITICAL FACTORS	IMPACT IF FACTOR IS NOT ADDRESSED	NERSA RESPONSE TO THE FACTOR
<b>Petroleum Pipelines Industry Regulation (continued)</b>		
<p>3. Decline in investment friendliness of South Africa</p>	<ul style="list-style-type: none"> <li>• Further large-scale investments in petroleum infrastructure (and demand sectors) slows down.</li> <li>• Petroleum Infrastructure may not be sufficient to meet future demand</li> <li>• Decline in fuel demand which can lead to higher tariffs and/or stranded assets</li> </ul>	<ul style="list-style-type: none"> <li>• Adjust regulatory framework to attract investments</li> <li>• Continued regulatory advocacy and engagements with relevant policy makers to ensure efficiencies</li> <li>• Identify and implement key measures to improve regulatory certainty through consistent and defensible decisions, based on world-class regulatory frameworks, methodologies and mechanisms</li> <li>• Regulate in a manner that promotes competition</li> </ul>
<b>Transversal Regulatory and Organisational</b>		
<p>1. Developmental State</p>	<ul style="list-style-type: none"> <li>• Decisions of NERSA could be in conflict with policy</li> </ul>	<ul style="list-style-type: none"> <li>• Continued regulatory advocacy and engagements with relevant policy makers</li> </ul>
<p>2. Manage interface between different policy thrusts of Government (new growth path, IPAP2)</p>	<ul style="list-style-type: none"> <li>• Decisions of NERSA could be in conflict with policy</li> </ul>	<ul style="list-style-type: none"> <li>• Make decisions that are not in conflict with the Acts</li> <li>• Develop and implement a strategic engagement framework on developing legislation/policy changes</li> </ul>
<p>3. Policy gaps and inconsistencies</p>	<ul style="list-style-type: none"> <li>• Regulatory uncertainty</li> <li>• Lack of credibility of regulatory system</li> </ul>	<ul style="list-style-type: none"> <li>• Review impact on NERSA's mandate</li> <li>• Continued regulatory advocacy and engagements with relevant policy makers</li> <li>• Develop a report on the cost of projects, the impact and implications thereof e.g. Integrated Resource Plan</li> </ul>
<p>4. Discussion/debate around nationalisation</p>	<ul style="list-style-type: none"> <li>• Uncertainty for investment</li> </ul>	<ul style="list-style-type: none"> <li>• Identify and implement key measures to improve regulatory certainty through consistent and defensible decisions, based on world-class regulatory standards, procedures and processes</li> </ul>
<p>5. Review of Sustainable Development Goals</p>	<ul style="list-style-type: none"> <li>• NERSA may not assist the country in achieving its goals</li> </ul>	<ul style="list-style-type: none"> <li>• Regulate in such a manner that accessibility and affordability is enhanced</li> </ul>

**Table 6: Economic factors**

ECONOMIC FACTORS	IMPACT IF FACTOR IS NOT ADDRESSED	NERSA RESPONSE TO THE FACTOR
<b>Electricity Industry Regulation</b>		
1. Lack of competition in electricity supply industry	<ul style="list-style-type: none"> <li>Impact on the ability of the Independent Power Producers to access the industry</li> <li>High electricity prices to industrial consumers</li> </ul>	<ul style="list-style-type: none"> <li>Enforce Third-Party Access through regulatory decisions</li> <li>Amend the dispatch rules to include balancing rules</li> <li>Continued regulatory advocacy and engagements with relevant policy makers</li> </ul>
2. Subsidies in Industry	<ul style="list-style-type: none"> <li>Subsidies cause wrong investment decisions</li> </ul>	<ul style="list-style-type: none"> <li>Continued regulatory advocacy and engagements, also focusing on the following:                             <ul style="list-style-type: none"> <li>approval of municipal tariffs that rationalise application of subsidies; and</li> <li>limiting surpluses that municipalities can accumulate for cross-subsidisation.</li> </ul> </li> </ul>
3. Electricity Price to commercial entities in the municipalities has reached a critical level	<ul style="list-style-type: none"> <li>Commerce and industry closing down</li> </ul>	<ul style="list-style-type: none"> <li>Develop a paper on tariffs in municipalities, focusing on, among others:                             <ul style="list-style-type: none"> <li>Influencing tariff structures</li> <li>Determining whether the actual application of tariffs yields expected result.</li> </ul> </li> </ul>
4. Impact of poverty	<ul style="list-style-type: none"> <li>Lack of affordability and accessibility</li> </ul>	<ul style="list-style-type: none"> <li>Focus on pro-poor regulation</li> </ul>
5. Increased consumption of coal by China and India	<ul style="list-style-type: none"> <li>Security of supply</li> </ul>	<ul style="list-style-type: none"> <li>Regulate the stock piles</li> <li>Develop a report on the introduction of renewable energy in the energy mix (taking into account its limitations)</li> </ul>
6. Inter-dependency of SADC on SA economy	<ul style="list-style-type: none"> <li>SADC countries' power plans not realised</li> </ul>	<ul style="list-style-type: none"> <li>Contribute through regional structures such as RERA towards the realisation of SADC countries' power plans</li> <li>Review NERSA's role in international trade</li> </ul>
7. Economic decline and low credit rating	<ul style="list-style-type: none"> <li>Depressed economy leading to less disposable income, which in turn would result in an increase in bad debt and an ESI that is not economically viable.</li> <li>Low credit rating Limits investment attraction,</li> <li>Reduction in economic growth affects affordability</li> </ul>	<ul style="list-style-type: none"> <li>Ensure that electricity price increases are kept to the minimum by enforcing efficient licensee operations and ensure that pro-poor regulation is strengthened</li> <li>Infrastructure investments and development implementation has been affected and delayed.</li> <li>Requires regulation review to align the economy and investment attraction</li> </ul>

**Table 6: Economic factors (continued)**

<b>ECONOMIC FACTORS</b>	<b>IMPACT IF FACTOR IS NOT ADDRESSED</b>	<b>NERSA RESPONSE TO THE FACTOR</b>
<b>Electricity Industry Regulation (continued)</b>		
8. <b>Credit worthiness of State-Owned Entities (SOEs)</b>	<ul style="list-style-type: none"> <li>Impact on infrastructure investment due to higher cost of debt and inability to issue bonds</li> <li>Higher tariffs</li> </ul>	<ul style="list-style-type: none"> <li>Regulate in a manner that drives efficiency</li> <li>Set credit rating criteria in the MYPD methodology</li> </ul>
9. <b>Drought – water infrastructure</b>	<ul style="list-style-type: none"> <li>Development of shale gas prospects to encourage gas-to-power projects in the country</li> <li>Security of supply</li> </ul>	<ul style="list-style-type: none"> <li>Review the efficient management of water resources in generation of electricity</li> </ul>
10. <b>Decline in electricity demand due to COVID-19 pandemic</b>	<ul style="list-style-type: none"> <li>Low demand has led to low income and profit sustainability. In addition this has threatened energy security and investment attraction as delays in manufacturing have halted mega projects</li> </ul>	<ul style="list-style-type: none"> <li>There is a need to review tariffs and price methodologies to determine whether it is responsive to the long, medium and short term economic impact of COVID-19 and develop appropriate responses</li> </ul>
<b>Piped-Gas Industry Regulation</b>		
1. <b>Lack of competition in gas industry</b>	<ul style="list-style-type: none"> <li>Barrier to competitive outcomes ( key barriers including lack of gas supplies and infrastructure to enable such supplies)</li> <li>Likely perpetuation of current monopoly in the industry</li> </ul>	<ul style="list-style-type: none"> <li>Continued regulatory advocacy and engagements with relevant policy makers to facilitate entry</li> <li>Enforce Third-Party Access through regulatory decisions</li> <li>Review and implement Maximum Prices Methodology and Tariff Guidelines</li> </ul>
2. <b>Lack of infrastructure investment</b>	<ul style="list-style-type: none"> <li>No/limited growth in the gas market</li> <li>Lack of gas import infrastructure</li> <li>Lack of entry of new gas suppliers</li> </ul>	<ul style="list-style-type: none"> <li>Develop a regulatory advocacy report to the DMRE and IPPs regarding gas-to-power procurement programme</li> <li>Continued advocacy with policy makers to expedite finalisation of Gas Masterplan and alignment of IEP, IRP and Gas Infrastructure Plan</li> </ul>

ECONOMIC FACTORS	IMPACT IF FACTOR IS NOT ADDRESSED	NERSA RESPONSE TO THE FACTOR
<b>Piped-Gas Industry Regulation (continued)</b>		
3. Economic growth stagnation	<ul style="list-style-type: none"> <li>May deter investments and present barriers to entry</li> </ul>	<ul style="list-style-type: none"> <li>Continued advocacy with policy makers</li> </ul>
4. Lack of indigenous gas sources	<ul style="list-style-type: none"> <li>Impact growth of gas industry</li> <li>Discourage investment</li> <li>Lack of competition in gas industry</li> </ul>	<ul style="list-style-type: none"> <li>Continued research and monitoring of developments in new gas sources</li> <li>Develop and maintain gas trade relations with neighbouring countries.</li> <li>Explore prospects for LNG imports</li> </ul>
5. Gas industrialisation campaign	<ul style="list-style-type: none"> <li>Ineffective regulation of the gas market</li> </ul>	<ul style="list-style-type: none"> <li>Continued regulatory advocacy</li> <li>Undertake intergovernmental engagements</li> </ul>
6. Gas supply certainty – Sasol Gas indicated in FY19 that it expects its gas fields to start declining in 2023	<ul style="list-style-type: none"> <li>Sasol Gas may not be able to meet supply obligations going forward</li> <li>May jeopardise existence and growth of the gas industry.</li> </ul>	<ul style="list-style-type: none"> <li>Engagements with relevant stakeholders, including inter alia Sasol Gas, the Industrial Gas Users Association –Southern Africa regarding the viability of potential new sources of supply</li> <li>Gather data from Sasol Gas in terms of S28 and Regulation 9 of the Gas Act, in terms of which Sasol is expected to provide information on its gas reserves</li> <li>Continued regulatory advocacy and engagements with relevant policy makers to facilitate the entry of new gas suppliers, and the development of infrastructure to enable such supplies</li> </ul>
<b>Petroleum Pipelines Industry Regulation</b>		
1. Low economic growth in South Africa	<ul style="list-style-type: none"> <li>Reduced demand for liquid fuel</li> <li>Further large-scale investments in petroleum infrastructure will stop.</li> <li>Petroleum Infrastructure may not be sufficient to meet future demand</li> </ul>	<ul style="list-style-type: none"> <li>Identify and implement key measures to improve regulatory certainty through consistent and defensible decisions, based on world-class regulatory standards, procedures and processes</li> </ul>
2. HDSA and B-BBEE participation	<ul style="list-style-type: none"> <li>No third-party access to storage facilities</li> <li>Non-transformed petroleum pipelines industry</li> <li>Social upheavals</li> </ul>	<ul style="list-style-type: none"> <li>Participate in Charter Counsel</li> <li>Develop and implement a strategic engagement framework on transformation</li> </ul>
3. Importation of fuels via trucks through other ports of entry into South Africa	<ul style="list-style-type: none"> <li>Lower volumes through pipelines leading to higher tariffs.</li> <li>Disruption of regulatory framework</li> </ul>	<ul style="list-style-type: none"> <li>Monitor developments in this regard</li> <li>Continued regulatory advocacy</li> </ul>

**Table 6: Economic factors (continued)**

ECONOMIC FACTORS	IMPACT IF FACTOR IS NOT ADDRESSED	NERSA RESPONSE TO THE FACTOR
Transversal Regulatory and Organisational		
1. Impact of environmental levies and the Carbon Tax Act on prices	<ul style="list-style-type: none"> <li>Impossible to facilitate achievement of affordable energy services</li> </ul>	<ul style="list-style-type: none"> <li>Develop a position paper on the impact of environmental levies to policy makers</li> </ul>
2. Manage interface between different policy thrusts of Government	<ul style="list-style-type: none"> <li>Decisions of NERSA could be in conflict with policy</li> </ul>	<ul style="list-style-type: none"> <li>Make decisions that are not in conflict with the Acts</li> <li>Develop and implement a strategic engagement framework on developing legislation/policy changes</li> </ul>
3. Downgrade of South Africa's credit status	<ul style="list-style-type: none"> <li>Capital flight (foreign and local)</li> </ul>	<ul style="list-style-type: none"> <li>Identify and implement key measures to improve regulatory certainty through consistent and defensible decisions, based on world-class regulatory standards, procedures and processes.</li> </ul>
4. Persistently low economic growth rate	<ul style="list-style-type: none"> <li>Cost of energy – impact on consumers</li> </ul>	<ul style="list-style-type: none"> <li>Review tariffs to encourage manufacturing</li> </ul>

**Table 7: Regulatory factors**

REGULATORY FACTORS	IMPACT IF FACTOR IS NOT ADDRESSED	NERSA RESPONSE TO THE FACTOR
Electricity Industry Regulation		
<p>1. Regulatory reform in the electricity sector</p>	<ul style="list-style-type: none"> <li>• Electricity supply and demand misaligned with weak market signals to curb inefficient electricity use</li> <li>• Electricity market reforms poorly managed with avoidable unintended consequences</li> <li>• Information asymmetry               <ul style="list-style-type: none"> <li>› Poor quality of evidence used to base decisions</li> <li>› Unsubstantiated decisions taken due to lack of all relevant information available</li> </ul> </li> <li>• Contraction in energy intensive usage sectors</li> <li>• Loss of value from natural resource endowments</li> <li>• Economic recovery constrained</li> </ul>	<ul style="list-style-type: none"> <li>• Establish regulatory reform department with capability to assess:               <ul style="list-style-type: none"> <li>› Technical aspects</li> <li>› Economic aspects</li> <li>› Legal aspects</li> </ul> </li> <li>• Technoeconomic evaluation of a regulated ESI that promotes choices that encourages:               <ul style="list-style-type: none"> <li>› Productive (technical) efficiency (least cost of supply);</li> <li>› Allocative efficiency (provide the greatest benefit relative to costs).</li> <li>› Dynamic efficiency (timely responses to changes that enhance economic efficiency)</li> </ul> </li> <li>• Acquisition of global, regional and national data to support decision making and advocacy</li> <li>• Establishment of an Integrated Energy Modelling capability and associated Integrated Energy Modelling System (IEMS)</li> <li>• Review of licencing/registration regulations/rules</li> <li>• Promoting collaboration and information sharing with stakeholders whose activities are affected by Energy Regulator decisions and advice</li> <li>• Policy, legislative and regulatory advice to relevant ministries,</li> <li>• Research and implement programmes to progress electricity sector reforms with specific focus on, inter alia:               <ul style="list-style-type: none"> <li>› Tariff setting methodology reviews – cost reflective tariffs driven by efficiency</li> <li>› Capacity investments in a high reserve margin environment – underutilised/stranded assets</li> <li>› Transition to ‘smart’ tariffs – to reflect how and when electricity is consumed.</li> </ul> </li> </ul>

**Table 7: Regulatory factors (continued)**

REGULATORY FACTORS	IMPACT IF FACTOR IS NOT ADDRESSED	NERSA RESPONSE TO THE FACTOR
Electricity Industry Regulation (continued)		
<p>2. Rationally regulated electricity supply industry</p>	<ul style="list-style-type: none"> <li>• Weakly coordinated and poorly managed unbundling of Eskom</li> <li>• Unpredictable and uncertain electricity price path</li> <li>• Inefficient use of electricity resulting from weak regulatory signals</li> <li>• Inefficient investment decisions resulting in stranded assets</li> <li>• NERSA reputational risks</li> </ul>	<ul style="list-style-type: none"> <li>• Implementation of the Regulatory Reporting System for financial data and a Regulatory Reporting System for non-financial data:               <ul style="list-style-type: none"> <li>&gt; Revision of ERTSA</li> <li>&gt; Establish ‘municipal’ ERTSA</li> </ul> </li> <li>• Development of energy database that integrates energy production and consumption data as evidence for:               <ul style="list-style-type: none"> <li>&gt; Developing and regularly updating a benchmarked and trusted electricity price path</li> <li>&gt; Making sound and substantiated decisions, including inter alia, review of the tariff setting methodology and all other tariffs setting/approval processes</li> <li>&gt; The transition to efficient cost reflective tariffs;</li> <li>&gt; The integrated Type of Use and Time of Use tariffs,</li> <li>&gt; The development of regulatory instruments that promote equitable access to electricity, including, inter alia, a review of the Inclining Block Tariffs, the efficiency of the Free Basic Electricity subsidy etc.</li> </ul> </li> <li>• Conclusion of Eskom matters – regulatory, legal or otherwise, including, inter alia:               <ul style="list-style-type: none"> <li>&gt; MYPD applications (consolidated or otherwise)</li> <li>&gt; RCA reviews</li> <li>&gt; Supplementary applications,</li> <li>&gt; Review and revision of MYPD methodology</li> <li>&gt; Development and finalisation of MYPD5 methodology</li> <li>&gt; implement mechanisms to address EAF and reserve margin to address the ‘fallacy of capacity constraints’.</li> </ul> </li> </ul>

REGULATORY FACTORS	IMPACT IF FACTOR IS NOT ADDRESSED	NERSA RESPONSE TO THE FACTOR
<b>Electricity Industry Regulation (continued)</b>		
3. Compliance of municipalities with electricity licence conditions	<ul style="list-style-type: none"> <li>Undermine reliability of municipal distribution of electricity - Security and quality of supply</li> <li>Undermine affordability of, and accessibility to, electricity</li> <li>Continued tariff misalignment between Eskom, IPPs and municipalities</li> <li>Key national programmes will be undermined</li> <li>Undermine service delivery</li> </ul>	<ul style="list-style-type: none"> <li>Benchmarking of municipal electricity supply metrics</li> <li>Base approval of municipal tariffs on cost of supply studies</li> <li>Increased compliance monitoring and robust enforcement of licence conditions – penalties, tribunals etc.</li> <li>Continued regulatory advocacy and engagements, also focusing on the following: <ul style="list-style-type: none"> <li>Interdepartmental engagement to locate evidence-based electricity tariffs within the broader municipal funding model;</li> <li>limiting surpluses that municipalities can accumulate for cross-subsidisation.</li> <li>approval of municipal tariffs based on cost of supply studies</li> </ul> </li> </ul>
4. Coordinated regulation of gas and electricity industries	<ul style="list-style-type: none"> <li>Inconsistent policy messages deterring investment</li> <li>Incorrect signals sent to the market resulting in inefficient investment decisions and stranded assets</li> </ul>	<ul style="list-style-type: none"> <li>Strengthen internal coordination and strategic interactions with government structures</li> <li>Collaboration with other regulators to address regulatory asymmetry</li> </ul>
5. Management of concurrent jurisdiction with other regulators or institutions	<ul style="list-style-type: none"> <li>Regulatory overlap</li> <li>No clear roles and responsibilities</li> <li>Lack of cooperation may lead to delay in decision-making.</li> </ul>	<ul style="list-style-type: none"> <li>Continued regulatory advocacy and engagements with relevant policy makers</li> <li>Develop and implement Memorandums of Understanding (MOUs) and Memorandums of Agreement (MOAs) with appropriate regulators or institutions</li> </ul>
<b>Piped-Gas Industry Regulation</b>		
1. Light-handed approach of current regulatory framework and weak enforcement powers	<ul style="list-style-type: none"> <li>Difficult to effectively enforce regulatory mandate</li> </ul>	<ul style="list-style-type: none"> <li>Continued regulatory advocacy and engagements with relevant policy makers, with specific reference to the review of the Gas Act and the National Energy Regulator Act</li> <li>Develop and implement MOUs with the appropriate regulators or institutions, focusing among others on reducing confusion and unnecessary regulatory burden and cost</li> </ul>



**Table 7: Regulatory factors (continued)**

REGULATORY FACTORS	IMPACT IF FACTOR IS NOT ADDRESSED	NERSA RESPONSE TO THE FACTOR
<b>Piped-Gas Industry Regulation (continued)</b>		
2. Regulatory gaps, limited discretion and fragmentation of legislation (gas) (not regulating entire value chain)	<ul style="list-style-type: none"> <li>• Unnecessary regulatory burden</li> <li>• Unintended consequences (e.g. High distribution tariffs)</li> <li>• Ineffective regulation of industry</li> <li>• Difficulty in approving vs setting gas prices and tariffs</li> </ul>	<ul style="list-style-type: none"> <li>• Report on regulatory advocacy and engagements regarding provisions/ measures to be included in the Gas Amendment Bill</li> <li>• Amendments to the Gas Act by the DMRE</li> </ul>
3. Lack of experience in regulating new activities (e.g. LNG, Shale gas, FSRU, regasification)	<ul style="list-style-type: none"> <li>• Inappropriate regulation of new activities</li> </ul>	<ul style="list-style-type: none"> <li>• Develop the rules, norms and standards for the regulation of the new activities</li> <li>• Develop and implement a skills gap analysis and appropriate training for staff in regulating new activities</li> </ul>
4. Information asymmetry	<ul style="list-style-type: none"> <li>• Possible incorrect decisions taken due to lack of accurate/ adequate information for decision making</li> </ul>	<ul style="list-style-type: none"> <li>• Develop and implement an appropriate method of ensuring the collection of accurate data</li> <li>• Implement the Regulatory Reporting Manuals to overcome information asymmetry</li> </ul>
5. Concurrent jurisdiction regarding the regulation of gas	<ul style="list-style-type: none"> <li>• Lack of cooperation may lead to delay in decision making</li> </ul>	<ul style="list-style-type: none"> <li>• Development and implementation of MOUs and MOAs with regulators with concurrent jurisdiction</li> </ul>
6. Gaps and inconsistencies between regulations and the Act	<ul style="list-style-type: none"> <li>• Regulatory uncertainty</li> <li>• Leads to confusion among stakeholders</li> <li>• Legal challenges</li> </ul>	<ul style="list-style-type: none"> <li>• Continued regulatory advocacy and engagements with relevant policy makers</li> <li>• Advocate for the gas amendment process by DMRE</li> </ul>
7. Cross-border regulation and harmonisation of processes, methodologies and procedures	<ul style="list-style-type: none"> <li>• Regulatory uncertainty</li> </ul>	<ul style="list-style-type: none"> <li>• Continued engagement with INP to harmonise regulatory processes.</li> <li>• Finalise and implement MOU with Mozambique regarding sharing of information and mutual co-operation on regulatory matters</li> </ul>

REGULATORY FACTORS	IMPACT IF FACTOR IS NOT ADDRESSED	NERSA RESPONSE TO THE FACTOR
<b>Piped-Gas Industry Regulation (continued)</b>		
8. Complementary jurisdiction misalignment in application of policy objectives	<ul style="list-style-type: none"> <li>Regulatory and investment uncertainty</li> </ul>	<ul style="list-style-type: none"> <li>Continued regulatory advocacy and engagement in with relevant policy makers</li> <li>Develop appropriate MOUs</li> </ul>
<b>Petroleum Pipelines Industry Regulation</b>		
1. Concurrent and complementary jurisdiction	<ul style="list-style-type: none"> <li>Regulatory uncertainty</li> </ul>	<ul style="list-style-type: none"> <li>Harmonise regulatory methodologies (internally and externally)</li> <li>Continued regulatory advocacy and engagements with relevant policy makers and other regulators</li> </ul>
2. Cross-border regulation and harmonisation of processes, methodologies and procedures	<ul style="list-style-type: none"> <li>Regulatory uncertainty</li> <li>Reduce intra-regional and/or intercontinental trade</li> </ul>	<ul style="list-style-type: none"> <li>Participation in RERA's Petroleum and Gas Regulatory Subcommittee</li> <li>Participation in regional and continental regulatory structures</li> </ul>
3. Policies lagging behind	<ul style="list-style-type: none"> <li>Impacting NERSA's ability to effectively regulate the industry</li> </ul>	<ul style="list-style-type: none"> <li>Continued alignment and revisions between DMRE mandate and associated policies.</li> </ul>
4. Possible market interventions by Government: <ul style="list-style-type: none"> <li>biofuels</li> <li>strategic stocks</li> <li>security of supply</li> <li>cleaner fuels</li> <li>New refinery LNG importation</li> </ul>	<ul style="list-style-type: none"> <li>Inadequate regulatory framework</li> </ul>	<ul style="list-style-type: none"> <li>Continued regulatory advocacy and engagements with relevant policy makers</li> <li>Continued participation in SADC structures (e.g. Oil and Gas Subcommittee)</li> <li>Identify potential regulatory process amendments</li> <li>Provide inputs on suggested policy and regulatory amendments</li> <li>Pro-actively engage on possible market interventions and adjust framework accordingly</li> </ul>
5. Inconsistency in storage and loading tariff and storage methodology	<ul style="list-style-type: none"> <li>Undue over-compensation</li> </ul>	<ul style="list-style-type: none"> <li>Revise the methodology</li> </ul>

**Table 7: Regulatory factors (continued)**

REGULATORY FACTORS	IMPACT IF FACTOR IS NOT ADDRESSED	NERSA RESPONSE TO THE FACTOR
Transversal Regulatory and Organisational		
1. Management of concurrent jurisdiction	<ul style="list-style-type: none"> <li>Regulatory overlap</li> <li>No clear roles and responsibilities</li> </ul>	<ul style="list-style-type: none"> <li>Continued regulatory advocacy and engagements with relevant policy makers</li> <li>Develop and implement MOUs and MOAs with regulators with concurrent jurisdiction</li> </ul>
2. Perception of independence of the Regulator	<ul style="list-style-type: none"> <li>Uncertainty for investment</li> </ul>	<ul style="list-style-type: none"> <li>Develop and execute a Stakeholder Engagement Strategy to inform a Stakeholder relations management system</li> <li>Communication strategy, including, inter alia, attention to NERSA's activities, information dissemination, approach to Records of Decision etc.</li> </ul>
3. Review of the Energy Regulator Act	<ul style="list-style-type: none"> <li>Negative impact on regulatory ability if identified gaps are not addressed in the Act</li> </ul>	<ul style="list-style-type: none"> <li>Continued regulatory advocacy and engagements with relevant policy makers</li> </ul>
4. Implementation of regulatory programmes and projects approved at continental and regional level	<ul style="list-style-type: none"> <li>NERSA may not be in a position to contribute to continental and regional matters that may have an impact on the energy industry, and the country as a whole</li> </ul>	<ul style="list-style-type: none"> <li>NERSA needs to incorporate continental and regional programmes in its regulatory activities (<i>since RSA is a member and an important role player in regional and continental structures, e.g. RERA &amp; AUC</i>)</li> </ul>

**Table 8: Social factors**

SOCIAL FACTORS	IMPACT IF FACTOR IS NOT ADDRESSED	NERSA RESPONSE TO THE FACTOR
<b>Electricity Industry Regulation</b>		
<p>1. <b>Regulatory instruments to reduce poverty</b></p>	<ul style="list-style-type: none"> <li>• Increased poverty</li> <li>• Boycotting of payments of electricity</li> <li>• Social unrest and ongoing service delivery protests</li> <li>• Destruction of electricity supply infrastructure</li> </ul>	<ul style="list-style-type: none"> <li>• Public consultations to understand community grievances and extent to which regulatory instruments can influence outcomes</li> <li>• Develop regulatory approaches and instruments that promote equitable and appropriate access to electricity</li> <li>• Continued regulatory advocacy and engagements with relevant policy makers – with specific reference to poverty reduction measures</li> <li>• Review Free Basic Electricity and other proactive poverty reduction subsidies to reduce social wealth gaps</li> </ul>
<p>2. <b>Social unrest and ongoing service delivery protests</b></p>	<ul style="list-style-type: none"> <li>• Destruction of electricity supply infrastructure</li> </ul>	<ul style="list-style-type: none"> <li>• There is a need to regulate in a manner that promotes equitable distribution</li> </ul>
<b>Piped-Gas Industry Regulation</b>		
<p>1. <b>Implementation of HDSA/B-BBEE participation policy</b></p>	<ul style="list-style-type: none"> <li>• Limited participation in market by HDSA/B-BBEE and industry transformation</li> <li>• Access to gas and infrastructure</li> </ul>	<ul style="list-style-type: none"> <li>• Ensure third-party access</li> <li>• Continued regulatory advocacy and engagements with relevant policy makers – with specific reference to the development of a charter</li> <li>• Enforce transformation provisions in BBBEE legislation</li> </ul>
<p>2. <b>Uncontrolled building on pipeline servitudes</b></p>	<ul style="list-style-type: none"> <li>• May result in damage to pipelines, posing a threat to security of supply</li> </ul>	<ul style="list-style-type: none"> <li>• Increase pressure on licensees to consult with municipalities by monitoring and enforcing compliance with licence conditions and Regulations</li> </ul>
<p>3. <b>Skills development</b></p>	<ul style="list-style-type: none"> <li>• Inadequate skills to match new technically inclined developments upstream</li> </ul>	<ul style="list-style-type: none"> <li>• Monitor construction plans</li> <li>• Ensure skills transfer in interactions with specialist service providers (e.g. skills transfer clauses in service level agreements with consultants)</li> <li>• Ensure continued training on new developments in the industry</li> </ul>

**Table 8: Social factors (continued)**

SOCIAL FACTORS	IMPACT IF FACTOR IS NOT ADDRESSED	NERSA RESPONSE TO THE FACTOR
<b>Petroleum Pipelines Industry Regulation</b>		
1. Lack of awareness of positioning of pipelines by other relevant authorities	<ul style="list-style-type: none"> <li>Health, safety and environmental risks – bad publicity or reputational risk for NERSA</li> </ul>	<ul style="list-style-type: none"> <li>Public awareness campaigns to explain NERSA’s role and responsibilities</li> <li>Monitor and enforce compliance with licence conditions and Regulations for licensees to liaise with municipalities</li> </ul>
2. Increase of attempted theft on the pipelines	<ul style="list-style-type: none"> <li>Security of supply compromised</li> <li>Health and safety risk</li> </ul>	<ul style="list-style-type: none"> <li>Monitor and enforce compliance with licence conditions</li> <li>Promote improved coordination and cooperation with other regulatory authorities, municipalities and law enforcement agencies</li> </ul>
<b>Transversal Regulatory and Organisational</b>		
1. High level of unemployment	<ul style="list-style-type: none"> <li>Political instability that can affect delivery of infrastructure to the poor</li> </ul>	<ul style="list-style-type: none"> <li>Ensure that NERSA’s Internship and Learnership programmes are current and effective</li> <li>Investigate how NERSA can use tariffs to allow licensees to employ young people as apprentices</li> </ul>
2. Service delivery protests (consumer activism)	<ul style="list-style-type: none"> <li>Alienated and marginalised communities</li> <li>Potential increase in tariffs</li> </ul>	<ul style="list-style-type: none"> <li>Conduct customer education and public consultation initiatives</li> <li>Develop a position paper on the most appropriate funding mechanisms</li> <li>Develop a position paper on tariff reducing instruments in order to obtain policy clarity</li> </ul>
3. Perception of independence of the Regulator	<ul style="list-style-type: none"> <li>Uncertainty for investment</li> </ul>	<ul style="list-style-type: none"> <li>Develop a strategic engagement framework with all role players</li> <li>Develop a proactive communication strategy on NERSA’s activities – particularly on how decisions are reached</li> </ul>
4. Resistance to energy infrastructure close to settlements	<ul style="list-style-type: none"> <li>Security of supply</li> </ul>	<ul style="list-style-type: none"> <li>Ensure that the sector is ready for expropriation proceedings in terms of the Electricity Regulation Act</li> </ul>

**Table 9: Technological factors**

TECHNOLOGICAL FACTORS	IMPACT IF FACTOR IS NOT ADDRESSED	NERSA RESPONSE TO THE FACTOR
Electricity Industry Regulation		
<p>1. Technological innovation e.g. Smart Grid</p>	<ul style="list-style-type: none"> <li>• Security of supply</li> <li>• Stranded assets</li> </ul>	<ul style="list-style-type: none"> <li>• Develop appropriate rules to cater for technological innovation in the sector</li> <li>• Monitor compliance with robust enforcement</li> <li>• Develop measures in order to protect user information</li> <li>• As the grid becomes more sophisticated, NERSA may need new regulations to protect the grid over the long-term</li> <li>• Customer education</li> <li>• Engagement with smart technology providers and platforms (especially SOEs, where potential leverage and social benefit – such as Telkom, SITA etc.) to develop smart tariff applications towards real-time monitoring of the electricity systems.</li> </ul>
<p>2. Renewable Generation</p>	<ul style="list-style-type: none"> <li>• Security of supply</li> <li>• SA not meeting environmental targets</li> </ul>	<ul style="list-style-type: none"> <li>• Amend the Grid Code to include dispatch rules</li> <li>• Create market and balancing rules</li> </ul>
<p>3. Gas as primary energy source</p>	<ul style="list-style-type: none"> <li>• Security of supply</li> </ul>	<ul style="list-style-type: none"> <li>• Continued regulatory advocacy and engagements with relevant policy makers</li> </ul>
<p>4. Nuclear Generation</p>	<ul style="list-style-type: none"> <li>• Security of supply</li> <li>• Higher tariffs</li> </ul>	<ul style="list-style-type: none"> <li>• Develop an evidence-based report on the expansion of nuclear energy in the energy mix</li> <li>• Conduct customer education</li> <li>• Conduct a skills analysis and develop a strategy to upgrade NERSA skills</li> </ul>
<p>5. Energy efficiency</p>	<ul style="list-style-type: none"> <li>• Revenue shortfall for municipalities/ distributors/ Eskom</li> </ul>	<ul style="list-style-type: none"> <li>• Continued regulatory advocacy and engagements with relevant policy makers with specific reference to a different funding model for municipalities so that they do not have to depend mainly on electricity revenues</li> <li>• Continued monitoring of the implementation and the impact of energy efficient measures</li> </ul>
<p>6. Storage technologies</p>	<ul style="list-style-type: none"> <li>• Could impact prices and security of supply</li> <li>• Will not harness the benefits of e.g. renewable energy, mini grids, etc.</li> </ul>	<ul style="list-style-type: none"> <li>• Create a regulatory environment to include this technology and capacity building of NERSA staff to improve understanding</li> <li>• Develop rules codes to define how these technologies connect with the electricity grid</li> </ul>

**Table 9: Technological factors (continued)**

TECHNOLOGICAL FACTORS	IMPACT IF FACTOR IS NOT ADDRESSED	NERSA RESPONSE TO THE FACTOR
<b>Electricity Industry Regulation (continued)</b>		
7. Embedded and self-generation	<ul style="list-style-type: none"> <li>Eskom and Municipal sustainability at risk</li> </ul>	<ul style="list-style-type: none"> <li>Engage with stakeholders</li> <li>Develop a framework to address sustainability issues</li> <li>Develop rules for registration</li> <li>Develop systems to ensure monitoring to form inputs into planning processes.</li> </ul>
<b>Piped-Gas Industry Regulation</b>		
1. Regulatory framework lags technological innovation	<ul style="list-style-type: none"> <li>Unregulated gas activities (risk)</li> <li>Deters entry and investment</li> <li>Regulatory uncertainty</li> <li>NERSA could be exposed to possible legal action</li> <li>Ineffective regulation</li> </ul>	<ul style="list-style-type: none"> <li>Continued regulatory advocacy</li> <li>Incentivise through tariffs, prices and licensing</li> <li>Monitor developments in the industry</li> <li>Ensure that a regulatory framework is developed in order to be ready for the regulation of the industry with technological innovation</li> </ul>
2. Lack of piped-gas infrastructure for new technology (Liquefied Natural Gas, regasification, Compressed Natural Gas, Floating Liquefied Natural Gas, Liquefied Natural Gas tanks etc.)	<ul style="list-style-type: none"> <li>Deters investment and growth of downstream industry</li> </ul>	<ul style="list-style-type: none"> <li>Continued regulatory advocacy and engagements with relevant policy makers</li> </ul>
3. Resistance to new gas technology (e.g. Shale Gas hydraulic fracturing)	<ul style="list-style-type: none"> <li>SA misses out on opportunity to replace crude imports with domestic GTL</li> </ul>	<ul style="list-style-type: none"> <li>Conduct research on new gas technology and the impact on regulation</li> <li>Continuously monitor developments of gas technologies</li> <li>Review adequacy of current regulatory regime and rules</li> <li>Continued regulatory advocacy and engagements with relevant policy makers</li> <li>Conduct a skills analysis and develop a strategy to upgrade NERSA skills on regulation of new gas technologies</li> </ul>
4. Lack of gas storage infrastructure	<ul style="list-style-type: none"> <li>Security of supply could be compromised</li> </ul>	<ul style="list-style-type: none"> <li>Continued regulatory advocacy and engagements with relevant policy makers</li> </ul>

TECHNOLOGICAL FACTORS	IMPACT IF FACTOR IS NOT ADDRESSED	NERSA RESPONSE TO THE FACTOR
<b>Petroleum Pipelines Industry Regulation</b>		
1. Alternative forms of energy and technological improvements that reduce demand for petrol	<ul style="list-style-type: none"> <li>• Risk of stranded assets</li> <li>• Risk of bankrupting new entrants</li> <li>• Lower pipeline volumes will lead to higher tariffs, which may result in incentives to use alternative modes of transport</li> </ul>	<ul style="list-style-type: none"> <li>• Forward looking regulatory framework</li> <li>• Monitor trends and potential alignment of tariff methodologies</li> <li>• Create an environment to regulate within changing landscape</li> <li>• Monitor supply and demand</li> </ul>
2. Fragmentation of the different product grades of fuel – losing economies of scale	<ul style="list-style-type: none"> <li>• Lower volumes will lead to higher tariffs. Higher Transnet Pipeline costs due to higher interface volumes.</li> <li>• It will reduce available storage capacity for individual products</li> <li>• It will reduce availability of storage capacity per product grade and may consequently further reduce third-party access</li> </ul>	<ul style="list-style-type: none"> <li>• Licence tanks to store more than one type of product</li> </ul>
<b>Transversal Regulatory and Organisational</b>		
1. Rapid development in ICT sector	<ul style="list-style-type: none"> <li>• Lost efficiencies and limited communication impact and reach</li> </ul>	<ul style="list-style-type: none"> <li>• Harness technologies to speed up processes and improve efficiency</li> <li>• Implement cyber security controls</li> </ul>
2. Technological Developments	<ul style="list-style-type: none"> <li>• There are several advancements that affect NERSAs ability to deliver and respond</li> </ul>	<ul style="list-style-type: none"> <li>• NERSA needs to assess how to take advantage of technological advancement in their operations beyond COVID-19</li> </ul>



**Table 10: Environmental factors**

ENVIRONMENTAL FACTORS	IMPACT IF FACTOR IS NOT ADDRESSED	NERSA RESPONSE TO THE FACTOR
<b>Electricity Industry Regulation</b>		
1. Climate change imperatives	<ul style="list-style-type: none"> <li>• Can impact the security of supply because renewable energy generators cannot contribute to meeting peak demand and are unreliable in delivery of energy.</li> <li>• The current high cost of renewable energy generators will impact on the accessibility to all end users.</li> </ul>	<ul style="list-style-type: none"> <li>• Evidence based regulatory advocacy and engagements with, inter alia:               <ul style="list-style-type: none"> <li>&gt; Relevant policy makers;</li> <li>&gt; Civil Society; and</li> <li>&gt; Consumers</li> </ul> </li> </ul>
2. Environmental activism	<ul style="list-style-type: none"> <li>• Security of supply</li> </ul>	<ul style="list-style-type: none"> <li>• Continued regulatory advocacy and engagements with relevant policy makers</li> </ul>
3. Growing awareness of environmental factors	<ul style="list-style-type: none"> <li>• SA not meeting its reduction in greenhouse gas emission targets</li> </ul>	<ul style="list-style-type: none"> <li>• Utilise the Multi-Year Price Determination to facilitate contributing towards the reduction of greenhouse gas emissions</li> </ul>
4. Carbon tax (off sets and carbon trading)	<ul style="list-style-type: none"> <li>• Higher prices of all non-renewable energy</li> </ul>	<ul style="list-style-type: none"> <li>• Continued regulatory advocacy and engagements with relevant policy makers</li> <li>• Monitor developments and decisions taken by the G20</li> </ul>
5. Minimum Emission Standard	<ul style="list-style-type: none"> <li>• Shutting down of power stations that do not comply</li> <li>• Security of supply</li> </ul>	<ul style="list-style-type: none"> <li>• Sensitise stakeholders on the impact of the standard</li> </ul>
6. Reduction in emission due to low activities	<ul style="list-style-type: none"> <li>• This has presented an opportunity for use of alternative energy sources</li> </ul>	<ul style="list-style-type: none"> <li>• NERSA needs to adjust its policies and processes to address procurement of large renewable energy projects. The regulatory methodologies to deal with these need to be revised</li> </ul>

ENVIRONMENTAL FACTORS	IMPACT IF FACTOR IS NOT ADDRESSED	NERSA RESPONSE TO THE FACTOR
<b>Piped-Gas Industry Regulation</b>		
1. Environmental activism, global warming, carbon taxes and emissions reduction	<ul style="list-style-type: none"> <li>Gas market cannot grow</li> </ul>	<ul style="list-style-type: none"> <li>Continued regulatory advocacy and engagements with relevant policy makers – specifically to promote gas as a more attractive option and environmentally friendly energy source</li> <li>Monitor developments and decisions taken by the G20 and climate change agreements</li> </ul>
2. Shale Gas hydraulic fracturing perceived as an environmental threat	<ul style="list-style-type: none"> <li>SA misses out on shale gas potential</li> <li>SA misses out on an opportunity to become energy self-sufficient</li> </ul>	<ul style="list-style-type: none"> <li>Conduct research on shale gas and the environment</li> <li>Continued regulatory advocacy and engagements with relevant policy makers</li> <li>Participate in national debate on shale gas and task teams where possible</li> </ul>
<b>Petroleum Pipelines Industry Regulation</b>		
1. Reduction of carbon emissions	<ul style="list-style-type: none"> <li>Additional cost to the economy with no alternative fuel source of any scale</li> <li>Taxes applied by the economy cannot respond to the signal</li> </ul>	<ul style="list-style-type: none"> <li>Develop a report on the impact of the introduction of the Carbon Tax Act</li> </ul>
2. Automotive industry is globally moving towards cleaner fuels and the market demand for cleaner fuels is increasing.		
<b>Transversal Regulatory and Organisational</b>		
1. Environmental levies and Carbon tax policy	<ul style="list-style-type: none"> <li>SA not meeting its environmental targets</li> <li>Lack of affordability</li> <li>Policy uncertainty</li> </ul>	<ul style="list-style-type: none"> <li>Continued regulatory advocacy and engagements with relevant policy makers</li> <li>Monitor developments and decisions taken by the G20</li> </ul>
2. Delays in issuing environmental Impact Assessments	<ul style="list-style-type: none"> <li>Security of supply</li> </ul>	<ul style="list-style-type: none"> <li>Continued regulatory advocacy and engagements with relevant policy makers</li> </ul>
3. Health and Safety	<ul style="list-style-type: none"> <li>Possible environmental disasters such as petroleum/gas leaks from pipelines, wind turbine blades coming loose etc.</li> </ul>	<ul style="list-style-type: none"> <li>NERSA to ensure that it discharges its responsibility regarding health and safety</li> </ul>

**Table 11: Legal factors**

LEGAL FACTORS	IMPACT IF FACTOR IS NOT ADDRESSED	NERSA RESPONSE TO THE FACTOR
<b>Electricity Industry Regulation</b>		
1. Electricity Regulation Act under review	<ul style="list-style-type: none"> <li>It will compromise the regulation of electricity supply industry</li> </ul>	<ul style="list-style-type: none"> <li>Continued regulatory advocacy and engagements with relevant policy makers, with specific reference to the need for effective regulation of electricity supply industry</li> </ul>
2. Regulatory Principles compromise	<ul style="list-style-type: none"> <li>Loss of credibility</li> <li>Listed as Regulatory Risk</li> <li>NERSA subject to liability claims</li> </ul>	<ul style="list-style-type: none"> <li>Make sure all decisions are made in accordance with sound regulatory principles.</li> </ul>
<b>Piped-Gas Industry Regulation</b>		
1. Delays in legislative amendments and developments	<ul style="list-style-type: none"> <li>May deter entry into the gas market</li> <li>Weak mandate on regulation of piped-gas</li> <li>Uncertainty in terms of the separation of the oil and gas provision in the Bill</li> </ul>	<ul style="list-style-type: none"> <li>Continued regulatory advocacy and engagements with relevant policy makers</li> </ul>
<b>Petroleum Pipelines Industry Regulation</b>		
1. Fragmentation of legislations – possible consolidation of downstream petroleum legislation	<ul style="list-style-type: none"> <li>Regulatory burden to licensees</li> <li>Duplication of resources</li> </ul>	<ul style="list-style-type: none"> <li>Continued regulatory advocacy and engagements with relevant policy makers</li> <li>Prepare for defragmentation</li> </ul>
2. Possible legal / legislative intervention: <ul style="list-style-type: none"> <li>Petroleum Liquid Fuels Sector Codes</li> <li>Petroleum Pipelines Act and Regulations</li> <li>Mineral and Petroleum Resources Act</li> </ul>	<ul style="list-style-type: none"> <li>Regulatory uncertainty</li> <li>Non-compliance with the BBBEE Act in issuing licenses</li> </ul>	<ul style="list-style-type: none"> <li>Continued regulatory advocacy and engagements with relevant policy makers</li> <li>Continued efficient regulation</li> <li>Amend licensing rules to include BBBEE requirements</li> </ul>

LEGAL FACTORS	IMPACT IF FACTOR IS NOT ADDRESSED	NERSA RESPONSE TO THE FACTOR
<b>Transversal Regulatory and Organisational</b>		
1. National Energy Regulator Amendment Bill	<ul style="list-style-type: none"> <li>• NERSA's views not taken into consideration</li> <li>• NERSA not ready when the National Energy Regulator Amendment Bill becomes operational</li> </ul>	<ul style="list-style-type: none"> <li>• Continued regulatory advocacy and engagements with relevant policy makers Regulatory Advocacy</li> <li>• Proactively start preparing for a change in mandate</li> </ul>
2. Ability to influence supplementary legislation	<ul style="list-style-type: none"> <li>• NERSA's views not included</li> <li>• NERSA's powers weakened</li> </ul>	<ul style="list-style-type: none"> <li>• Develop a strategic engagement framework on developing legislation/policy changes</li> <li>• Continued regulatory advocacy and engagements with relevant policy makers</li> </ul>
3. Compliance with regulatory requirements (Public Finance Management Act and others)		
4. Fragmentation of legislations		
5. Infrastructure Development Act	<ul style="list-style-type: none"> <li>• Expectation to fund out of tariff and tax instead of by investment.</li> </ul>	<ul style="list-style-type: none"> <li>• Develop a position paper on what the funding model should be</li> </ul>
6. Pending legal cases	<ul style="list-style-type: none"> <li>• Uncertainty on regulatory decisions and regulatory tools</li> </ul>	<ul style="list-style-type: none"> <li>• Implement decisions of the court as soon as the judgement is given</li> </ul>

## 5.2. INTERNAL ENVIRONMENT ANALYSIS

### 5.2.1. Organisational Capacity

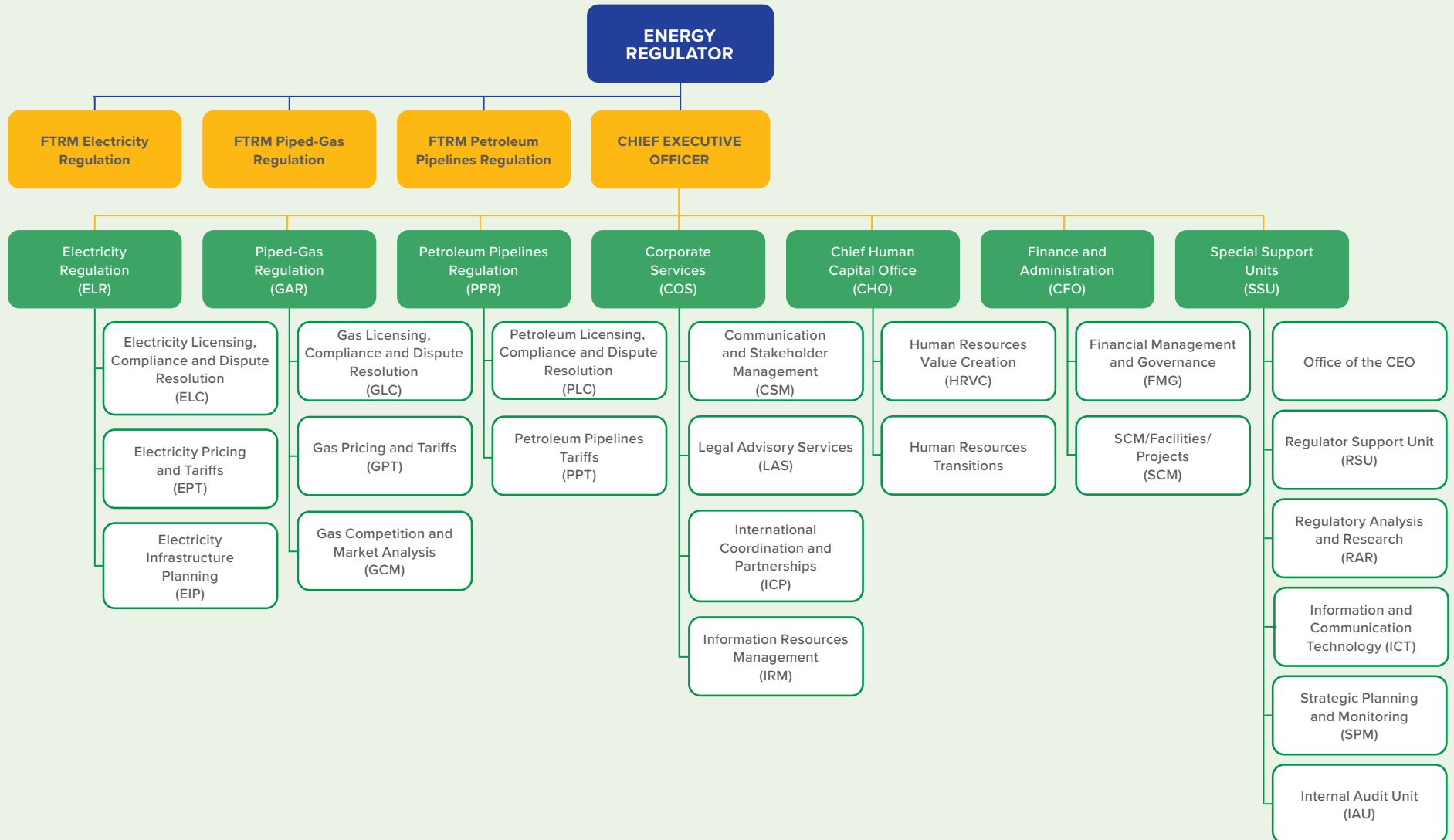
- a) NERSA has an approved structure of 253 staff members. The staff strength as at 31 January 2020 is 250. This includes the 224 permanent employees, three Full-Time Regulator Members (FTRMs), 4 fixed-term contract employees and 19 interns.
- b) Table 12 below summarises the staff complement of NERSA.

**Table 12: NERSA Staff complement**

DIVISION	DEPARTMENT	COMPLEMENT
Electricity Regulation (ELR)	FTRM	3
	Executive	3
	Electricity Pricing and Tariffs (EPT)	35
	Electricity Licensing, Compliance and Dispute Resolution (ELC)	34
	Electricity Infrastructure Planning (EIP)	13
<b>Total</b>		<b>88</b>
Piped-Gas Regulation (GAR)	FTRM	3
	Executive	5
	Gas Pricing and Tariffs (GPT)	8
	Gas Licensing, Compliance and Dispute Resolution (GLC)	11
	Gas, Competition and Market Analysis (GCM)	4
<b>Total</b>		<b>31</b>
Petroleum Pipelines Regulation (PPR)	FTRM	3
	Executive	6
	Petroleum Pipelines Tariffs (PPT)	9
	Petroleum Licensing, Compliance and Dispute Resolution (PLC)	9
<b>Total</b>		<b>27</b>
Finance and Administration (CFO)	Executive	3
	Financial Management and Governance (FMG)	7
	Supply Chain Management	13

DIVISION	DEPARTMENT	COMPLEMENT
<b>Total</b>		<b>23</b>
Human Resources (CHO)	Executive	2
	Human Resources – Value Creation	8
	Human Resources -Transactions	3
<b>Total</b>		<b>13</b>
Corporate Services (COS)	Executive	3
	Legal Advisory Services (LAS)	6
	Communication and Stakeholder Management (CSM)	9
	International Co-ordination and Partnerships (ICP)	3
	Information Resources Management (IRM)	7
<b>Total</b>		<b>28</b>
Specialised Support Units (SSU)	Internal Audit (IAU)	7
	Strategic Planning and Monitoring (SPM)	4
	Regulator Support (RSU)	11
	CEO's Office Operations (COO)	5
	Regulatory Analysis and Research (RAR)	6
	Information and Communication Technology (ICT)	10
<b>Total</b>		<b>43</b>
<b>Grand Total NERSA Staff Complement</b>		<b>253</b>

c) Below is the approved NERSA Organisational Structure:



### 5.2.2. Status regarding compliance with the BBEE Act

In 2017 /2018, NERSA embarked on its first B-BBEE accreditation and was awarded a Level eight (8) B-BBEE contribution status level. According to the BBEE report, NERSA was accredited a Level seven (7) B-BBEE contribution Status. However, because NERSA's skills development and enterprise development did not meet the minimum threshold, NERSA was discounted to a Level eight (8) contribution level.

Plans have been developed and implemented to improve the skills development and enterprise development requirements. In March 2019 the Energy Regulator approved the Enterprise Development Strategy and implementation commenced from April 2019.

### 5.2.3. Status regarding women and people with disabilities

- a) As at the end of 31 December 2020, NERSA's staff strength is 236 and comprises 100 (42%) males and 136 (58%) females.
- b) As at the end of 31 December 2020, there are 13 (54%) females and 11 (46%) males in management positions.
- c) As at the end of 31 December 2020, the percentage of persons with disabilities is 2%.

### 5.2.4. Strengths, Weaknesses, Opportunities and Threats facing NERSA

A Strengths, Weakness, Opportunities and Threats (SWOT) framework was used to analyse the internal situation at NERSA. Each element of the SWOT analysis was further categorized into key themes and documented in the table below.

STRENGTHS	
THEME	FACTORS
Financial Outlook	<ul style="list-style-type: none"> <li>• Year-on-year annual budget increase (pre COVID-19)</li> <li>• Stable revenue stream as actual revenue reported was 0.9% greater than what was budgeted for before the pandemic</li> </ul>
Skilled Workforce	<ul style="list-style-type: none"> <li>• Skilled personnel with extensive knowledge and understanding on how licensees work and how to support/ respond to solve problems</li> <li>• There is a high degree of transparency</li> <li>• Intimate knowledge of regulated industries</li> <li>• Staff complement constitutes 57% females, which positively contributes to the is developmental agenda</li> </ul>
COVID-19 Response	<ul style="list-style-type: none"> <li>• Adequate management of NERSA's operational, maintenance and safety expenditures in order to effectively respond to the COVID-19 pandemic and ensure investments stabilise/ improve over time</li> <li>• New ways of working in response to COVID-19 pandemic have enhanced staff wellbeing and ensured business continuity</li> </ul>
Corporate Governance	<ul style="list-style-type: none"> <li>• NERSA has been able to achieve consecutive clean audit reports during the past five years</li> </ul>
Environmentally Sustainable	<ul style="list-style-type: none"> <li>• NERSA is continuing their journey towards becoming a green organisation by reducing paper usage and carbon footprint. The organisation is also busy with the refurbishment of its building where after it will receive a Green Building certificate on completion of the project</li> </ul>



WEAKNESSES	
THEME	FACTORS
B-BBEE Threshold Compliance	<ul style="list-style-type: none"> <li>• Inability to meet the minimum threshold targets on spend for skills development and enterprise development resulting in NERSA’s overall B-BBEE level being discounted from a Level 7 to a Level 8</li> </ul>
Cultural Issues	<ul style="list-style-type: none"> <li>• Perceptions of bureaucracy exist widely throughout the organisation</li> <li>• High staff turnover, especially at the top management band</li> <li>• Slow decision making and delegation of associated activities</li> <li>• Sense of “bullied” / “unhappy” employees resulting in the increased legal matters/ issues and the rise of grievances</li> <li>• Span of control in the divisional organisational structure is not optimal</li> <li>• Trust issues persists and result in challenges in obtaining external support in the development of information systems</li> <li>• Ambiguous roles and responsibilities between NERSA governance and management/ executive committees</li> <li>• Lack of clear direction from members as instructions continuously change</li> <li>• Lack of exposure of employees to the industry</li> <li>• Lack of training</li> <li>• Lack of innovation/ creation of new ideas</li> <li>• Misalignment in terms of actual vs expected remuneration</li> <li>• Decisions are not aligned to the developments within the global and regional energy industry</li> <li>• Skills of individuals are under-utilised</li> <li>• Several team members feel as though they are working in silos</li> <li>• Lack of knowledge sharing, cooperation, and collective decision making/ contributions from various departments</li> <li>• Gap between organisational structure and skills required in specific areas (e.g. relevant and needed skillsets among board composition)</li> </ul>

WEAKNESSES	
THEME	FACTORS
External Relationships	<ul style="list-style-type: none"> <li>• There is a need to focus on improving relationships between NERSA and industry players and ensure information is shared, collected and used in a timely manner that benefits the collective</li> </ul>
	<ul style="list-style-type: none"> <li>• Negative perceptions of stakeholders exists</li> </ul>
	<ul style="list-style-type: none"> <li>• There is a need to clarify the roles between NERSA and the Environmental department</li> </ul>
Processes and Procedures	<ul style="list-style-type: none"> <li>• Lack of effective and efficient documentation management (process to receive and archive/store documents in soft and hard copy formats)</li> </ul>
	<ul style="list-style-type: none"> <li>• Government policies make it difficult to automate and streamline processes</li> </ul>
	<ul style="list-style-type: none"> <li>• Internal processes and systems need to be updated, digitised and improved in order to support the “new normal” ways of working (e.g. home working)</li> </ul>
	<ul style="list-style-type: none"> <li>• Decentralised and fragmented data – as information is not stored on a single platform and cannot be easily accessed for informed decision-making (licensee data and information)</li> </ul>
	<ul style="list-style-type: none"> <li>• NERSA is mainly responsive to industry developments (need to become more proactive)</li> </ul>
	<ul style="list-style-type: none"> <li>• Improvements in retention processes and procedures is required</li> </ul>
	<ul style="list-style-type: none"> <li>• There is a need for formalised procedures to manage time (e.g. meeting) and ensure productivity</li> </ul>
Organisational Strategy	<ul style="list-style-type: none"> <li>• Lack of alignment of structure to strategy</li> </ul>
	<ul style="list-style-type: none"> <li>• Lack of common understanding of the strategy</li> </ul>

OPPORTUNITIES	
THEME	FACTORS
Implementation of Technological Innovations	<ul style="list-style-type: none"> <li>Technological progress has allowed for new forms of producing, storing, transforming, and consuming energy, altering the nature of the energy system (need to keep up with the pace of technological change)</li> </ul>
	<ul style="list-style-type: none"> <li>There is a need to integrate new technologies and business models into existing structures</li> </ul>
	<ul style="list-style-type: none"> <li>There is a need to establish a process to collect information from industries</li> </ul>
Response to changing customer Needs	<ul style="list-style-type: none"> <li>NERSA should consider the option of utilising electrification funds that are collected through the tariff to support vulnerable customers who are unable to afford their energy bills</li> </ul>
	<ul style="list-style-type: none"> <li>Use of analytics (energy modelling, investment, and economic driver analytics) to inform a demand-led strategy</li> </ul>
	<ul style="list-style-type: none"> <li>Ensure energy security through; reduction of the regulatory burden on new electricity applications, ensure sector regulatory certainty, fast-tracking of application processing and consider proposals on the reduction of energy prices</li> </ul>
Collaboration and Relationship Development	<ul style="list-style-type: none"> <li>Continue interactions with DMRE in order to legislate and establish a structure to implement mandate</li> </ul>
	<ul style="list-style-type: none"> <li>Implement DMRE regulations to unlock significant local production and importation (when there is a shortfall) of LPG</li> </ul>
	<ul style="list-style-type: none"> <li>Implement SADC's established Regional Electricity Regulatory Association (RERA) that will assist in harmonising the region's cross border policies and regulations (once finalised)</li> </ul>
Departments/ Divisions	<ul style="list-style-type: none"> <li>Opportunity exists for NERSA to develop/ employ individuals responsible for data modelling in order to accelerate the decision-making processes</li> </ul>
	<ul style="list-style-type: none"> <li>Improve the alignment of internal characteristics to the external environment</li> </ul>
	<ul style="list-style-type: none"> <li>There is potential to invest in additional digital infrastructure / innovations across the value chain in order to stay up to date/ ahead of the market</li> </ul>
	<ul style="list-style-type: none"> <li>Prepare NERSA for different outcomes/ responses to disaster using scenario based responses (e.g. mild, harsh, severe)</li> </ul>
Employees	<ul style="list-style-type: none"> <li>Balance diverse expectations of employees in order to build trust within NERSA</li> </ul>
	<ul style="list-style-type: none"> <li>Capitalise on the ability to learn from new colleagues, to generate new ideas and remain relevant</li> </ul>

THREATS	
THEME	FACTORS
COVID-19 Pandemic	<ul style="list-style-type: none"> <li>The COVID-19 crisis may have a significant impact on investments, sustainability of energy supply, ability to invest in aging electricity networks, infrastructure and revenues due to changes in industry volumes</li> <li>Adjust to new ways of working, upskilling staff and continued virtual activities/ operations</li> </ul>
Energy Finance Sector	<ul style="list-style-type: none"> <li>There has been a slow migration to cost reflective tariffs, inadequate project preparation, issues with Power Purchase Agreements, and absent regulatory frameworks which stunt investment and financing in the energy sector</li> </ul>
Regulatory Landscape	<ul style="list-style-type: none"> <li>Lack of region-wide regulatory framework that addresses renewable energy</li> <li>Limited relevance of regulation within the emerging distributed energy landscape</li> <li>Regulatory control within the entire supply chain of the regulated industries is limited</li> <li>Projects intended to address the supply shortage are delayed due to absent regulatory frameworks and below-cost tariffs which indirectly impacts the ability for energy operators/ suppliers to sustain demand</li> <li>Decisions have been legally challenged</li> <li>Encroachment of various departments in running NERSA affairs</li> </ul>
Technological Advancements	<ul style="list-style-type: none"> <li>Fast changing energy landscape due to emerging innovative energy generation technologies</li> <li>NERSA will have to move fast to keep up with the pace of technological change and the rising need for flexible operation of power systems</li> <li>Regulatory frameworks need to balance the need for providing certainty while being flexible enough to effectively integrate new technologies and business models</li> </ul>
Economic Outlook	<ul style="list-style-type: none"> <li>There is an unknown long-term impact on the economy and industry as a result of the recession, pandemic, credit downgrade, poverty, and inequality</li> </ul>
Industry Changes	<ul style="list-style-type: none"> <li>There has been changes to the various operating industries (Sasol Gas' intentions to divest in some of its infrastructure assets)</li> <li>There have been amendments to the competition act which need to be accounted for from a regulatory perspective</li> <li>Industry development creates challenges in terms of legislation</li> </ul>
Legislation Issues	<ul style="list-style-type: none"> <li>Several instances of legislative shortcomings persist</li> </ul>

## **PART C \ MEASURING OUR PERFORMANCE**

### **1. INSTITUTIONAL PERFORMANCE INFORMATION**

NERSA's mandate is to regulate the electricity, piped-gas and petroleum pipelines industries in line with each industry's specific legislation and regulations. Therefore, this part of the Strategic Plan will be divided into sections for each of the regulated industries as well as a section dealing with transversal regulatory and organisational matters.

### **2. IMPACT STATEMENT**

In line with Government's priorities, NERSA's overall impact statement is as follows:

Secure, reliable, affordable, sustainable, competitive and transformed energy industry, which contributes to the economic growth of South Africa.

### **3. MEASURING OUR OUTCOMES**

The attainment of the above impact statement will be driven by the industry specific and organisational impact statements and accompanying outcomes, as described in the sections below.

### 3.1. ELECTRICITY INDUSTRY REGULATION

IMPACT STATEMENT		A stable and accessible Electricity Industry that supports an improved quality of life and economic activity	
OUTCOME	OUTCOME INDICATOR	BASELINE	FIVE YEAR TARGET
1. Efficiency in facilitating entry, setting prices and resolving disputes	1.1. Energy Regulator decision on the Reviewed Electricity Pricing Framework taken by the relevant subcommittee or Energy Regulator within the stated timeframe	Approved methodology and rules	Reviewed Electricity Pricing Framework considered by the ER by 30 June 2022
	1.2. Energy Regulator decision on Eskom and municipal electricity prices within the stated timeframe	Energy Regulator decision on Eskom and municipal electricity prices annually by March	Regulator decision annually by 28 February
	1.3. Improved turnaround times for considering applications for registration and licencing (possible increase applications)	60 days for registration applications 120 days for licence applications	45 days for registration applications 120 days for licence applications
	1.4. Percentage variance of planned versus actual compliance audit plans	None	80%
	1.5. Energy Regulator decision on the reviewed registration and licencing conditions and requirements considered by the relevant subcommittee or Energy Regulator within the stated timeframe	None	Reviewed registration and licencing conditions and requirements considered by the ELS by 31 March 2023
	1.6. Energy Regulator decision on the Enforcement Guidelines and plan considered by the relevant subcommittee or Energy Regulator within the stated timeframe	None	Enforcement Guidelines and plan considered by the ELS by 31 March 2023
2. Innovation drives our response to the transition of the Industry	2.1. Percentage variance between planned versus actual targeted tools reviewed and development planned	None	80%
	2.2. Percentage variance of planned versus actual annual ESI advocacy plan	None	80%

### 3.1.1. Explanation of Planned Performance over the Five Year Planning Period

a) The rationale for the choice of the outcome indicators relevant to the respective outcomes is aligned with legislative requirements.

- To approve municipal tariffs that ensure the financial viability and sustainability of all licensed municipal distributors while also protecting the poor from rapidly increasing electricity prices;
- To approve Eskom's revenue requirements and prices/tariffs that allows for the sustainability of Eskom and therefore overall viability of the electricity supply industry.
- Ensure certainty for new licensees, in making sure they know all the applicable conditions in order to be connected to the grid.
- Ensure oversight of non-compliance to Grid Code to ensure speedy compliance
- Ensure risk mitigating measures are implemented in time to support security of supply
- Medium to long term infrastructure development planning is implemented according to the set license conditions

b) The following enablers were identified to achieve the five-year targets:

- Revised MYPD methodology;
- Monitoring of licensed distributor's performance;
- Tariff methodology;
- Wheeling methodology;
- Automated assistance to the licensing application and evaluation process;
- Grid Governance Code;
- Restructuring of the electricity supply industry; and
- Increasing resources within NERSA.

c) The identified outcomes should contribute as follows to the achievement of the impact statement:

- Sustainability of the electricity supply industry;
- Protection of the poor from rapidly increasing electricity prices;
- Make available grid code requirement for each technology;
- Audits will highlight areas of need and tariff decisions will provide funds to perform refurbishment;
- An up-to-date data base containing all submitted information in a format that can be easily interrogated;
- Reporting requirements are regularized by inclusion in the Grid Code;
- Encourage entry of new players;
- The licensing of operators ensures orderly development and the license conditions ensure that the licensees comply with proper standards;
- Regulatory certainty through appropriate pricing and tariffs methodologies.

### 3.2. PIPED-GAS INDUSTRY REGULATION

IMPACT STATEMENT		<i>Efficient, safe, effective, sustainable, accessible, competitive and transformed piped-gas industry</i>	
OUTCOME	OUTCOME INDICATOR	BASELINE	FIVE YEAR TARGET
1. A stable and diverse energy sector system and pricing regime which supports access through regulatory services that are delivered on time and to quality standards	1.1. Percentage of complete maximum price applications considered by the relevant committee or the Energy Regulator within the stated timeframe	100% of complete maximum price applications considered by the ER within 120 working days after date of publication of the preliminary assessment of the maximum price applications	100% of complete maximum price applications considered by the ER within 120 working days after date of publication of the preliminary assessment of the maximum price applications
	1.2. Percentage of complete transmission tariff applications considered by the relevant committee or the Energy Regulator within the stated timeframe	100% of complete transmission tariff applications considered by ER within 120 working days after date of publication of preliminary assessment of tariff applications	100% of complete transmission tariff applications considered by the ER within 120 working days after date of publication of preliminary assessment of tariff applications
	1.3. Number of reports on the review of the definition of the piped-gas market considered by the relevant committee or the Energy Regulator within the stated timeframe	No report available	1 report considered annually by the PGS by 31 March
	1.4. Number of reports on the impact of developments on competition in the gas industry considered by the relevant committee or the Energy Regulator within the stated timeframe	No report available	One report on the impact of developments on competition in the gas industry considered annually by the PGS by 31 March
	1.5. Percentage of complete licence applications considered by the relevant committee or the Energy Regulator within the stated timeframe	100% of complete applications considered by the PGS/REC within 60 working days from date of close of public comment period or period of applicant's response to objections received	100% of complete applications considered by the PGS/REC within 60 working days from date of close of public comment period or period of applicant's response to objections received



### 3.2. PIPED-GAS INDUSTRY REGULATION (CONTINUED)

OUTCOME	OUTCOME INDICATOR	BASELINE	FIVE YEAR TARGET
1. A stable and diverse energy sector system and pricing regime which supports access through regulatory services that are delivered on time and to quality standards	1.6. Percentage of complete registration applications of gas activities considered by the relevant committee or the Energy Regulator within the stated timeframe	100% of complete applications for the registration of gas activities are processed and considered by the PGS within 60 working days from date of close of public comment period	100% of complete applications for the registration of gas activities are processed and considered by the PGS within 60 working days from date of close of public comment period
	1.7. Number of audit reports on compliance of the ROMPCO pipeline according to the compliance frameworks considered annually by the relevant committee or the Energy Regulator within the stated timeframe	1 audit report on the compliance of ROMPCO pipeline considered annually by the PGS by 31 March	1 audit report on the compliance of ROMPCO pipeline considered annually by the PGS by 31 March
	1.8. Number of monthly volume balance reports assessed and analysis reports to monitor the supply of 120m GJ p.a. from Mozambique to South Africa considered by the relevant committee or the Energy Regulator within the stated timeframe	12 monthly volume balance reports considered annually by the PGS by 31 March	12 monthly volume balance reports considered annually by the PGS by 31 March
	1.9. Number of reports on licensees' compliance with licence conditions considered by the relevant committee or the Energy Regulator within the stated timeframe	One annual report considered by PGS by 31 March regarding compliance inspections conducted on licensed facilities	One annual report considered by PGS by 31 March regarding compliance inspections conducted on licensed facilities

OUTCOME	OUTCOME INDICATOR	BASELINE	FIVE YEAR TARGET
2. Energy industry regulatory framework is relevant for the effective regulation for the benefit of the customers and stakeholders	2.1. Number of reports on regulatory mechanisms required for the review of licensing rules considered by the relevant committee or the Energy Regulator within the stated timeframe	No report available	1 report on regulatory mechanisms required for the review of licensing rules considered by the PGS by 31 March 2022
	2.2. Revised tariff methodology considered by the relevant committee or the Energy Regulator within the stated timeframe	Current tariff methodology	Revised tariff methodology considered by the ER by March 2025
	2.3. Refined framework for conducting adequacy of competition in the gas industry considered by the relevant committee or the Energy Regulator within the stated timeframe	Approved framework for the determination of the adequacy of competition in the gas sector	Refined framework for conducting adequacy of competition in the gas industry by 31 March 2021
	2.4. Number of reports on regulatory advocacy aimed at improvement of the regulatory framework provided through legislation, regulation and government policies considered annually by the relevant committee or the Energy Regulator within the stated timeframe	1 report on regulatory advocacy considered annually by the PGS by 31 March	1 report on regulatory advocacy considered annually by the PGS by 31 March

### 3.2.1. Explanation of Planned Performance over the Five Year Planning Period

a) The rationale for the choice of the outcome indicators relevant to the respective outcomes are the following:

- To allow customers to have a choice on the source of supply which will improve customer countervailing power, as well as the quality, cost and efficiency of supply of gas;
- To promote enhanced entry into the gas supply market;
- To improve access to gas supply and services;
- To facilitate the growth of the gas sector in support of industrialization;
- To increase access to and utilisation of gas in the market;
- To promote compliance with licence conditions;
- To regulate maximum prices and tariffs so as to mimic competitive outcomes in the gas market; and
- To facilitate effective regulation of cross border assets.

b) The following enablers to achieve the five-year targets were identified:

- Revised methodology for gas prices and tariffs to attract investment;
- Efficient licensing of gas infrastructure;
- Facilitation of 3rd party access to uncommitted capacity;
- Effective framework for regulation of the gas industry;
- Periodic assessment of adequacy of competition;
- Compliance investigations;
- Effective compliance monitoring and enforcement;
- Adequate supply of gas to meet demand; and
- Effective collaboration with other regulatory bodies such as TNPA and Competition Commission on matters of common interest

c) The identified outcomes will contribute to the achievement of the impact as follows:

- Improved competition, leading to more competitive pricing and wider choice for customers;
- Improved security of supply;
- Effective regulation of licensed activities, maximum prices and tariffs;
- Promote import competition;
- Growth in gas imports and production;
- Switching to gas as an alternative energy source;
- Review of Methodologies and the tariff guidelines; and
- Enforcement of third party access.

d) The following challenges have been identified:

- Current gaps in the Gas Act present a challenge on effective regulation of the gas industry e.g. Nersa has no mandate to regulate distribution tariffs, no third party access to gas distribution infrastructure etc. This increases barriers to entry and expansion at all levels of the gas supply chain, and also leads to other unintended consequences such as inefficient tariffs, and eligible customers migrating from distribution to transmission infrastructure, which may inhibit the orderly development of gas infrastructure.
- Vertically integrated sole/dominant supplier with monopoly position;
- Lack of adequate gas supply - SA does not have its own indigenous gas sources and currently relies on supply from Mozambique. This presents a challenge for security of supply, especially given the noted potential decline of gas supply from Mozambique from 2024;
- No mandatory third party access to gas distribution pipelines;
- Impact of exclusivity on distribution licenses with potential market foreclosure. This may inter alia affect new investments and entry of new players into the market as it would be the prerogative of the incumbent distribution network owner to allow entry into exclusive distribution areas;
- Impact of COVID-19 has weakened enforcement abilities of the Energy Regulator on on-site inspections;
- Weak enforcement model in the current Gas Act;
- Inadequate competition; and
- Dated gas infrastructure in some areas - results in increased maintenance costs with impact on tariffs.

### 3.3. PETROLEUM PIPELINES INDUSTRY REGULATION

IMPACT STATEMENT		<i>Efficient, safe, effective, sustainable, competitive and transformed petroleum pipelines industry</i>	
OUTCOME	OUTCOME INDICATOR	BASELINE	FIVE YEAR TARGET
1. A stable and diverse energy sector system and pricing regime which supports access through regulatory services that are delivered on time and to quality standards	1.1. Number of reports on the percentage utilisation of pipelines, storage facilities and loading facilities and third party access considered annually by the relevant committee or the Energy Regulator	2 reports on the percentage utilisation of pipelines, storage facilities and loading facilities and third party access considered annually by the PPS by 31 March	1 report on the percentage utilisation of pipelines, storage facilities and loading facilities and third party access considered annually by the PPS by 31 March
	1.2. Percentage of complete pipeline, storage and loading facility tariff applications considered by the relevant committee or the Energy Regulator within the stated timeframe	75% of complete pipeline, storage and loading facility tariff applications considered by the PPS/ER within 6 months from receipt of application	75% of complete pipeline, storage and loading facility tariff applications considered by the PPS/ER within 6 months from receipt of application
	1.3. Approved efficiency adjustment factor for inclusion into the tariff methodology	None	Approved efficiency adjustment factor for inclusion into the tariff methodology by 31 March 2024
	1.4. Percentage of complete license applications considered by the relevant committee or the Energy Regulator within the stated timeframe	100% of complete licence applications considered by the PPS/REC/ER within 60 working days under the conditions as prescribed in Section 19(1) of the Petroleum Pipelines Act	100% of complete licence applications considered by the PPS/REC/ER within 60 working days under the conditions as prescribed in Section 19(1) of the Petroleum Pipelines Act

OUTCOME	OUTCOME INDICATOR	BASELINE	FIVE YEAR TARGET
1. A stable and diverse energy sector system and pricing regime which supports access through regulatory services that are delivered on time and to quality standards	1.5. Percentage of complete applications for licence amendments / revocations considered by the relevant committee or the Energy Regulator within the stated timeframe	100% of complete applications for licence amendments / revocations considered by the PPS/REC/ER within 60 working days under the conditions as prescribed in Sections 23 or 24 of the Petroleum Pipelines Act	100% of complete applications considered by the PGS/REC within 60 working days from date of close of public comment period or period of applicant's response to objections received
	1.6. Number of reports on the geographic spread of licences issued for petroleum infrastructure and new entrants considered annually by the relevant committee or the Energy Regulator	No report available	1 report on the geographic spread of licences issued for petroleum infrastructure and new entrants considered annually by the PPS by 31 March
2. Energy industry regulatory framework is relevant for the effective regulation for the benefit of the customers and stakeholders	2.1. Reviewed tariff methodology for storage, loading facilities and petroleum pipelines considered by the relevant committee or the Energy Regulator within the stated timeframe	Commenced with the review of the tariff methodology for storage and loading facilities to provide regulatory certainty and facilitate investment in the industry. Approved tariff methodology for petroleum pipelines	Approved reviewed tariff methodology for storage and loading facilities; and petroleum pipelines by 31 March 2025
	2.2. Number of reports on regulatory advocacy aimed at improvement of the regulatory framework provided through legislation, regulation and government policies for the petroleum pipelines industry considered annually by the relevant committee or the Energy Regulator	1 report on regulatory advocacy considered annually by the PPS by 31 March	1 report on regulatory advocacy considered annually by the PPS by 31 March

### 3.3.1. Explanation of Planned Performance over the Five Year Planning Period

- a) The rationale for the choice of the outcome indicators relevant to the respective outcomes are the following:
- To promote competition in the construction.
  - To facilitate access to affordable petroleum products.
- b) The following enablers to achieve the five-year targets were identified:
- Enabling legislation to be amended;
  - Revised tariff methodology;
  - Benchmark study to be able to assess prudency;
  - Efficient processing of applications;
  - Review of licensing rules;
- c) The identified outcomes will contribute to the achievement of the impact as follows:
- Enforcement of compliance by the Tribunal; and
  - Audits for compliance monitoring.
  - Lower the barriers to entry;
  - More transformed Industry;
  - Affordable tariffs;
  - Promote import competition;
  - Sufficient capacity to meet market demand;
  - Revised enabling legislation;
  - Reduced regulatory burden;
  - Improved third party access; and
  - Harmonized regulatory framework.

### 3.4. TRANSVERSAL REGULATORY AND ORGANISATIONAL

IMPACT STATEMENT		<i>NERSA established and perceived as an efficient, effective and credible regulator</i>		
OUTCOME	OUTCOME INDICATOR	BASELINE	FIVE YEAR TARGET	
1. Innovation drives our response to the transition of the Industry	1.1. Regulatory and Policy advocacy procedure considered by the relevant subcommittee or the Energy Regulator within the stated timeframe	None	Regulatory and Policy advocacy procedure considered by the ER by 31 December 2022	
	1.2. Number of reports on the independent peer review of NERSA's regulatory tools considered by the relevant subcommittee or the Energy Regulator within the stated timeframe.	None	One report on the independent peer review of NERSA's regulatory tools considered by the REC by 31 March 2023	

OUTCOME	OUTCOME INDICATOR	BASELINE	FIVE YEAR TARGET
2. Integrated and value-added services to customers and stakeholders	2.1. Revised organisational business processes considered by the relevant subcommittee or the Energy Regulator within the stated timeframe	None	Revised organisational business processes considered by the ER by 30 September 2022
	2.2. Percentage of regulatory processes is based on appropriate Research within stated timeframe	None	100% of regulatory processes is based on appropriate research by 31 March 2025
	2.3. Percentage of business processes are automated and efficient within the stated timeframe	Majority of business processes are manual	70% of processes are automated and efficient by 31 March 2025
	2.4. Number of reports on partnership creation to position NERSA as a recognised regulator nationally, regionally and internationally considered annually by the relevant committee or the Energy Regulator by 30 September and 31 March	2 reports on partnership creation to position NERSA as a recognised regulator nationally, regionally and internationally considered annually by the REC by 31 March	2 reports on partnership creation to position NERSA as a recognised regulator nationally, regionally and internationally considered annually by the REC by 31 March
	2.5. Number of reports on the implementation of the Learnership and Internship Programmes considered annually by the relevant committee or the Energy Regulator by 31 March	1 report on the implementation of the Learnership and Internship Programmes considered annually by the HRRC by 31 March	1 report on the implementation of the Learnership and Internship Programmes considered annually by the HRRC by 31 March
	2.6. Good governance demonstrated in audit outcomes	Unqualified audit	Unqualified with no findings in the management report

OUTCOME	OUTCOME INDICATOR	BASELINE	FIVE YEAR TARGET
3. Innovation drives our response to the transition of the Industry	3.1. Improved efficacy of NERSA based on an organisational knowledge management approach	Knowledge management framework, Strategy and implementation plan 2010	<p>Reviewed Knowledge management framework and Strategy with an implementation plan considered by the ER by 31 March 2022</p> <p>Report on the improved of the efficacy of the Regulator based on an organisational knowledge management approach, considered by the REC by 31 March 2024</p> <p>Reviewed Knowledge management framework and Strategy with an implementation plan considered by the ER by 31 March 2025</p>

### 3.4.1. Explanation of Planned Performance over the Five Year Planning Period

- a) The rationale for the choice of the outcome indicators relevant to the respective outcomes is to focus on the key requirement for the effective operations of the Energy Regulator.
- b) The following enablers to achieve the five-year targets were identified:
- Improved data analysis
  - Trends analysis (market study)
  - Speedy processing of applications
  - GIS
  - Reviewed PPA
  - Online application system
- c) The identified outcomes will contribute to the achievement of the impact as follows:
- Proactively improving critical business and regulatory processes

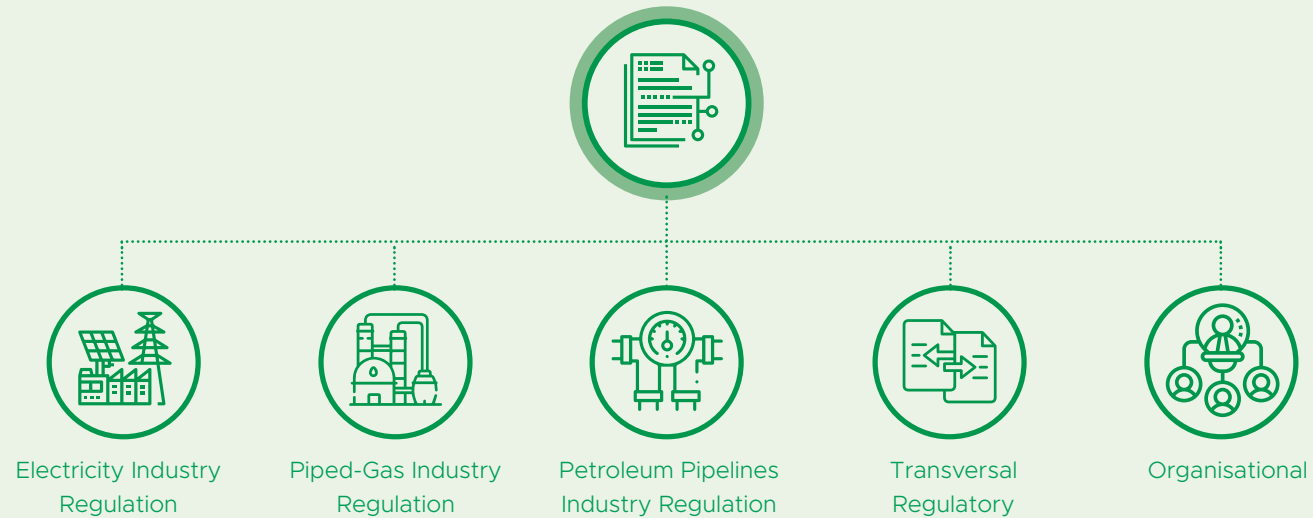


## PART D \ TECHNICAL INDICATOR DESCRIPTIONS

The technical indicator descriptions (TID) below is a description of the outcome indicators stated in this Plan, which defines the data collection processes and gathering of portfolios of evidence.

These indicators are divided in the following functional areas:

- Electricity Industry Regulation
- Piped-Gas Industry Regulation;
- Petroleum Pipelines Industry Regulation;
- Transversal Regulatory; and
- Organisational.



## 1. ELECTRICITY INDUSTRY REGULATION

Indicator title	Energy Regulator decision on the Reviewed Electricity Pricing Framework taken by the relevant subcommittee or Energy Regulator within the stated timeframe	Energy Regulator decision on Eskom and municipal electricity prices within the stated timeframe
Definition	This is the decision of the Energy Regulator on the Reviewed Electricity Pricing Framework within the stated timeframe, which will improve NERSA's efficiency in making decisions on electricity pricing	This is the decision of the Energy Regulator on Eskom and municipal electricity prices within the stated timeframe, which will improve NERSA's efficiency in making decisions on electricity pricing
Source of data	Current pricing methodology; benchmarks on electricity pricing; reports on Eskom and Municipality pricing	Tariff Applications and D Forms; Tariff analysis schedules
Method of calculation / assessment	Energy Regulator decision	Energy Regulator decision
Means of verification	Framework; Minutes of ELS and ER meetings	Applications; Reasons for Decisions; Minutes of REC and ELS meetings
Assumptions	Framework completed as planned	Complete applications received from licensees
Disaggregation of beneficiaries (where applicable)	Not applicable	Not applicable
Spatial transformation (where applicable)	Not applicable	Not applicable
Calculation Type	Non-cumulative	Non-cumulative
Reporting cycle	Annual	Annual
Desired performance	Regulator decision by 30 June 2022	Regulator decision by 28 February 2023
Indicator Responsibility	EM (ELR) and HOD (EPT)	EM (ELR) and HOD (EPT)

## 1. ELECTRICITY INDUSTRY REGULATION (CONTINUED)

Indicator title	Improved turnaround times for considering applications for registration and licencing	Percentage variance of planned versus actual compliance audit plans
Definition	The turn around times for concluding the analysis of and decision-making on applications for licences and registrations are improved.	This the percentage of compliance audits completed in line with the annual Compliance Audit Plan and reports on the completed audits.
Source of data	Registration and licencing processes; applications for licences and registration	Compliance Audit Plan; audit reports
Method of calculation / assessment	Number of days from receipt of application to decision by the Energy Regulator	(number of planned audits minus the actual number of audits / actual number of audits)*100
Means of verification	Reviewed processes; Minutes of ELS and ER meetings	Minutes of ELS and ER meetings
Assumptions	Complete application received	Audits conducted as planned
Disaggregation of beneficiaries (where applicable)	Not applicable	Not applicable
Spatial transformation (where applicable)	Not applicable	Not applicable
Calculation Type	Non-cumulative	Non-cumulative
Reporting cycle	Quarterly	Annual
Desired performance	45 days for registration applications; 120 days for licence applications	80% of planned audits conducted
Indicator Responsibility	EM (ELR) and HOD (ELC)	EM (ELR) and HOD (ELC)

Indicator title	Percentage variance between planned versus actual targeted tools reviewed and development planned	Percentage variance of planned versus actual annual ESI advocacy plan
Definition	This the percentage of planned review and/or development of targeted regulatory tools and systems completed in line with an annual plan for the reviews and/or developments to be concluded in the planning period.	This the percentage of regulatory advocacy engagement conducted in line with the annual ESI Advocacy Plan.
Source of data	Analysis reports of reviewed tools and systems	ESI Advocacy Plan; reports on advocacy engagements conducted
Method of calculation / assessment	$(\text{number of planned reviews and/or developments minus the actual number of reviews and/or developments} / \text{actual number of reviews and/or developments}) * 100$	$(\text{number of planned audits minus the actual number of audits} / \text{actual number of audits}) * 100$
Means of verification	Minutes of ELS and ER meetings	Minutes of ELS and ER meetings
Assumptions	Reviews and/or developments concluded as planned	Audits conducted as planned
Disaggregation of beneficiaries (where applicable)	Not applicable	Not applicable
Spatial transformation (where applicable)	Not applicable	Not applicable
Calculation Type	Non-cumulative	Non-cumulative
Reporting cycle	Annually	Annual
Desired performance	80% of planned reviews and/or developments concluded conducted	65% of planned regulatory advocacy engagement conducted conducted
Indicator Responsibility	EM (ELR) and HOD (EIP)	EM (ELR) and HOD (ELC)

## 2. PIPED-GAS INDUSTRY REGULATION

Indicator title	Percentage of complete maximum price applications considered by the relevant committee or the Energy Regulator within the stated timeframe	Percentage of complete tariff applications considered by the relevant committee or the Energy Regulator within the stated timeframe
Definition	This is the percentage of complete applications for maximum prices of piped-gas considered within a set timeframe, subject to a finding that there is inadequate competition.	This is the percentage of complete tariff applications considered within a set timeframe, subject to a finding that there is inadequate competition.
Source of data	Applications for maximum prices of gas	Applications for tariffs
Method of calculation / assessment	(number of applications for maximum prices completed within 120 days / number of applications for maximum prices received)*100	(number of tariff applications completed within 120 days / number of applications for tariff applications received)*100
Assumptions	Complete applications received from licensees	Complete applications received from licensees
Disaggregation of beneficiaries (where applicable)	<ul style="list-style-type: none"> <li>Target for women: N/A</li> <li>Target for youth: N/A</li> <li>Target for people with disabilities: N/A</li> </ul>	<ul style="list-style-type: none"> <li>Target for women: N/A</li> <li>Target for youth: N/A</li> <li>Target for people with disabilities: N/A</li> </ul>
Spatial transformation (where applicable)	<ul style="list-style-type: none"> <li>Contribution to spatial transformation priorities: N/A</li> <li>Description of Spatial Impact: N/A</li> </ul>	<ul style="list-style-type: none"> <li>Contribution to spatial transformation priorities: N/A</li> <li>Description of Spatial Impact: N/A</li> </ul>
Desired performance	100% of complete maximum price applications considered by the Energy Regulator within 120 working days after date of publication of preliminary assessment of the maximum price applications	100% of complete tariff applications considered by Energy Regulator within 120 working days after the date of the publication of preliminary assessment of the applications
Indicator Responsibility	EM (GAR) and HOD (GPT)	EM (GAR) and HOD (GPT)

Indicator title	Percentage of complete trading margin applications considered by the relevant committee or the Energy Regulator within the stated timeframe	Number of reports on the review of the definition of the piped-gas market considered by the relevant committee or the Energy Regulator within the stated timeframe
Definition	This is the percentage of trading margin applications considered within a set timeframe, aimed at enabling the licensee to: a) Recover all efficient and prudently incurred investment and operational costs, and b) Make a profit commensurate with risk.	These are annual reports on the review of the definition of the piped-gas market.
Source of data	Applications for trading margin	Research reports
Method of calculation / assessment	(number of trading margin applications completed within 120 days / number of applications for maximum prices received)*100	Number of reports
Assumptions	Complete applications received from licensees	Analysis completed
Disaggregation of beneficiaries (where applicable)	<ul style="list-style-type: none"> <li>• Target for women: N/A</li> <li>• Target for youth: N/A</li> <li>• Target for people with disabilities: N/A</li> </ul>	<ul style="list-style-type: none"> <li>• Target for women: N/A</li> <li>• Target for youth: N/A</li> <li>• Target for people with disabilities: N/A</li> </ul>
Spatial transformation (where applicable)	<ul style="list-style-type: none"> <li>• Contribution to spatial transformation priorities: N/A</li> <li>• Description of Spatial Impact: N/A</li> </ul>	<ul style="list-style-type: none"> <li>• Contribution to spatial transformation priorities: N/A</li> <li>• Description of Spatial Impact: N/A</li> </ul>
Desired performance	100% of complete trading margin applications considered by the Energy Regulator within 120 working days after the date of the publication of preliminary assessment of the applications	1 report on the review of the definition of the piped-gas market considered annually by the PGS by 31 March
Indicator Responsibility	EM (GAR) and HOD (GPT)	EM (GAR) and HOD (GLC)

## 2. PIPED-GAS INDUSTRY REGULATION (CONTINUED)

Indicator title	Percentage of complete licence applications considered by the relevant committee or the Energy Regulator within the stated timeframe from date of close of public comment period or period of applicant's response to objections received	Percentage of complete registration applications of gas activities considered by the relevant committee or the Energy Regulator within the stated timeframe
Definition	This is the percentage of complete licence applications considered within a set timeframe and conditions.	This is the percentage of the registration applications for operations or activities related to the production and importation of gas, considered within a set timeframe and conditions.
Source of data	Licence applications	Registration applications
Method of calculation / assessment	(Number of licence applications considered within 60 days after the end of the objection period or period of applicant's response to objections received) / (total number of applications received) *100	(Number of registration applications considered within 120 days from receipt of complete application) / (total number of applications received)*100
Assumptions	Complete applications submitted	Complete applications submitted
Disaggregation of beneficiaries (where applicable)	<ul style="list-style-type: none"> <li>• Target for women: N/A</li> <li>• Target for youth: N/A</li> <li>• Target for people with disabilities: N/A</li> </ul>	<ul style="list-style-type: none"> <li>• Target for women: N/A</li> <li>• Target for youth: N/A</li> <li>• Target for people with disabilities: N/A</li> </ul>
Spatial transformation (where applicable)	<ul style="list-style-type: none"> <li>• Contribution to spatial transformation priorities: N/A</li> <li>• Description of Spatial Impact: N/A</li> </ul>	<ul style="list-style-type: none"> <li>• Contribution to spatial transformation priorities: N/A</li> <li>• Description of Spatial Impact: N/A</li> </ul>
Desired performance	100% of complete licence applications considered by the REC or PGS (depending on the delegation) within 60 working days from date of close of public comment period or period of applicant's response to objections received	100% of complete registration applications of gas activities considered by the PGS within 60 working days from date of close of public comment period
Indicator Responsibility	EM (GAR) and HOD (GLC)	EM (GAR) and HOD (GLC)

Indicator title	Number of audits conducted on the ROMPCO pipeline according to the compliance frameworks and audit reports considered by the relevant committee or the Energy Regulator within the stated timeframe	Number of monthly volume balance reports to monitor the supply of 120m GJ p.a. from Mozambique to South Africa assessed and analysis reports considered by the relevant committee or the Energy Regulator within the stated timeframe
Definition	These are annual audits conducted on the ROMPCO pipeline according to the compliance framework, non-compliance notices issued (where necessary) and audit reports compiled.	These are reports on the assessment and analysis of Sasol's monthly volume balance reports considered within a stated timeframe, in order for NERSA to have regular, systematic, consistent, and sufficient non-financial information relevant to economic regulation, to enhance the efficiency and transparency of the regulatory process.
Source of data	Audit reports	Volume balance report assessment reports from Sasol
Method of calculation / assessment	Number of audits	Number of reports
Assumptions	Approved received to travel to Mozambique to conduct audit	Information received timeously from Sasol
Disaggregation of beneficiaries (where applicable)	<ul style="list-style-type: none"> <li>• Target for women: N/A</li> <li>• Target for youth: N/A</li> <li>• Target for people with disabilities: N/A</li> </ul>	<ul style="list-style-type: none"> <li>• Target for women: N/A</li> <li>• Target for youth: N/A</li> <li>• Target for people with disabilities: N/A</li> </ul>
Spatial transformation (where applicable)	<ul style="list-style-type: none"> <li>• Contribution to spatial transformation priorities: N/A</li> <li>• Description of Spatial Impact: N/A</li> </ul>	<ul style="list-style-type: none"> <li>• Contribution to spatial transformation priorities: N/A</li> <li>• Description of Spatial Impact: N/A</li> </ul>
Desired performance	1 audit conducted annually on the ROMPCO pipeline according to the compliance frameworks and audit reports considered by the PGS by 31 March	12 monthly volume balance reports assessed and analysis reports considered by the PGS to monitor the supply of 120m GJ p.a. from Mozambique to South Africa
Indicator Responsibility	EM (GAR) and HOD (GLC)	EM (GAR) and HOD (GLC)



## 2. PIPED-GAS INDUSTRY REGULATION (CONTINUED)

Indicator title	Number of inspections conducted, non-compliance notices issued (where necessary) and quarterly inspection reports considered by the relevant committee or the Energy Regulator within the stated timeframe	Number of reports on the assessment of criteria for the allocation of uncommitted capacity considered annually by the relevant committee or the Energy Regulator within the stated timeframe
Definition	These are planned inspections conducted during the reporting year, aimed at enforcing monitoring and compliance of licensed entities with licence conditions. Notices of non-compliance are issued when necessary, and quarterly inspection reports compiled.	These are annual reports on the assessment of criteria for the allocation of uncommitted capacity
Source of data	Approved plan to annual inspections, Inspection reports	Reports from licensees
Method of calculation / assessment	Number of inspections	Number of reports
Assumptions	Inspections completed	Inputs received
Disaggregation of beneficiaries (where applicable)	<ul style="list-style-type: none"> <li>• Target for women: N/A</li> <li>• Target for youth: N/A</li> <li>• Target for people with disabilities: N/A</li> </ul>	<ul style="list-style-type: none"> <li>• Target for women: N/A</li> <li>• Target for youth: N/A</li> <li>• Target for people with disabilities: N/A</li> </ul>
Spatial transformation (where applicable)	<ul style="list-style-type: none"> <li>• Contribution to spatial transformation priorities: N/A</li> <li>• Description of Spatial Impact: N/A</li> </ul>	<ul style="list-style-type: none"> <li>• Contribution to spatial transformation priorities: N/A</li> <li>• Description of Spatial Impact: N/A</li> </ul>
Desired performance	Inspections conducted (as per the annual plan for inspections), non-compliance notices issued (where necessary) and quarterly inspection reports considered by the PGS	1 report on the assessment of criteria for the allocation of uncommitted capacity considered annually by the PGS by 31 March
Indicator Responsibility	EM (GAR) and HOD (GLC)	EM (GAR) and HOD (GLC)

Indicator title	Number of reports on the implementation of the reviewed mechanism for enforcement of 3rd party access considered by the relevant committee or the Energy Regulator within the stated timeframe	Number of reports on the engagements on harmonised requirements/ processes for regulation of cross border assets between SA and Mozambique considered by the relevant committee or the Energy Regulator within the stated timeframe
Definition	This is a report on the implementation of the reviewed mechanism for enforcement of 3rd party access	This is a report on continued engagements with the Mozambique regulator to facilitate harmonization of regulatory frameworks and policies required for the effective regulation of cross border assets between SA and Mozambique considered by 31 March 2025.
Source of data	Reports from licensees; compliance reports	Existing regulatory frameworks, MOUs
Method of calculation / assessment	Number of reports	Number of reports
Assumptions	Completed reports received	Engagements completed
Disaggregation of beneficiaries (where applicable)	<ul style="list-style-type: none"> <li>• Target for women: N/A</li> <li>• Target for youth: N/A</li> <li>• Target for people with disabilities: N/A</li> </ul>	<ul style="list-style-type: none"> <li>• Target for women: N/A</li> <li>• Target for youth: N/A</li> <li>• Target for people with disabilities: N/A</li> </ul>
Spatial transformation (where applicable)	<ul style="list-style-type: none"> <li>• Contribution to spatial transformation priorities: N/A</li> <li>• Description of Spatial Impact: N/A</li> </ul>	<ul style="list-style-type: none"> <li>• Contribution to spatial transformation priorities: N/A</li> <li>• Description of Spatial Impact: N/A</li> </ul>
Desired performance	1 report on the implementation of the reviewed mechanism for enforcement of 3rd party access considered by the Energy Regulator by 31 March 2025	1 report on the engagements on harmonised requirements/ processes for regulation of cross border assets between SA and Mozambique considered by the PGS by 31 March 2025
Indicator Responsibility	EM (GAR) and HOD (GLC)	EM (GAR)

## 2. PIPED-GAS INDUSTRY REGULATION (CONTINUED)

Indicator title	Number of reports on the assessment of adequacy of competition in the piped-gas industry considered by the relevant committee or the Energy Regulator within the stated timeframe	Number of reports on regulatory mechanisms required for the review of licensing rules considered by the relevant committee or the Energy Regulator within the stated timeframe
Definition	This is a report on the assessment conducted to determine the adequacy of competition in the piped-gas industry – which is an important component for tariff and pricing methodologies considered by 31 March 2025.	This is a report on regulatory advocacy engagements with key decision-makers on the review of licensing rules for the piped-gas industry considered by 31 March 2022.
Source of data	Research reports; analysis report	Reports on each engagement indicating the reason for and outcome of the engagement
Method of calculation / assessment	Number of reports	Number of reports
Assumptions	Research and analysis completed	Reports on each engagement compiled
Disaggregation of beneficiaries (where applicable)	<ul style="list-style-type: none"> <li>• Target for women: N/A</li> <li>• Target for youth: N/A</li> <li>• Target for people with disabilities: N/A</li> </ul>	<ul style="list-style-type: none"> <li>• Target for women: N/A</li> <li>• Target for youth: N/A</li> <li>• Target for people with disabilities: N/A</li> </ul>
Spatial transformation (where applicable)	<ul style="list-style-type: none"> <li>• Contribution to spatial transformation priorities: N/A</li> <li>• Description of Spatial Impact: N/A</li> </ul>	<ul style="list-style-type: none"> <li>• Contribution to spatial transformation priorities: N/A</li> <li>• Description of Spatial Impact: N/A</li> </ul>
Desired performance	1 report on the assessment of adequacy of competition in the piped-gas industry considered by the Energy Regulator by 31 March 2025	1 report on regulatory mechanisms required for the review of licensing rules considered by the PGS by 31 March 2022
Indicator Responsibility	EM (GAR) and HOC (GCM)	EM (GAR) and HOD (GLC)

Indicator title	Revised tariff methodology considered by the relevant committee or the Energy Regulator within the stated timeframe	Refined framework for conducting adequacy of competition in the gas industry considered by the relevant committee or the Energy Regulator within the stated timeframe
Definition	The price and tariff methodology for the piped-gas industry will be reviewed to ensure to ensure correct decision-making in respect of price and tariff applications and considered by 31 March 2025.	The framework for conducting adequacy of competition in the piped-gas industry will be reviewed to guide the process to determine adequacy of competition in the piped-gas industry considered by 31 March 2021.
Source of data	Revised price and tariff methodology	Revised framework for conducting adequacy of competition
Method of calculation / assessment	Approved revised price and tariff methodology	Approved revised framework for conducting adequacy of competition
Assumptions	Participation by key stakeholders	Participation by key stakeholders
Disaggregation of beneficiaries (where applicable)	<ul style="list-style-type: none"> <li>• Target for women: N/A</li> <li>• Target for youth: N/A</li> <li>• Target for people with disabilities: N/A</li> </ul>	<ul style="list-style-type: none"> <li>• Target for women: N/A</li> <li>• Target for youth: N/A</li> <li>• Target for people with disabilities: N/A</li> </ul>
Spatial transformation (where applicable)	<ul style="list-style-type: none"> <li>• Contribution to spatial transformation priorities: N/A</li> <li>• Description of Spatial Impact: N/A</li> </ul>	<ul style="list-style-type: none"> <li>• Contribution to spatial transformation priorities: N/A</li> <li>• Description of Spatial Impact: N/A</li> </ul>
Desired performance	Revised tariff methodology is considered by the Energy Regulator by 31 March 2025	Reviewed framework for conducting adequacy of competition in the piped-gas industry is considered by the Energy Regulator by 31 March 2021
Indicator Responsibility	EM (GAR) and HOD (GPT)	EM (GAR) and HOD (GCM)

## 2. PIPED-GAS INDUSTRY REGULATION (CONTINUED)

Indicator title	Number of reports on regulatory advocacy aimed at improvement of the regulatory framework provided through legislation, regulation and government policies considered by the relevant committee or the Energy Regulator within the stated timeframe
Definition	These are annual reports on gas regulatory advocacy engagements with decision-makers on identified legislative and policy matters considered by 31 March annually.
Source of data	Reports on each engagement indicating the reason for and outcome of the engagement
Method of calculation / assessment	Number of reports considered per annum
Assumptions	Reports on each engagement compiled
Disaggregation of beneficiaries (where applicable)	<ul style="list-style-type: none"> <li>• Target for women: N/A</li> <li>• Target for youth: N/A</li> <li>• Target for people with disabilities: N/A</li> </ul>
Spatial transformation (where applicable)	<ul style="list-style-type: none"> <li>• Contribution to spatial transformation priorities: N/A</li> <li>• Description of Spatial Impact: N/A</li> </ul>
Desired performance	1 report on gas regulatory advocacy engagements with decision-makers on identified legislative and policy matters considered annually by the PGS by 31 March
Indicator Responsibility	EM (GAR), HOD (GLC) and HOD (GPT)

### 3. PETROLEUM PIPELINES INDUSTRY REGULATION

Indicator title	Number of reports on the percentage utilisation for pipelines, storage facilities and loading facilities and third party access considered by the relevant committee or the Energy Regulator within the stated timeframe	Percentage of complete pipeline, storage and loading facility tariff applications considered by the relevant committee or the Energy Regulator within the stated timeframe
Definition	These are annual reports on the percentage utilisation for pipelines, storage facilities and loading facilities and third party access aimed at promoting competition in the industry, considered annually by the PPS by 31 March.	This is the percentage of all complete pipeline, storage and loading facility tariff applications considered by the PPS/ER (depending on the delegation) within 8 months of receipt of complete application.
Source of data	Analysis reports	Applications for tariffs
Method of calculation / assessment	Number of reports	$((\text{Number of tariff applications considered by the relevant Subcommittee within 8 months of receipt of complete application}) / (\text{Total number of tariff applications received})) * 100$
Assumptions	Analysis of trends completed	Complete applications received
Disaggregation of beneficiaries (where applicable)	<ul style="list-style-type: none"> <li>Target for women: N/A</li> <li>Target for youth: N/A</li> <li>Target for people with disabilities: N/A</li> </ul>	<ul style="list-style-type: none"> <li>Target for women: N/A</li> <li>Target for youth: N/A</li> <li>Target for people with disabilities: N/A</li> </ul>
Spatial transformation (where applicable)	<ul style="list-style-type: none"> <li>Contribution to spatial transformation priorities: N/A</li> <li>Description of Spatial Impact: N/A</li> </ul>	<ul style="list-style-type: none"> <li>Contribution to spatial transformation priorities: N/A</li> <li>Description of Spatial Impact: N/A</li> </ul>
Desired performance	1 report on the percentage utilisation for pipelines, storage facilities and loading facilities and third party access considered annually by PPS by 31 March	100% complete pipeline, storage and loading facility tariff applications considered by the PPS/ER (depending on the delegation) within 6 months from receipt of complete application
Indicator Responsibility	EM (PPR) and HOD (PLC)	EM (PPR) and HOD (PPT)

### 3. PETROLEUM PIPELINES INDUSTRY REGULATION (CONTINUED)

Indicator title	Percentage of complete licence applications considered by the relevant committee or the Energy Regulator within the stated timeframe	Percentage of complete applications for licence amendments / revocations considered by the relevant committee or the Energy Regulator within the stated timeframe
Definition	This is the percentage of complete licence applications that will be decided upon by the PPS/REC/ER (depending on the delegation) within the timelines as prescribed in Section 19(1) of the Petroleum Pipelines Act.	This is the percentage of complete applications for licence amendments that will be decided upon by the by the PPS/REC/ER (depending on the delegation)within the timelines as prescribed in Section 19(1) of the Petroleum Pipelines Act.
Source of data	Licence applications	Licence amendment applications
Method of calculation / assessment	(number of applications decided upon within statutory deadlines / number of received licence applications)*100	(number of applications decided upon within statutory deadlines / number of received licence applications)*100
Assumptions	Complete applications	Complete applications
Disaggregation of beneficiaries (where applicable)	<ul style="list-style-type: none"> <li>• Target for women: N/A</li> <li>• Target for youth: N/A</li> <li>• Target for people with disabilities: N/A</li> </ul>	<ul style="list-style-type: none"> <li>• Target for women: N/A</li> <li>• Target for youth: N/A</li> <li>• Target for people with disabilities: N/A</li> </ul>
Spatial transformation (where applicable)	<ul style="list-style-type: none"> <li>• Contribution to spatial transformation priorities: N/A</li> <li>• Description of Spatial Impact: N/A</li> </ul>	<ul style="list-style-type: none"> <li>• Contribution to spatial transformation priorities: N/A</li> <li>• Description of Spatial Impact: N/A</li> </ul>
Desired performance	100% of complete licence applications considered by the PPS/REC/ER (depending on the delegation) within 60 working days under the conditions as prescribed in Section 19(1) of the Petroleum Pipelines Act	100% of percentage of complete applications for licence amendments that will be decided upon by the by the PPS/REC/ER (depending on the delegation)within the timelines as prescribed in Section 19(1) of the Petroleum Pipelines Act
Indicator Responsibility	EM (PPR) and HOD (PLC)	EM (PPR) and HOD (PLC)

Indicator title	Reviewed tariff methodology for storage and loading facilities considered by the relevant committee or the Energy Regulator within the stated timeframe	Number of reports on regulatory advocacy aimed at improvement of the regulatory framework provided through legislation, regulation and government policies for the petroleum pipelines industry considered by the relevant committee or the Energy Regulator within the stated timeframe
Definition	The tariff methodology for storage and loading facilities to provide regulatory certainty and facilitate investment in the petroleum pipelines industry considered by the Energy Regulator by 31 March 2015.	These are annual reports on regulatory advocacy aimed at the improvement of the regulatory framework provided through legislation, regulation and government policies for the petroleum pipelines industry considered annually by the PPS by 31 March.
Source of data	Reviewed tariff methodology for storage and loading facilities	Reports on each engagement indicating the reason for and outcome of the engagement
Method of calculation / assessment	Reviewed tariff methodology for storage and loading facilities	Number of reports
Assumptions	Participation of key stakeholders	Reports on each engagement compiled
Disaggregation of beneficiaries (where applicable)	<ul style="list-style-type: none"> <li>• Target for women: N/A</li> <li>• Target for youth: N/A</li> <li>• Target for people with disabilities: N/A</li> </ul>	<ul style="list-style-type: none"> <li>• Target for women: N/A</li> <li>• Target for youth: N/A</li> <li>• Target for people with disabilities: N/A</li> </ul>
Spatial transformation (where applicable)	<ul style="list-style-type: none"> <li>• Contribution to spatial transformation priorities: N/A</li> <li>• Description of Spatial Impact: N/A</li> </ul>	<ul style="list-style-type: none"> <li>• Contribution to spatial transformation priorities: N/A</li> <li>• Description of Spatial Impact: N/A</li> </ul>
Desired performance	The reviewed tariff methodology for storage and loading facilities approved by the Energy Regulator by 31 March 2015	1 report on regulatory advocacy aimed at the improvement of the regulatory framework provided through legislation, regulation and government policies for the petroleum pipelines industry considered annually by the PPS by 31 March
Indicator Responsibility	EM (PPR) and HOD (PPT)	EM (PPR), HOD (PLC) and HOD (PPT)



### 3. PETROLEUM PIPELINES INDUSTRY REGULATION (CONTINUED)

Indicator title	Number of reports on new entrants into the petroleum pipelines industry considered by the relevant committee or the Energy Regulator within the stated timeframe	Number of reports on the geographic spread of petroleum pipelines infrastructure considered by the relevant committee or the Energy Regulator within the stated timeframe
Definition	These are annual reports on new entrants into the petroleum pipelines industry in order to determine the growth of the industry, considered by the PPS by 31 March annually.	These are annual reports indicating the geographic spread of petroleum pipelines infrastructure in order to provide information on the level of access to petroleum pipelines services across South Africa, considered by the PPS by 31 March annually.
Source of data	License and registration applications	GIS reports; data base of licensees
Method of calculation / assessment	Number of reports	Number of reports
Assumptions	Analysis completed	Analysis completed
Disaggregation of beneficiaries (where applicable)	<ul style="list-style-type: none"> <li>• Target for women: N/A</li> <li>• Target for youth: N/A</li> <li>• Target for people with disabilities: N/A</li> </ul>	<ul style="list-style-type: none"> <li>• Target for women: N/A</li> <li>• Target for youth: N/A</li> <li>• Target for people with disabilities: N/A</li> </ul>
Spatial transformation (where applicable)	<ul style="list-style-type: none"> <li>• Contribution to spatial transformation priorities: N/A</li> <li>• Description of Spatial Impact: N/A</li> </ul>	<ul style="list-style-type: none"> <li>• Contribution to spatial transformation priorities: N/A</li> <li>• Description of Spatial Impact: N/A</li> </ul>
Desired performance	1 report on new entrants into the petroleum pipelines industry considered annually by the PPS by 31 March	1 report on the geographic spread of petroleum pipelines infrastructure considered annually by the PPS by 31 March
Indicator Responsibility	EM (PPR) and HOD (PLC)	EM (PPR) and HOD (PLC)

<b>Indicator title</b>	<b>Number of reports on the pipelines, storage and loading licenses issued considered by the relevant committee or the Energy Regulator within the stated timeframe</b>
Definition	These are annual reports on the pipelines, storage and loading licenses issued in a particular financial year, considered annually by the PPS by 31 March
Source of data	Data base of licence applications
Method of calculation / assessment	Number of reports
Assumptions	Analysis completed
Disaggregation of beneficiaries (where applicable)	<ul style="list-style-type: none"> <li>• Target for women: N/A</li> <li>• Target for youth: N/A</li> <li>• Target for people with disabilities: N/A</li> </ul>
Spatial transformation (where applicable)	<ul style="list-style-type: none"> <li>• Contribution to spatial transformation priorities: N/A</li> <li>• Description of Spatial Impact: N/A</li> </ul>
Desired performance	1 report on the pipelines, storage and loading licenses issued considered annually by the PPS by 31 March
Indicator Responsibility	EM (PPR) and HOD (PLC)

## 4. TRANSVERSAL REGULATORY AND ORGANISATIONAL

Indicator title	Percentage of business processes are automated and efficient within the stated timeframe	Percentage of regulatory processes is based on appropriate Research within stated timeframe
Definition	Business processes and internal control measures are digitized to improve efficacy	All processes applied for the regulation of the energy sector is based on relevant research
Source of data	Business process analysis	Research reports
Method of calculation / assessment	IT design	Approved regulatory processes
Assumptions	Business process analysis complete	Research completed
Disaggregation of beneficiaries (where applicable)	<ul style="list-style-type: none"> <li>Target for women: N/A</li> <li>Target for youth: N/A</li> <li>Target for people with disabilities: N/A</li> </ul>	<ul style="list-style-type: none"> <li>Target for women: N/A</li> <li>Target for youth: N/A</li> <li>Target for people with disabilities: N/A</li> </ul>
Spatial transformation (where applicable)	<ul style="list-style-type: none"> <li>Contribution to spatial transformation priorities: N/A</li> <li>Description of Spatial Impact: N/A</li> </ul>	<ul style="list-style-type: none"> <li>Contribution to spatial transformation priorities: N/A</li> <li>Description of Spatial Impact: N/A</li> </ul>
Desired performance	70% of processes are automated and efficient by 31 March 2025	100% of regulatory processes is based on appropriate research by 31 March 2025
Indicator Responsibility	CIO	SM (RAR)

Indicator title	Number of reports on partnership creation to position NERSA as a recognised regulator nationally, regionally and internationally considered by the relevant committee or the Energy Regulator within the stated timeframe	Number of reports on the implementation of the Learnership and Internship Programmes considered by the relevant committee or the Energy Regulator within the stated timeframe
Definition	This is the number of reports on partnership creation, which include engagements with other regulators; participation in regulatory associations, events and conferences; and partnerships with other institutions for capacity building purposes – aimed at positioning NERSA as a recognised regulator nationally, regionally and internationally considered by the relevant subcommittee	This is reports on the implementation of the learnership and Internship programmes
Source of data	Reports on an overview of international engagements and partnerships activities	Learnership and Internship programmes
Method of calculation / assessment	Number of reports	Number of reports
Assumptions	Analysis completed	Approved Learnership and Internship programmes
Disaggregation of beneficiaries (where applicable)	<ul style="list-style-type: none"> <li>• Target for women: N/A</li> <li>• Target for youth: N/A</li> <li>• Target for people with disabilities: N/A</li> </ul>	<ul style="list-style-type: none"> <li>• Target for women: N/A</li> <li>• Target for youth: N/A</li> <li>• Target for people with disabilities: N/A</li> </ul>
Spatial transformation (where applicable)	<ul style="list-style-type: none"> <li>• Contribution to spatial transformation priorities: N/A</li> <li>• Description of Spatial Impact: N/A</li> </ul>	<ul style="list-style-type: none"> <li>• Contribution to spatial transformation priorities: N/A</li> <li>• Description of Spatial Impact: N/A</li> </ul>
Desired performance	2 reports on partnership creation to position NERSA as a recognised regulator nationally, regionally and internationally considered annually by the REC by 30 September and 31 March	1 report the implementation of the Learnership and Internship Programmes considered by HRRC annually by 31 March
Indicator Responsibility	EM (COS) and HOD (ICP)	CHCO



ANNUAL  
PERFORMANCE PLAN  
**2022/23-2024/25**

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## STATEMENT BY THE CHAIRPERSON

This Annual Performance Plan was informed by the global developments in the energy sector to ensure that the Energy Regulator is able to, as far as possible, be proactive in its planning. At the start of 2021, the global energy industry continued to find itself in an ever-shifting and changing landscape.

The previous planning period was a challenging year for conventional energy sectors, such as oil and gas as well as mining, while there has been great excitement around the new and innovative developments in Green Energy. With the additional complications caused by the COVID-19 Pandemic, the industry found itself in a position where energy companies need to extend horizons of their usual modes of operation and reinvent the way they operate.

In the last two centuries the global energy landscape has undergone a profound transformation such as transitions from the use of wood as a dominant fuel to the adoption of coal and then to oil. In the 21st century, gas has grown faster than any other fossil fuel and today renewable energy is growing even faster. The timely recognition of these trends as well as the short-term implications of once-off shocks, such as the COVID-19 pandemic, is crucial for the energy industry to be able to take advantage of the changes and their benefits. These benefits have the potential to strengthen the definition of long-term strategies needed to be able to build a resilient energy sector. However, the rapid growth of the energy sector combined with volatile energy prices and intermittent shocks, created multifaceted circumstances for the future of the energy sector. This has numerous implications, not only for the socio-economic development of countries and developing countries in particular, but also for energy security at a global level.

Major long-term global trends emerged in the energy sector prior to the COVID-19 Pandemic. A number of technological innovation, renewable energy deployment, new energy regulations and changing consumer behaviour are driving the following trends that would shape the future of energy policies:

- Renewable energy has re-emerged at the forefront since concerns about global warming have grown over the past few years. Renewables have entered

a virtuous circle of technological progress and cost reduction, thus becoming increasingly competitive with fossil fuels, particularly for electricity generation.

- The 2015 Paris Agreement and the growing concerns about the irreversible consequences of climate change has placed decarbonisation of the energy sector and the fight against climate change at the forefront of international debates. This trend underlines the need to reduce polluting emissions caused by the production and use of fossil energy sources, which has been a driving force in the energy system in several developed countries for many years.
- Oil will likely continue to dominate energy use and production in many developing regions of the world, unless major policy changes are made in the near future.
- Global natural gas demand is expected to grow more than twice as fast as oil demand.
- The decentralization of energy, particularly in the electricity sector, is set to rise in the next decade, especially in regions such as Africa, where access to electricity still lacks. This creates a trend for the next decade, namely to replace the systematic remedy to upsize centralized grids with decentralization, when it is cost-effective, while at the same time developing distributed network management technologies. This scenario emphasizes the crucial role of geospatial analysis to determine areas most suited for decentralized off-grid solutions while extending the main grid at the same time.
- The increasing deployment of renewable energy will require greater flexibility of energy systems, which is seen as a cornerstone of electricity security. The reliability of energy will thus be a major concern, particularly with regard to the intermittent nature of renewable energy.
- The impact of price hikes in the global market for coal, driven by the on-going global energy crisis and increasing energy consumption as economies seek to boost economic recovery, has not spared the South African economy. Rising demand for steam coal in China has led to a higher export price, leading to an

increasing domestic price for coal in the South African market. Coal is the leading fossil fuel constituting greater than 80% of primary energy consumption in electricity generation in South Africa. Coal prices are expected to decrease due to a decrease in the Indian import demand as their domestic production ramps up, and due to the increasing global LNG supply as more Russian gas comes on the market. Prices should, however, be supported to some extent by rising demand from power stations in developing Asia and slow coal supply growth due to the shortage of new investment in mines globally. Hence, supply bottlenecks are a significant driver of excess demand mainly in the external market hence affecting the domestic market significantly. In the outlook period, forecasts for 2022 and 2023 have depicted price stability driven by the expectations of an imminent shift to cleaner natural gas.

- As a result of the global move towards cleaner energy, the issue of just transition is fast becoming a critical trend. In view of South Africa's dependence on coal as a key source for electricity generation, the challenge is to ensure a healthy balance between the gradual movement towards cleaner energy while at the same ensuring that this transition will not adversely affect communities, job security and livelihoods.

The energy sector that is emerging from the COVID-19 crisis may look significantly different from what came before. Low prices and low demand in all subsectors will leave energy companies with weakened financial positions and often strained balance sheets. Business lines that are insulated to a degree from market signals, including those with renewable electricity projects, will emerge in the best financial position. Private firms that are the most exposed to market prices will experience the most severe financial impacts. Market concentration and consolidations are a possibility.

Across the energy sector, the COVID-19 crisis continue to have a significant impact on investment. This could raise concerns about energy security because investment is necessary even if global energy demand takes a long time to return to the pre-crisis trajectory. A considerable proportion of global energy investment is devoted to just sustaining existing levels of energy supply: maintaining oil and gas production at current levels, replacing ageing power generation capacity – often with a capital-intensive combination of renewables and flexibility sources – and reinvesting in

ageing electricity networks. Investment in these activities will have to remain robust even with a subdued recovery.

Electricity security's place at the heart of modern economies has been underscored by the COVID-19 crisis. A robust, uninterrupted electricity supply is a key precondition of both the functioning of the health care system and the maintenance of social welfare and online economic activity. Robust power systems have enabled adaptations to the ongoing crisis, including a huge expansion of teleworking activities, particularly in advanced economies.

The COVID-19 Pandemic has also impacted South Africa's electricity industry and this is likely to have an impact for some time to come. The one positive impact of the lockdown due to the Pandemic was that it did allow Eskom some space to do extra plant maintenance and that has had an impact on the security of supply as it did improve the plant reliability overall. The following are the key negative impacts of the Pandemic:

- Reduction in the energy demand as a result of the industry closing down;
- Reduction in the revenue accrued by Eskom;
- Delays in commissioning of new generation capacity; and
- Slight reduction in the peak demand but not to the same extent as the energy demand reduction because it is driven more by residential load and everybody was at home.

The aforementioned developments, trends and challenges are the backdrop against which the Energy Regulator planned how best to regulate South Africa's energy industry. We remain cognisant of the fact that as a regulator we have to, more than ever before, remain focused on the role NERSA plays in the growth of South Africa's economy.

The basis for our regulatory responsibility is the fact that the energy sector in South Africa is at the centre of economic and social development. The industry directly affects the economy by using labour and capital to produce energy. This role is particularly important when economic growth and job creation are such high priorities



in the country. In addition, relatively lower and stable energy prices are instrumental in stimulating the country's economy. The National Development Plan (NDP) envisages that by 2030 South Africa will have an energy sector that promotes economic growth and development through adequate investment in energy infrastructure. The Plan further envisages that by 2030, South Africa will have an adequate supply of electricity and liquid fuels to ensure that economic activities and welfare are not disrupted, and that at least 95% of the population will have access to grid or off-grid electricity.

In view of the challenges we faced during the first year of the COVID-19 pandemic, the Regulator realised, just as the rest of the world, the importance of leveraging all the challenges brought about by the COVID-19 pandemic. The key focus areas are the continuous improvement of our regulatory operations and approaches as well as putting measures in place that would improve our resilience and our ability to be agile and innovative. The previous planning period laid the required foundation for these areas for the next few years and will play a key role in how the Energy Regulator will be able to effectively carry its mandate, thereby contributing towards Government's priorities aimed at the economic and social development of South Africa.

This Annual Performance Plan provides for two major approaches to deliver on our mandate, despite the challenging circumstances. Firstly, we will review our operating model and ensuring that it is geared toward regulating the three industries in the best possible manner. Secondly, our focus will be on what is required for effective regulation in response to the developments and challenges in the electricity, piped-gas and petroleum pipelines industries. The basis for this is the regulatory tools such as rules, methodologies and frameworks that needs to be reviewed, updated and/or developed, in close collaboration with the policy maker. The Regulator will continue to fast-track processes relating to applications for prices, tariffs, licences and registrations, without compromising the quality of the analysis process. The

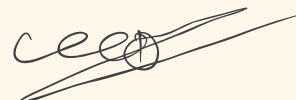
Energy Regulator will also focus on the reduction of the regulatory burden on new applicants and to ensure regulatory certainty in the energy sector. In addition, the Energy Regulator will also collaborate with key role players to work towards affordable energy for all.

Our resolve to contribute towards Government's initiatives of economic growth and job creation through carrying out our mandate, remain steadfast. We will therefore heed to the call for affordable energy prices. As a regulator, our challenge remains to facilitate a fair balance between access to energy, affordable energy prices and the sustainability of licenced energy providers.

NERSA's Annual Performance Plan for the period 2022/23 to 2024/25 is informed by the five-year Strategic Plan (2020/21 - 2024/25). The Annual Performance Plan's targets have been set against each outcome outlined in the Strategic Plan. Specific, measurable, achievable, realistic and time-bound key performance indicators for 2022/23 with quarterly targets will ensure that the strategic outcomes are achieved.

The Energy Regulator takes pride in submitting its Annual Performance Plan, which sets out the strategic focus for the 2022/23 to 2024/25 planning period.

The Energy Regulator fully endorses this Annual Performance Plan and commits to supporting its implementation.



**Mr Smunda Mokoena**

*Chairperson*

*National Energy Regulator of South Africa*

# STATEMENT BY THE CHIEF EXECUTIVE OFFICER

The National Energy Regulator's (NERSA) Annual Performance Plan for the financial years 2022/23 to 2024/25 is hereby presented.

NERSA is an independent regulator and was established on 1 October 2005 in terms of the National Energy Regulator Act, 2004 (Act No. 40 of 2004). Its mandate is to regulate the electricity industry in terms of the Electricity Regulation Act, 2006 (Act No. 4 of 2006), the piped-gas industry in terms of the Gas Act, 2001 (Act No. 48 of 2001), and the petroleum pipelines industry in terms of the Petroleum Pipelines Act, 2003 (Act No. 60 of 2003).

The role of NERSA is to ensure the development and sustainability of the electricity, piped-gas and petroleum pipelines industries, while facilitating the affordability of and accessibility to these industries to balance the economic interests of all stakeholders. This will contribute towards the sustainable socio-economic development of South Africa and a better life for all. The key focus areas of the Regulator's mandate, as contained in the relevant legislation, is summarised as follows:

- Issuing of licences and setting pertinent conditions;
- Setting and/or approving tariffs and prices;
- Monitoring and enforcing compliance with licence conditions;
- Dispute resolution including mediation, arbitration and the handling of complaints;
- Gathering, storing and disseminating industry information;
- Setting of rules, guidelines and codes for the regulation of the three industries;
- Determination of conditions of supply and applicable standards; and
- Registration of import and production activities.

NERSA remains committed to implement its mandate and to take proactive regulatory decisions in anticipation of and in response to the constant changing circumstances in the energy industry.

NERSA endeavours to achieve its vision to be a recognised world-class leader in energy regulation by being cognisant of our responsibilities in respect of the regulated industries, Government priorities and the end-users of energy. In addition, this Annual Performance Plan is the start of focussing on the value NERSA is and should be adding to all stakeholders impacted by the regulation of the electricity, piped-gas and petroleum pipeline industries.

The previous planning period followed the announcement of the National State of Disaster on 15 March 2020 and a period where the whole world was impacted upon by lockdowns, challenging circumstances under which work had to be undertaken and the constant threat of the COVID-19 Pandemic on the health and safety of all citizens. NERSA's overall performance in the previous two planning periods is proof of its adaptability to deal with all the limitations and challenges of being in a State of Disaster. NERSA was and still is able to ensure the health and safety of all its staff members and visitors to its premises, while at the same ensuring delivery of its mandate through the implementation of its previous Annual Performance Plan. As so many across the world, NERSA leveraged technology to ensure continuation of its operations to ensure the achievement of the planned targets. In the previous planning period, the Energy Regulator achieved 88% of its planned targets and received an unqualified audit.

NERSA followed a new approach to our planning processes. This resulted in the formulation of new outcomes and the review of certain sections of Part C of the approved Strategic Plan 2020/21 – 2024/25. In line with the provisions of the Revised Framework for Strategic Plans and Annual Performance Plans, the amended Part C of the Strategic Plan is attached to this Annual Performance Plan as Annexure A.

The development of this Annual Performance Plan was informed by the Amended Strategic Plan for the 2020/21 to 2024/25 period and is aligned with the new outcomes formulated during the planning process. The outputs and targets stated in the Annual Performance Plan provides the basis for NERSA's support of the following key priorities of Government:

- **Priority 2:** Economic transformation and job creation
- **Priority 3:** Education, skills and health
- **Priority 7:** A better Africa and world

The outcome of the new approach to planning also resulted in the defining of the following new five programmes:

### 1. Programme 1: Regulatory Service Delivery

The purpose of this programme is to -

- set and/or approve tariffs and prices in order to ensure a fair balance between the needs of the customer and the regulated entity;
- ensure the orderly development of the energy industry and to ensure that all activities related to all operations are licensed and registered as required by the Electricity Regulation Act, 2006 (Act No. 4 of 2006), Gas Act, 2001 (Act No. 48 of 2001) and the Petroleum Pipelines Act, 2003 (Act No. 60 of 2003);
- ensure that all licensees in the three regulated industries fully comply with their licence conditions, including those relating to health, safety, security and environmental standards and requirements, as well as any other standards and requirements prescribed by the relevant industry-specific legislation;
- ensure compliance with directives to govern relations between a licensee and its end users;
- ensure that disputes and complaints between licensees or between licensees and customers or end-users are managed effectively and settled in a manner that is appropriate; and that when needed, any mediation or arbitration required will be done within prescribed procedures; and

- ensure the setting of appropriate rules, guidelines and codes of best practices in the quest to promote uniformity and standardise practices in the regulation of the three energy industries.

### 2. Programme 2: Advocacy and Engagement

The purpose of this programme is to -

- contribute towards relevant legislation and policies; as well as government's transformation; and
- ensure an informed base of customers and stakeholders.

### 3. Programme 3: Innovation

The purpose of this programme is to ensure a technology solution that supports the business in delivering integrated and value-added services to customers internally and externally.

### 4. Programme 4: Operational Efficiency and Quality Management

The purpose of this programme is to ensure that NERSA's integrated operational processes, improved planning and project management remain relevant in supporting core business.

### 5. Programme 5: People and Organisational Culture

The purpose of this programme is to ensure -

- a conducive work culture and human capacity that is balanced between specialised and generic skills requirements; and
- system development to deliver value-add to customer and stakeholder expectations.

## OFFICIAL SIGN-OFF

The outcome and targets in this Annual Performance Plan will therefore contribute to the achievement of the strategic outcomes as stated in the Amended Strategic Plan for 2020/21 to 2024/25. The achievement of those outcomes will be enabled through, amongst others, revised regulatory methodologies and rules; continued monitoring of licensees' performance; contributing towards the restructuring of the energy industry; periodic assessment of adequacy of competition; and decreasing regulatory burden. This Plan also provides for a concerted effort of regulatory advocacy, to contribute to the enhancement of the regulatory framework, as provided for in legislation and policies. Furthermore, NERSA's organisational business processes will be reviewed to ensure more effective service delivery. In addition, the lessons learnt with the implementation of the previous two Annual Performance Plans during the COVID-19 restrictions, will inform the review of NERSA's operating model, which will be aimed at improved efficacy as a regulator. All of the aforementioned requires a strong focus on the required human resources to implement NERSA's mandate appropriately.

Management and staff, under the strategic guidance and support of the Energy Regulator, drive the implementation of this Annual Performance Plan. I wish to take this opportunity to confirm that our commitment to implementing this Plan is based on our history of achieving more than an average of 90% of our planned outputs and targets for the last six years. Thus, we will succeed in facilitating a secure, reliable, affordable, sustainable, competitive and transformed energy industry, which contributes to the economic growth of South Africa.



**Nomalanga Sithole**

*Chief Executive Officer of the National Energy Regulator of South Africa*

It is hereby certified that this Annual Performance Plan.

- was developed by the Energy Regulator with inputs from the Executive Management of NERSA;
- takes into account all the relevant policies, legislation and other mandates for which the Energy Regulator is responsible; and
- accurately reflects the outcomes and outputs that the Energy Regulator will endeavour to achieve over the period 2022/23 – 2024/25.

**Ms. Gerda Gräbe**

*Senior Manager: Strategic Planning and Monitoring*



**Ms. Bulelwa Pono**

*Chief Financial Officer*



**Adv. Nomalanga Sithole**

*Chief Executive Officer (Accounting Officer)*



Approved by:

**Smuda Mokoena**

*Chairperson (on behalf of the Accounting Authority)*



## ACRONYMS AND ABBREVIATIONS

<b>AFDB</b>	African Development Bank	<b>HDI/HDSA</b>	Historically Disadvantaged Individuals/ South Africans	<b>PPR</b>	Petroleum Pipelines Regulation
<b>AFUR</b>	African Forum for Utility Regulators	<b>IBT</b>	Inclining Block Tariff	<b>PV</b>	Photovoltaic
<b>APP</b>	Annual Performance Plan	<b>IDM</b>	Integrated Demand Management	<b>REIPP</b>	Renewable Energy Independent Power Producer
<b>B-BBEE</b>	Broad-Based Black Economic Empowerment	<b>IEA</b>	International Energy Agency	<b>REIPPPP</b>	Renewable Energy Independent Power Producer Procurement Programme
<b>CAGR</b>	Compound Annual Growth Rate	<b>IEP</b>	Integrated Energy Plan	<b>RERA</b>	Regional Electricity Regulatory Association
<b>CBM</b>	Coal Bed Methane	<b>IPP</b>	Independent Power Producer		Megawatt
<b>CNG</b>	Compressed Natural Gas	<b>IRP</b>	Integrated Resource Plan	<b>RIA</b>	Regulatory Impact Assessment
<b>CCGT</b>	Combined Cycle Gas Turbines	<b>ISO</b>	International Organisation for Standardisation	<b>ROMPCO</b>	Republic of Mozambique Pipeline Investment Company
<b>CPI</b>	Consumer Price Index	<b>LNG</b>	Liquefied Natural Gas	<b>SACREEE</b>	SADC Centre for Renewable Energy, Energy and Efficiency
<b>DJP</b>	Durban-to-Johannesburg Pipeline	<b>MPP</b>	Multi-Product Pipeline	<b>SADC</b>	Southern African Development Community
<b>DoE</b>	Department of Energy	<b>MTEF</b>	Medium-Term Expenditure Framework	<b>SAPIA</b>	South Africa Petroleum Industry Association
<b>DMRE</b>	Department of Mineral Resources and Energy	<b>MTSF</b>	Medium-Term Strategic Framework	<b>SAPP</b>	Southern African Power Pool
<b>ELR</b>	Electricity Regulation	<b>MW</b>	Megawatt	<b>SCOA</b>	Standard Chart of Accounts
<b>ESI</b>	Electricity Supply Industry	<b>NDP</b>	National Development Plan	<b>SIP</b>	Strategic Integrated Project
<b>FBE</b>	Free Basic Electricity	<b>NERSA</b>	National Energy Regulator of South Africa	<b>PE(R)STEL</b>	Political, Economic, Regulatory, Social, Technological, Environmental and Legal
<b>FID</b>	Final Investment Decision	<b>NFI</b>	Non-Financial Information	<b>PICC</b>	Presidential Infrastructure Coordinating Committee
<b>FLNG</b>	Floating Liquefied Natural Gas	<b>OCGT</b>	Open Cycle Gas Turbine	<b>PFMA</b>	Public Finance Management Act, 1999 (Act No. 1 of 1999)
<b>GAR</b>	Piped-Gas Regulation	<b>OECD</b>	Organisation for Economic Co-operation and Development	<b>PPA</b>	Power Purchase Agreement
<b>GDP</b>	Gross Domestic Product	<b>PE(R)STEL</b>	Political, Economic, Regulatory, Social, Technological, Environmental and Legal		
<b>GJ</b>	Gigajoule	<b>PFMA</b>	Public Finance Management Act, 1999 (Act No. 1 of 1999)	<b>PGS</b>	Piped-Gas Subcommittee
<b>GSA</b>	Gas Supply Agreement				
<b>GUMP</b>	Gas Utilisation Master Plan				

<b>PPA</b>	Power Purchase Agreement
<b>PPR</b>	Petroleum Pipelines Regulation
<b>PPS</b>	Petroleum Pipelines Subcommittee
<b>PV</b>	Photovoltaic
<b>REC</b>	Regulator Executive Committee
<b>REIPP</b>	Renewable Energy Independent Power Producer
<b>REIPPPP</b>	Renewable Energy Independent Power Producer Procurement Programme
<b>RERA</b>	Regional Electricity Regulatory Association
<b>RESAP</b>	Renewable Energy Strategy and Action Plan
<b>RIA</b>	Regulatory Impact Assessment
<b>ROMPCO</b>	Republic of Mozambique Pipeline Investment Company
<b>SACREEE</b>	SADC Centre for Renewable Energy, Energy and Efficiency
<b>SADC</b>	Southern African Development Community
<b>SAPIA</b>	South Africa Petroleum Industry Association
<b>SAPP</b>	Southern African Power Pool
<b>SCOA</b>	Standard Chart of Accounts
<b>SFF</b>	Strategic Fuel Fund
<b>SIP</b>	Strategic Integrated Project
<b>SQAM</b>	Standards, Quality Assurance, Accreditation and Metrology

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# PART A \ OUR MANDATE

## 1. UPDATES TO THE RELEVANT LEGISLATIVE AND POLICY MANDATES

1.1. There have been no changes to NERSA's legislative and other mandates.

1.2. NERSA is the regulatory authority established in terms of the National Energy Regulator Act, 2004 (Act No. 40 of 2004) with the mandate to:

- to undertake the functions of the National Electricity Regulator as set out in the Electricity Regulation Act, 2006 (Act No. 4 of 2006),
- to undertake the functions of the Gas Regulator as set out in the Gas Act, 2001 (Act No. 48 of 2001),
- to undertake the functions of the Petroleum Pipelines Regulatory Authority as set out in the Petroleum Pipelines Act, 2003 (Act No. 60 of 2003); and
- to perform such other functions as may be assigned to it by or under these Acts'.

1.3. The regulatory functions of NERSA, as contained in the legislation relevant for the regulation of the energy industry, are summarised as follows:

- issuing of licences with conditions;
- setting and/or approving tariffs and prices;
- monitoring and enforcing compliance with licence conditions;
- dispute resolution including mediation, arbitration and the handling of complaints;
- gathering, storing and disseminating industry information;
- setting of rules, guidelines and codes for the regulation of the three industries;
- determining of conditions of supply and applicable standards;
- consulting with government departments and other bodies with regard to industry development and regarding any matter contemplated in the three industry Acts;

- expropriating land as necessary to meet the objectives of the relevant legislation;
- registration of import and production facilities; and
- performing any activity incidental to the execution of its duties

1.4. NERSA derives its revenue by, among others, imposing prescribed levies on the regulated industries following a prescribed transparent procedure. In this regard, the following Acts govern the imposition of such levies:

- the Gas Regulator Levies Act, 2002 (Act No. 75 of 2002);
- the Petroleum Pipelines Levies Act, 2004 (Act No. 28 of 2004); and
- section 5B of the Electricity Act, 1987 (Act No. 41 of 1987).

1.5. Apart from the afore-mentioned industry specific legislation that anchors NERSA's mandate and the imposition of levies, the following facilitating and foundational legislation are also applicable to NERSA's conduct of its business:

- the Public Finance Management Act, 1999 (Act No. 1 of 1999) (PFMA), which specifies the accounting of NERSA as a Section 3A Public Entity;
- the Promotion of Access to Information Act, 2000 (Act No. 2 of 2000) (PAIA), which determines the way that NERSA has to treat access to information;
- the Promotion of Administrative Justice Act, 2000 (Act No. 3 of 2000) (PAJA), which determines just administrative action of NERSA;
- the Protection of Personal Information, 2013 (Act No 4 of 2013), which determines the way that NERSA has to treat personal information; and
- all other applicable laws of the Republic of South Africa.

1.6. NERSA's mandate is further derived from published government policies and regulations developed by the Minister in terms of the Electricity Regulation Act, Gas Act and Petroleum Pipelines Act. As outlined in these legislative

prescripts, NERSA must make decisions that are not at variance with published government policy. The relevant applicable policies are:

- White Paper on Energy Policy for South Africa of 1998;
- Electricity Pricing Policy (EPP) of the South African Electricity Supply Industry;
- Free Basic Electricity Policy;
- White Paper on Renewable Energy Policy for South Africa of 2003;
- Energy Security Master Plan: Liquid Fuels published by the Department of Energy in 1998 and 2007;
- National Development Plan;
- Industrial Policy Action Plan (IPAP); and
- Integrated Resource Plan (IRP) 2019.

1.7. NERSA advocates the implementation of the White Paper on Energy Policy of 1998 before the principles enshrined in the policy and suite of subsequent legislation are overhauled. As the Energy Regulator, we are aware that the policies of 1998 and consequent suite of legislation (Gas Act, Petroleum Pipelines Act, National Energy Regulator Act and Electricity Regulation Act) that were developed between 2001 and 2006 have been actively implemented since the establishment of NERSA in October 2005. It is only now that we are able to give private investors some certainty regarding energy infrastructure investments and the level playing field we are expected to provide. Recent private sector licence applications in the piped-gas and petroleum pipelines industries are a testimony to the success of government's liberalisation policies.

1.8. The Electricity Regulation Act gives the mandate for competitive bidding of electricity generation capacity to the Department of Mineral Resources and Energy (DMRE), following a Cabinet decision that private sector participation in the electricity industry be split 70:30 between Eskom and the private sector,

with DMRE procuring the plant and Eskom being the 'off-taker'. Thus, it is competition for the market but not within the market at this stage.

1.9. With the rapid price reduction of solar panels, a situation has arisen where rooftop solar has started to become attractive for residential consumers. This is more pronounced with commercial premises. These installations are not effectively dealt with in the current regulatory framework because the 'Electricity Regulations on New Generation Capacity' are only applicable to state-owned entities.

1.10. To license all of these small installations is also onerous to the installer and NERSA. It is a much too expensive and complex process to be a realistic option for dealing with this class of generation. However, in spite of their small size, the large amount of them means that collectively they will make up a significant portion of generation capacity. This will impact allocations made in the Integrated Resource Plan (IRP).

1.11. In the previous five-year planning period, NERSA has seen that there are developments in the three industries that are not covered by the current industry-specific Acts. This requires a review of the regulatory legislation.

## 2. UPDATES TO INSTITUTIONAL POLICIES AND STRATEGIES

2.1. Although policy formulation is outside of NERSA's realm of authority, specific policy gaps are continuously identified that require ongoing dialogue and strategic engagement with the Department of Mineral Resources and Energy in order to ensure that there is alignment between NERSA's strategic direction and the Department's policy thrusts.



2.2. In addition to its mandate as per the legislation mentioned in the previous section, the Energy Regulator's decisions are informed by published policies of government. Within the parameters of NERSA's mandate and the resultant functions, NERSA contributes towards critical government priorities and programmes. Below is a summary of NERSA's contributions towards the:

- enabling milestones in the National Development Plan (NDP);
- strategic integrated projects in the National Infrastructure Plan (NIP); and
- seven priorities announced by the Honourable President, Mr Cyril Ramaphosa during the State of the Nation Address (SONA) in Parliament on 20 June 2019

#### 2.2.1. NERSA's contribution to the National Development Plan

2.2.1.1. The National Development Plan (NDP) is a plan for the country to eliminate poverty and reduce inequality by 2030 through uniting South Africans, unleashing the energies of its citizens, growing an inclusive economy, building capabilities, enhancing the capability of the state and leaders working together to solve complex problems. The high-level objectives of the NDP are to:

- Reduce the number of people who live in households with a monthly income below R419 per person (in 2009 prices) from 39% to zero; and
- Reduce inequality, as measured by the Gini Coefficient, from 0.69 to 0.6.

2.2.1.2. Chapter 4 of the NDP deals with Economic infrastructure – the foundation of social and economic development. This chapter places emphasis on the need for South Africa to maintain and expand, among others, its electricity infrastructure in order to support economic growth and social development goals. In respect of the regulation of the energy sector, NERSA noted that the NDP calls for more emphasis on stimulating market competition and promoting affordable access to quality services when issuing licences and setting tariffs.

2.2.1.3. In order to achieve the NDP goals by 2030, 19 enabling milestones were identified. Even though NERSA contributes indirectly to most of the enabling milestones, NERSA contributes specifically to 4 pertinent enabling milestones. Table 1 below summarises NERSA's contribution to the relevant enabling milestones.

**Table 1: NERSA's contribution to the NDP**

RELEVANT ENABLING MILESTONES	NERSA'S CONTRIBUTION
<p>1: Increase employment from 13 million in 2010 to 24 million in 2030</p>	<ul style="list-style-type: none"> <li>• Implementation of the Youth Employment Accord;</li> <li>• Implementation of a Learnership Programme as well as an Internship Programme;</li> <li>• Training and development of staff and stakeholders; and</li> <li>• Techno Girls programme where ten girls from grade 9 to grade 12 are exposed to NERSA's activities through visits to the organisation during school holidays.</li> </ul>
<p>4: Establish a competitive base of infrastructure, human resources and regulatory frameworks</p>	<ul style="list-style-type: none"> <li>• Publication of rules, codes and guides for the regulation of the electricity, piped-gas and petroleum pipelines industries;</li> <li>• Setting rules and frameworks that facilitate the building of new infrastructure;</li> <li>• Setting and/or approving cost reflective tariffs and market related prices that encourage investment;</li> <li>• Facilitating and enforcing third-party access to facilities through licence conditions;</li> <li>• Monitoring compliance through undertaking technical audits leading to regular maintenance and refurbishment of infrastructure and thus contributing to an increase in quality of supply;</li> </ul>
<p>5: Ensure that skilled, technical, professional and managerial posts better reflect the country's racial, gender and disability makeup</p>	<ul style="list-style-type: none"> <li>• NERSA ensures continued compliance with the Skills Development Act. No. 97 of 1998;</li> <li>• Implementation of an Employment Equity Plan;</li> <li>• When recruiting new staff members, NERSA ensures as far as possible that the representation within the relevant department and division reflects the country's racial, gender and disability makeup.</li> </ul>
<p>6: Broaden ownership of assets to historically disadvantaged groups</p>	<ul style="list-style-type: none"> <li>• Licensing and the setting and/or approving of tariffs and prices, as in this manner NERSA creates pre-conditions towards the achievement of this milestone;</li> <li>• Issuing licences to eligible applicants to facilitate the meeting of stated socio-economic development targets;</li> <li>• Facilitating and enforcing third-party access to facilities;</li> <li>• Promoting companies that are owned and controlled by Historically Disadvantaged Individuals (HDIs) to become competitive; and</li> <li>• Regulatory advocacy for strengthening the powers of the Regulator.</li> </ul>

RELEVANT ENABLING MILESTONES	NERSA'S CONTRIBUTION
<p>10: Produce sufficient energy to support industry at competitive prices, ensuring access for poor households, while reducing carbon emissions per unit of power by about one-third</p>	<ul style="list-style-type: none"> <li>• Regulating in a manner that facilitates security of supply;</li> <li>• Taking affordability into consideration when setting and/or approving tariffs and prices;</li> <li>• Determining inclining block tariffs and free basic electricity tariffs to protect the low income electricity consumers;</li> <li>• Facilitating the conclusion of Power Purchase Agreements between the buyer and the renewable energy Independent Power Producers;</li> <li>• Facilitation of the implementation of the Integrated Resource Plan (IRP) through considering concurring with determinations made by the Minister in line with section 34 of the Electricity Regulation Act, 2006 (Act No. 4 of 2006);</li> <li>• Development and implementation of the Grid Code for renewable energy to facilitate the introduction of renewable energy power producers;</li> <li>• Registration of gas importation and production facilities;</li> <li>• Monitor the implementation of the Gas Utilisation Master Plan (once promulgated).Facilitating access to electricity in setting aside some funds for the Electrification Cross-subsidy as part of determining electricity prices;</li> <li>• Incorporating compliance with the National Environmental Management Act, 1998 (Act No. 107 of 1998) into licence conditions;</li> <li>• Promoting energy efficiency in general in South Africa and in particular in the NERSA building;</li> <li>• Facilitating the transition to a low carbon economy; and</li> <li>• Regulatory advocacy with regard to cleaner fuels policy.</li> </ul>

## 2.2.2. NERSA'S CONTRIBUTION TO THE MEDIUM TERM STRATEGIC FRAMEWORK 2019-2024

2.2.2.1. The Medium Term Strategic Framework (MTSF) is a five-year plan of government that is intended to implement the electoral mandate and the National Development Plan Vision (NDP) 2030.

2.2.2.2. It aims to address the challenges of unemployment, inequality and poverty through three pillars of the NDP:

- Achieving a more capable State
- Driving a strong and inclusive economy;
- Building and strengthening the capabilities of South Africans

2.2.2.3. The seven priorities, which will be achieved through more focused implementation, coordination and integration by the various levels of government including state owned enterprises, the private sector and civil society, are as follows:

- **Priority 1:** A capable, ethical and developmental state
- **Priority 2:** Economic transformation and job creation
- **Priority 3:** Education, skills and health
- **Priority 4:** Consolidating the social wage through reliable and quality basic services
- **Priority 5:** Spatial integration, human settlements and local government
- **Priority 6:** Social cohesion and safe communities
- **Priority 7:** A better Africa and world

2.2.2.4. NERSA identified the following government priorities to which it can contribute – as part of implementing its mandate:

- **Priority 2:** Economic transformation and job creation
- **Priority 3:** Education, skills and health
- **Priority 7:** A better Africa and world

**Table 2: NERSA's contribution to government's priorities**

RELEVANT PRIORITIES	NERSA'S CONTRIBUTION
<p><b>2: Economic Transformation and Job Creation</b></p>	<p>By facilitating investment in the energy industry and thereby contributing to economic growth, leading to job creation, NERSA contributes through:</p> <ul style="list-style-type: none"> <li>• licensing and the setting and/or approving of tariffs and prices, as in this manner NERSA creates pre-conditions towards the achievement of this priority;</li> <li>• approving renewable energy licenses to ensure that the socio-economic development commitments specified in the bidding process are met;</li> <li>• promoting companies that are owned and controlled by Historically Disadvantaged Individuals (HDIs) to become competitive; and</li> <li>• regulating in a manner that facilitates security of supply.</li> </ul> <p>Contributing to a competitive and responsive economic infrastructure network through:</p> <ul style="list-style-type: none"> <li>• Setting rules and frameworks that facilitate the building of new infrastructure;</li> <li>• Setting and/or approving cost reflective tariffs and prices that encourage efficient investment;</li> <li>• Facilitating and enforcing third-party access to facilities;</li> <li>• Monitoring compliance and undertaking technical audits leading to regular maintenance and refurbishment of the infrastructure and therefor to the improvement in quality of supply; and</li> <li>• Promoting competition and competitiveness in the energy industry.</li> </ul>
<p><b>3: Education, skills and health</b></p>	<ul style="list-style-type: none"> <li>• Implementation of the Learnership and Internship Programmes;</li> <li>• Implementation of the bursary programme for qualifying external applicants;</li> <li>• Coordinating the design of a regulatory course at an accredited institution of higher learning; and</li> <li>• Coordinating the development of a technical regulatory training and development programme.</li> </ul>
<p><b>6: A Capable, Ethical and Developmental State</b></p>	<ul style="list-style-type: none"> <li>• Transparent regulatory processes;</li> <li>• All decisions and reasons thereof are made public through being published on the website;</li> <li>• The public is invited to make comments prior to decisions being made (written or in public hearing);</li> <li>• Customer education programmes and awareness campaigns;</li> <li>• Training and development of staff and stakeholders, including training to electricity distributors on the completion of the forms requesting information from them; and</li> <li>• Techno Girls programme - where ten girls from grade 9 to grade 12 are exposed to NERSA's activities through visits to the organisation during school holidays.</li> </ul>

### 2.2.3. NERSA's contribution to the National Infrastructure Plan

2.2.3.1. The South African Government adopted a National Infrastructure Plan (NIP) in 2012 that intends to strengthen the delivery of basic services and transform South Africa's economic landscape while simultaneously creating significant numbers of new jobs. The plan also supports the integration of African economies. The New Growth Path sets a goal of five million new jobs by 2020, identifies structural problems in the economy to be overcome and points to opportunities in specific sectors and markets or 'jobs drivers'.

2.2.3.2. In order to address these challenges and goals, a total of 18 strategic integrated projects (SIPs) have been developed. The following three SIPs were identified for energy:

**a) SIP 8: Green energy in support of the South African economy**

- Support sustainable green energy initiatives on a national scale through a diverse range of clean energy options as envisaged in the Integrated Resource Plan (IRP2010).
- Support bio-fuel production facilities.

**b) SIP 9: Electricity generation to support socio-economic development**

- Accelerate the construction of new electricity generation capacity in accordance with the IRP2010 to meet the needs of the economy and address historical imbalances.
- Monitor implementation of major projects such as new power stations: Medupi, Kusile and Ingula.

**c) SIP 10: Electricity transmission and distribution for all**

- Expand the transmission and distribution network to address historical imbalances, provide access to electricity for all and support economic development.
- Align the 10-year transmission plan, the services backlog, the national broadband roll-out and the freight rail line development to leverage off regulatory approvals, supply chain and project development capacity.

2.2.3.3. Table 3 on the next page summarises NERSA's contribution to the relevant strategic integrated projects.

**Table 3: NERSA's contribution to the NIP**

RELEVANT PRIORITIES	NERSA'S CONTRIBUTION
<p><b>8: Green energy in support of the South African economy</b></p>	<ul style="list-style-type: none"> <li>• Facilitating the conclusion of Power Purchase Agreements between the buyer and the renewable energy Independent Power Producers;</li> <li>• Incorporating compliance with the National Environmental Management Act, 1998 (Act No. 107 of 1998) into licence conditions;</li> <li>• Facilitation of the implementation of the Integrated Resource Plan (IRP) through considering concurring with determinations made by the Minister in line with section 34 of the Electricity Regulation Act, 2006 (Act No. 4 of 2006);</li> <li>• Facilitating the transition to a low carbon economy; and</li> <li>• Regulatory advocacy with regard to cleaner fuels policy.</li> </ul>
<p><b>9: Electricity generation to support socio-economic development</b></p>	<ul style="list-style-type: none"> <li>• Regulating in a manner which facilitates security of supply and investment;</li> <li>• Facilitating the conclusion of Power Purchase Agreements between the buyer and the renewable energy Independent Power Producers;</li> <li>• Setting rules and frameworks that facilitate the building of new infrastructure;</li> <li>• Setting and/or approving cost reflective tariffs and prices that encourage investment;</li> <li>• Monitoring compliance through undertaking technical audits leading to regular maintenance and refurbishment of infrastructure and thus contributing to an improvement in quality of supply.</li> </ul>
<p><b>10: Electricity transmission and distribution for all</b></p>	<ul style="list-style-type: none"> <li>• Facilitating access to electricity in setting aside some funds for the Electrification Cross-subsidy as part of determining electricity prices;</li> <li>• Taking affordability into consideration when setting and/or approving tariffs and prices, while allowing a provision for expansion of current operations;</li> <li>• Determining inclining block tariffs and free basic electricity tariffs to protect the low income electricity consumers;</li> <li>• Facilitating reliability of supply;</li> <li>• Determining benchmarks and monitoring maintenance of infrastructure;</li> <li>• Auditing of the implementation of the Transmission Development Plan;</li> <li>• Monitoring compliance with licence conditions; and</li> <li>• Dispute resolution, including mediation, arbitration and handling of complaints.</li> </ul>

### 3. RELEVANT COURT RULINGS

3.1. The ruling by the courts in the following two cases could have an impact on the operations or service delivery obligations:

#### 3.2. ESKOM//NERSA

3.2.1. This is a two parts court application by Eskom.

- a) In Part A, Eskom is seeking the court to grant a relief compelling NERSA to use the Multi-Year Price Methodology, which was used during the MYPD4. Eskom alleges that the process being undertaken by NERSA may result in Eskom not having a tariff by 01 April 2022, or alternatively missing the timeline of 15 March set by Municipal Finance Management Act.
- b) In Part B, Eskom is seeking the relief that the court should review, set aside and remit the decision of the Energy Regulator to reject considering Eskom's MYPD5 application.

3.2.2. NERSA is opposing the matter and the Case Management meeting has set the timeframes within which documents must be filed. As this is a semi-urgent matter as opposed to a general judicial review, the matter is anticipated to be heard in the first week of December 2021.

#### 3.3. SUNRISE ENERGY (PTY) LTD//NERSA

3.3.1. A review application brought by Sunrise Energy (Pty) Ltd ('Sunrise Energy') challenging NERSA's decision of 25 February 2021. In that decision, NERSA decided not to approve the recalculated 2016 base tariffs applied for by Sunrise Energy as a condition of the operation licence (No.PPL.sf.It.F3/201/2015) for Sunrise Energy's Liquefied Petroleum Gas ('LPG') loading and storage facilities located at Saldanha Bay, Western Cape Province.

3.3.2. NERSA is opposing the application



## PART B \ OUR STRATEGIC FOCUS

### 4. UPDATED EXTERNAL SITUATIONAL ANALYSIS

The performance environment of NERSA is impacted upon by energy demand and supply trends and developments in the global, continental, regional and national environments.

#### 4.1. GLOBAL TRENDS

##### 4.1.1. Overview

4.1.1.1. At the start of 2021, the Energy industry continued to find itself in an ever-shifting and changing landscape. The year 2020 was a challenging year for conventional Energy sectors such as Oil & Gas and Mining, while there has been great excitement around the new and innovative developments in Green Energy. With the additional complications caused by the COVID-19 pandemic, the industry has found itself in a position where energy companies need to extend horizons of their usual modes of operation and reinvent the way they operate.

4.1.1.2. The global energy landscape has been undergoing a profound transformation including transitions from the use of wood as a dominant fuel to the adoption of coal and, then to, oil. In the 21st century, gas has grown faster than any other fossil fuel and today renewable energy is growing even faster. Various changes, combined with volatile energy prices and occasional shocks, create complex scenarios for the future of the energy sector. The International Gas Union (IGU) survey of 2020 that 48.4% of global natural gas price formation has is driven by gas-on-gas competition and that oil-indexed natural gas prices have reduced to about 18%. This has been caused by trends in global LNG trade and an increase in spot LNG cargoes in Northwest Europe and the Asian market. China was the leading LNG importer of natural gas followed by Japan and India, with also Spain taking the lead in Europe and South Korea in the Asia Pacific.

4.1.1.3. Wholesale prices have declined significantly to an average of 3.88/mmBTU in 2019 due to increased supply and further in 2020 due to Covid-19 induced lockdowns which crippled global demand for natural gas, both for industrial, transport and household consumption. It is crucial for the energy industry to timeously recognize these trends and the short-term implications of once-off shocks such as the COVID-19 pandemic for the industry to be able to take advantage of the changes and their benefits.

4.1.1.4. The benefits have the potential to strengthen the definition of long-term strategies needed to be able to build a resilient energy sector. However, this rapid growth combined with volatile energy prices as well as intermittent shocks, created multifaceted circumstances for the future of the energy sector. This has numerous implications, not only for the socio-economic development of countries and developing countries in particular but also for energy security at a global level.

4.1.1.5. Energy security is an essential element of resilience, which has become increasingly important in recent years due to the new security environment. The changing global energy landscape, and the risk of energy-supply disruptions, could thus affect the security of communities. Global natural gas consumption declined by 75 bcm (or 1.9% y-o-y) in 2020. This represents the largest recorded drop in gas demand in absolute terms, but it would be at par with 2009 demand levels in relative terms. The decline was concentrated in the first half of the year when global gas consumption declined around 4% y-on-y, driven by exceptionally mild weather and Covid-19 outbreaks. Gas was markedly less impacted than oil or coal demand in 2020, and a progressive recovery of gas demand was observed in the third quarter as lockdown measures eased, while seasonal electricity demand and competitive prices pushed up gas consumption.

- 4.1.1.6. This relative resilience can be partly explained by fuel switching in electricity generation. The switch was particularly remarkable in the United States where gas demand for electricity generation increased by around 2% y-o-y despite a declining electricity demand, while in Europe gas-fired generation benefited from low prices and a sharp recovery in carbon prices in the second half of 2020. In Asia, gas for power grew in China, India, and Korea. With gas big declines in Russia and the Middle East, gas use in the power sector proving resilient nonetheless accounted for one-quarter of the decline in gas demand in 2020. The biggest other declines were attributable to reduction in global construction activities before decreases in other industrial activities, contributing respectively to 30% and close to 20% of total gas demand drop in 2020.
- 4.1.1.7. Natural gas demand declined less than other fossil fuels in 2020. Global gas demand is expected to recover 3.2% in 2021, erasing the losses in 2020, and pushing demand 1.3% above 2019 levels. This recovery in gas demand has been driven mainly by fast-growing markets – primarily in Asia and, to a lesser extent, the Middle East – and subject to uncertainties regarding industrial rebound or fuel price competitiveness. Demand in the European Union is expected to rebound to levels at par with 2019 demand levels. Growth in the United States has been more gradual, with demand not expected to return to 2019 levels in 2021. Below average temperatures in the early months of 2021 across the northern hemisphere increased gas demand.
- 4.1.1.8. Winter storms also led to some extreme supply-demand tensions and price spikes, first in January in northeast Asia and then February in North America, notably in Texas. Rising prices have challenged the position of gas in electricity generation as seen in the United States where demand in the first quarter of 2021 was lower than the first quarter of 2020. Across the year, higher gas prices are expected to keep gas demand in the United States close to 2020 levels and around 2% below 2019 levels. In the European Union, higher carbon prices provide some support to gas vis-à-vis coal; preliminary data for the first quarter show an 8% y-o-y increase in gas demand in Europe. This pattern is very different across developing Asia, where demand in 2021 is expected to increase by 7% on 2020 levels, putting demand 8.5% above 2019 levels. China leads the increase, with 2021 demand more than 14% (or 44 bcm) higher than 2019 levels.
- 4.1.1.9. The industrial sector and construction sectors are expected to lead gas demand growth in 2021, with industry demand increasing by almost 5% as global output and trade volumes recover. China, India and other fast-growing Asian markets are driving this growth. Consumption from the construction sector grows around 5%, supported by colder temperatures in Q1. Gas use for electricity generation is expected to grow just 1% due to low electricity demand growth, increasing renewable capacity, and tougher price competition from coal. Consumption from the construction sector grows around 5%, supported by colder temperatures in Quarter 1.
- 4.1.1.10. Global gas demand in 2021 remains subject to significant uncertainty regarding not only electricity demand and industrial production but also the price evolution of gas against that of coal in key markets such as the United States. This has been largely driven by changes in weather patterns across the northern hemisphere towards the end of 2021.
- 4.1.1.11. Global coal demand declined 4% in 2020, the biggest drop since World War II. The main driver of the decline was lower electricity demand owing to Covid-19 restrictions and the resulting economic downturn. Preferential dispatch or use of renewables in many markets squeezed gas and coal in the electricity mix. Lower gas prices saw significant fuel switching away from coal, particularly in the United States and the European Union, where coal use for power fell 20% and 21%, respectively. Overall, declines in the power sector accounted for over 40% of lower global demand in 2020. The Covid-19 pandemic also affected industrial output, notably steel and cement, further lowering coal demand.

- 4.1.1.12. Coal demand experienced a major decline in 2020. In 2021, we expect recovering economic activity to reverse 2020's decline in coal demand, with a 4.5% increase pushing global coal demand above 2019 levels. The power sector accounted for just over 40% of the drop in coal use in 2020, but the rapid increase in coal-fired generation in Asia sees it account for three-quarters of the rebound in 2021. Gas prices are also expected to rise in 2021, leading to some switching back to coal, notably in the United States and the European Union. The growth of coal consumption in 2021 is a continuation of the rebound in global coal demand that began in the final quarter of 2020. While an exceptional cold snap in December in northeast Asia was partly to blame for increasing coal demand, the rapid growth of coal-fired electricity generation is a reminder of coal's central role in fuelling some of the world's largest economies.
- 4.1.1.13. China is the only major economy where coal demand increased in 2020. Strong economic growth underpins electricity demand in 2021, while post-COVID stimulus measures support production of steel, cement and other coal-intensive industrial products. We expect coal demand to increase by more than 4% in 2021, keeping demand well above the 2014 peak and reaching the highest ever levels for China.
- 4.1.1.14. The Chinese coal power fleet (including combined heat and power, or CHP, plants) represent around one-third of global coal consumption. The future of both Chinese and global coal demand depends on the Chinese electricity system. Electricity demand growth remains closely linked to economic growth in China, with demand increasing on a one-to-one ratio with GDP. What additional share of electricity demand is met by coal depends on how fast technologies such as renewables and nuclear come on line. Last year, despite the Covid-19 outbreak, renewable capacity additions increased to over 100 GW, largely owing to rushes to complete projects before a subsidy phase-out deadline. Because of accelerating increases in renewables deployment, coal is expected to meet only 45% of the projected 8% increase in electricity demand in 2021.
- 4.1.1.15. In India, April 2020 marked the lowest point of coal consumption in many years as a significant economic slowdown in the second half of 2019 was followed by COVID lockdowns. The economic recovery since led to a continuous rebound of coal consumption, with a 6% increase in the fourth quarter of 2020. Higher coal demand was also driven by a decline in generation from hydro, following 2019's exceptionally high output. Our estimate for India coal consumption assumes a strong economic rebound in 2021, pushing Indian GDP firmly above 2019 levels and driving up coal demand by almost 9% to 1.4% above 2019 levels.
- 4.1.1.16. In the United States, coal remains on a structural decline even though 2021 is projected to be the first growth year for consumption since 2013. Recovering electricity consumption and higher gas prices underpinned increased coal use in December 2020, the first monthly year-on-year increase since November 2018. Coal demand from the power sector is expected to rebound by 10% from the lows of 2020, though that still should not push coal demand above 2019 levels. Coal-fired electricity generation represents 90% of coal consumption in the United States and has more than halved since 2010, with demand falling by one-third between 2018 and 2020.
- 4.1.1.17. In the European Union, coal-fired electricity generation is disappearing or becoming negligible in an increasing number of countries. Austria and Sweden closed their last coal power plants in 2020; others like Portugal will do so this year, and carbon allowances continue to deter coal generators. Germany, Poland and the Czech Republic account for two-thirds of EU coal use for power. In Germany, where coal and gas competition is more intense due to capacity availability, generation costs of gas and coal are moving in the same range. Therefore, small movements in fuel prices can change the relative competitiveness of coal and gas, and hence, of coal demand. With this uncertainty in mind, we expect coal demand to increase by only 4% in 2021, mostly pushed by the recovery of industrial consumption. This increase is a long way from reversing the 18% decline in demand in 2020.

- 4.1.1.18. A limited rebound for coal in the European Union in 2021 is primarily driven by economics, but recent political announcements imply continued declines in coal use. Throughout 2020 there were frequent announcements of green stimulus packages, zero emissions targets by mid-century, and plans to downsize coal generation capacity.
- 4.1.1.19. Renewables bucked the trend in 2020. Renewable electricity generation in 2021 is set to expand by more than 8% to reach 8 300 TWh, the fastest year-on-year growth since the 1970s. Solar PV and wind are set to contribute two-thirds of renewables growth. China alone should account for almost half of the global increase in renewable electricity in 2021, followed by the United States, the European Union and India.
- 4.1.1.20. Wind is set for the largest increase in renewable generation, growing by 275 TWh, or almost 17%, which is significantly greater than 2020 levels. Policy deadlines in China and the United States drove developers to complete a record amount of capacity late in the fourth quarter of 2020, leading to notable increases in generation already from the first two months of 2021. Over the course of 2021, China is expected to generate 600 TWh and the United States 400 TWh, together representing more than half of global wind output.
- 4.1.1.21. While China will remain the largest PV market, expansion will continue in the United States with ongoing policy support at the federal and state level. Having experienced a significant decline in new solar PV capacity additions in 2020 as a result of COVID-related delays, India's PV market is expected to recover rapidly in 2021, while increases in generation in Brazil and Viet Nam are driven by strong policy supports for distributed solar PV applications. Globally, solar PV electricity generation is expected to increase by 145 TWh, almost 18%, to approach 1 000 TWh in 2021.
- 4.1.1.22. Hydropower generation is expected to increase further in 2021 through a combination of economic recovery and new capacity additions from large projects in China. Energy from waste electricity projects in Asia will drive growth of bioenergy, thanks to incentives.
- ## 4.1.2. COVID-19 and its implications on the Energy Sector
- 4.1.2.1. The energy industry is feeling the financial impact throughout value chains, with most energy companies losing substantial revenues. In effect, they are being hit twice, first by lower demand for their products – including oil, gas, coal and electricity – and again by lower prices for these products. Average oil prices fell sharply, with West Texas Intermediate hitting negative prices for the first time in history as excess storage became scarce. LNG prices have declined to all-time lows in European and Asian markets, which were abundantly supplied even before the Covid-19 crisis depressed demand.
- 4.1.2.2. Natural gas prices have gone negative in parts of the United States, where storage is full. The smallest impact is on coal, as the supply chain is less affected by logistical constraints than oil and natural gas. A combination of cheap gas and weakening demand have also led to power prices declining by one-third to one-half in liberalised wholesale markets. Market prices for electricity have dipped below zero in the United States and several countries in Europe, including Germany, Denmark, France, Belgium, Sweden, Finland and Switzerland.
- 4.1.2.3. The energy sector that emerges from the Covid 19 crisis may look significantly different from what came before. Low prices and low demand in all subsectors will leave energy companies with weakened financial positions and often strained balance sheets. Business lines that are insulated to a degree from market signals, including those with renewable electricity projects, will emerge in the best financial position. Private firms that are the most exposed to market prices will experience the most severe financial impacts. Market concentration and consolidations are likely.

- 4.1.2.4. Across the energy sector, the Covid 19 crisis will have a significant impact on investment. This could raise concerns about energy security because investment is necessary even if global energy demand takes a long time to return to the pre-crisis trajectory. A considerable proportion of global energy investment is devoted to just sustaining existing levels of energy supply: maintaining oil and gas production at current levels, replacing ageing power generation capacity – often with a capital-intensive combination of renewables and flexibility sources – and reinvesting in ageing electricity networks. Investment in these activities will have to remain robust even with a subdued recovery.
- 4.1.2.5. Energy security has been put to the test in new ways by the crisis, including in oil and gas markets. Simultaneous supply and demand shocks have sent oil markets into turmoil. Oil plays a central role in global macro-finance, both as a share of international trade and as a critical source of government revenues for several major producers. Lockdown measures have caused unprecedented demand declines, whose speed and magnitude greatly exceed the normal market flexibility of supply. As a result, even with attempts at coordinated management, a disorderly production shutdown is likely in some places. The consequent macroeconomic and financial disruptions could undermine the industry's ability to ramp up production as the world economy and oil demand recover.
- 4.1.2.6. The supply of natural gas is critical to operations in all sectors, including industry, residential and services heating, and electricity supply. Due to large investments in recent years and the slump in demand because of Covid 19, global gas markets are abundantly supplied and storage levels are very high. At the same time, intense financial strain is hurting the industry, including companies that own and operate critical infrastructure facilities. Policymakers and regulators need to ensure that operational, maintenance and safety expenditures are prioritised and appropriately maintained. US LNG has played a major role in improving energy security and market efficiency in several regions, but the ongoing challenging market conditions risk significant shut-in of US LNG facilities.
- 4.1.2.7. Electricity security's place at the heart of modern economies has been underscored by the Covid 19 crisis. A robust, uninterrupted electricity supply is a key precondition of both the functioning of the health care system and the maintenance of social welfare and online economic activity. Robust power systems have enabled adaptations to the ongoing crisis, including a huge expansion of teleworking activities, particularly in advanced economies. In some parts of the world, however, a reliable supply cannot be taken for granted. In Africa, several thousand hospitals and health care facilities have no access to electricity. In both Africa and South Asia, electricity reliability problems limit social distancing.
- 4.1.2.8. Electricity security has remained robust as the Covid 19 crisis has accelerated the shift to renewable energy in the power mix. The share of renewables has jumped several years ahead of pre-pandemic expectations, including the shares of wind and solar, curbing CO2 emissions and air pollution. The rise of renewables has posed some problems for electricity security, however. In advanced economies, the main cause of blackouts is the inability of the system to manage sudden changes in power flows and various network problems. Third waves of the pandemic are prolonging restrictions on movement and continue to subdue global energy demand. But stimulus packages and vaccine rollouts provide a beacon of hope. Global economic output is expected to rebound by 6% in 2021, pushing the global GDP more than 2% higher than 2019 levels.
- 4.1.2.9. The COVID 19 pandemic continues to impact global energy demand. Global energy demand is set to increase by 4.6% in 2021, more than offsetting the 4% contraction in 2020 and pushing demand 0.5% above 2019 levels. Almost 70% of the projected increase in global energy demand is in emerging markets and developing economies, where demand is set to rise to 3.4% above 2019 levels. Energy use in advanced economies is on course to be 3% below pre-COVID levels.

- 4.1.2.10. Emerging markets are driving energy demand back above 2019 levels. Demand for all fossil fuels is set to grow significantly in 2021. Coal demand alone is projected to increase by 60% more than all renewables combined, underpinning a rise in emissions of almost 5%, or 1 500 Mt. This expected increase would reverse 80% of the drop in 2020, with emissions ending up just 1.2% (or 400 Mt) below 2019 emissions levels.
- 4.1.2.11. Global energy-related CO<sub>2</sub> emissions are heading for their second-largest annual increase ever. Despite an expected annual increase of 6.2% in 2021, global oil demand is set to remain around 3% below 2019 levels. Oil use for road transport is not projected to reach pre-COVID levels until the end of 2021. Oil use for aviation is projected to remain 20% below 2019 levels even in December 2021, with annual demand more than 30% lower than in 2019. A full return to pre-crisis oil demand levels would have pushed up CO<sub>2</sub> emissions a further 1.5%, putting them well above 2019 levels.
- 4.1.2.12. Sluggish demand for transport oil is mitigating the rebound in emissions. Coal demand is on course to rise 4.5% in 2021, with more than 80% of the growth concentrated in Asia. China alone is projected to account for over 50% of global growth. Coal demand in the United States and the European Union is also rebounding. It is however still set to remain well below pre-crisis levels. The power sector accounted for only 50% of the drop in coal-related emissions in 2020. But the rapid increase in coal-fired generation in Asia means the power sector is expected to account for 80% of the rebound in 2021.
- 4.1.2.13. Global coal demand in 2021 is set to exceed 2019 levels and approach its 2014 peak. Natural gas demand is set to grow by 3.2% in 2021, propelled by increasing demand in Asia, the Middle East and the Russian Federation (“Russia”). This is expected to put global demand more than 1% above 2019 levels. In the United States – the world’s largest natural gas market – the annual increase in demand is set to amount to less than 20% of the 20 bcm decline in 2020, squeezed by the continued growth of renewables and rising natural gas prices. Nearly three-quarters of the global demand growth in 2021 is from the industry and buildings sectors, while electricity generation from natural gas remains below 2019 levels.
- 4.1.2.14. Among fossil fuels, natural gas is on course for the biggest rise relative to 2019 levels. Electricity demand is due to increase by 4.5% in 2021, or over 1 000 TWh. This is almost five times greater than the decline in 2020, cementing electricity’s share in final energy demand above 20%. Almost 80% of the projected increase in demand during 2021 is in emerging markets and developing economies. The People’s Republic of China (“China”) alone accounts for half of global growth. Demand in advanced economies remains below 2019 levels.
- 4.1.2.15. Electricity demand is heading for its fastest growth in more than 10 years. Demand for renewables grew by 3% in 2020 and is set to increase across all key sectors – power, heating, industry and transport – in 2021. The power sector leads the way, with its demand for renewables on course to expand by more than 8%, to reach 8 300 TWh, the largest year-on-year growth on record in absolute terms.
- 4.1.2.16. Renewables remain the success story of the COVID 19 era. Solar PV and wind are expected to contribute two-thirds of renewables’ growth. The share of renewables in electricity generation is projected to increase to almost 30% in 2021, their highest share since the beginning of the Industrial Revolution and up from less than 27% in 2019. Wind is on track to record the largest increase in renewable generation, growing by 275 TWh, or around 17%, from 2020. Solar PV electricity generation is expected to rise by 145 TWh, or almost 18%, and to approach 1 000 TWh in 2021.
- 4.1.2.17. Renewables are set to provide more than half of the increase in global electricity supply in 2021. China is expected to generate over 900 TWh from solar PV and wind in 2021, the European Union around 580 TWh, and the United States 550 TWh. Together, they represent almost three-quarters of global solar PV and wind output.

4.1.2.18. The COVID 19 crisis is also influencing the path for clean energy transitions. Global CO<sup>2</sup> emissions are set for the largest year-to-year reduction on record, but a sustainable energy pathway calls for continuous efforts and commitment. The unprecedented decline in emissions in 2020 may only be temporary without structural changes. Recoveries from past crises have caused immediate rebounds in CO<sup>2</sup> emissions, including the highest year-on-year increase on record in 2010.

4.1.2.19. Governments will play a major role in shaping the energy sector’s recovery from the COVID 19 crisis, just as they have long been in the driving seat in orienting energy investment. In particular, the design of economic stimulus packages presents a major opportunity for governments to link economic recovery efforts with clean energy transitions – and steer the energy system onto a more sustainable path. While the clean energy transitions and stimulus discussions are gathering momentum, a coordinated policy effort will be needed to harvest its opportunities and lead to a more modern, cleaner and more resilient energy sector for all.

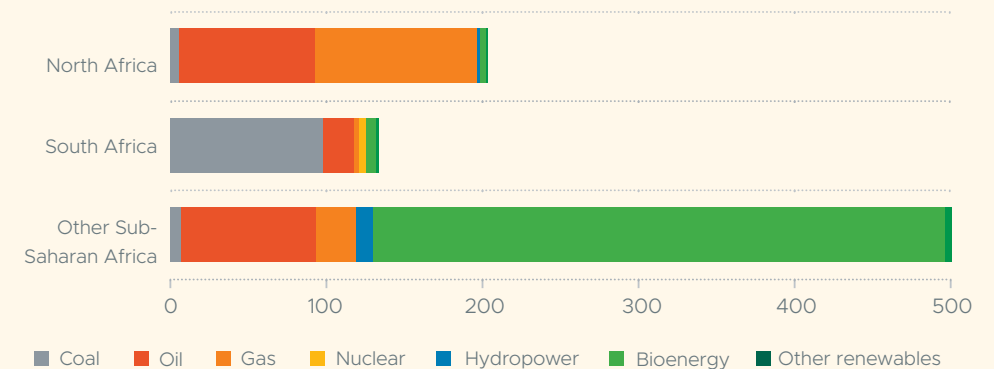
### 4.1.3. Continental Developments

4.1.3.1. In recent decades, African energy demand has been driven by the growing needs of North Africa, Nigeria and South Africa. In 2018, primary energy demand in Africa was more than 830 million tonnes of oil equivalent (Mtoe): North Africa (24%), Nigeria (19%), and South Africa (16%) together accounted for almost 60% of this despite making up only 35% of the population. Average energy consumption per person in most African countries is well below the world average of around 2 tonnes of oil equivalent (toe) per capita and is broadly comparable to India’s average of 0.7 toe/capita. In 2018, per capita consumption in sub-Saharan Africa was highest in South Africa at 2.3 toe/capita and in Nigeria at 0.8 toe/capita. Most other sub-Saharan African

countries have per capita consumption of around 0.4 toe/capita and in most a large part of it consists of the relatively inefficient use of solid biomass.

4.1.3.2. The rate of growth in energy demand in sub-Saharan Africa has slightly slowed in recent years and remains lower compared to GDP growth. Between 2000 and 2010, energy demand increased at an annual average rate of 3%, but this slowed to 2.5% from 2010 to 2018, with very marked variations. Countries such as the Democratic Republic of Congo (Africa’s fourth most populous country) saw their primary energy demand more than double between 2000 and 2018, whereas others such as Côte d’Ivoire, Ghana and Mozambique have witnessed an increase in demand of around 50%. The smaller increase in demand does not mean energy services did not grow at the same rate: in the case of Côte d’Ivoire, the push towards LPG for cooking has resulted in a decline in solid biomass use, and this has produced large efficiency gains.

Figure 1: Total primary energy by fuel for selected African regions, 2018



World Energy Outlook: Africa Report 2019



- 4.1.3.3. Traditional biomass is used mostly for cooking in Africa, but it is also used in industry. It is by far the most widely used energy source across Africa, except for North Africa, where oil and gas dominate, and South Africa, where the energy mix is coal-heavy (see Figure 1 on the previous page). In sub-Saharan Africa, bioenergy's share in the overall energy mix has barely changed over the last 25 years, and it continues to dominate the primary energy mix, accounting for 60% of total energy use in the region (if South Africa is excluded, this share increases to almost three-quarters). There is no other region in the world that relies so heavily on bioenergy.
- 4.1.3.4. Fossil fuels represent almost 40% of the overall energy mix in sub-Saharan Africa and more than half of the African energy mix. Oil demand stands at almost four million barrels per day (mb/d). The transport sector accounts for most oil use (60%), but diesel is also consumed for backup generators, kerosene or LPG within households for lighting and cooking, and a variety of oil products are used by industry. Natural gas overtook coal as the third fuel in the African energy mix in 2015. Today, natural gas accounts for 16% of that mix, with nearly 160 billion cubic metres (bcm) consumed each year: almost 80% of this is consumed in North Africa and over 10% in Nigeria. Coal now accounts for 13% of the primary energy mix (compared with around a quarter globally), with consumption of almost 160 Mtoe. South Africa accounts for the overwhelming majority of the continent's coal consumption, where it is used for power generation, industrial processes, transport (after coal-to-liquid conversion), and household heating.
- 4.1.3.5. Despite being home to almost a fifth of the world's population, Africa accounts for little more than 3% of global electricity demand with North African countries (42%) and South Africa (30%) representing nearly three-quarters of this. Africa's electricity demand is growing, but only at half the rate of developing Asian countries: it rose to 3% a year on average between 2010 and 2018, increasing from 560 terawatt-hours (TWh) in 2010 to around 705 TWh. The latter figure is equivalent to a fifth of electricity demand in Europe in 2018. Electricity accounts for around 10% of Africa's

total final energy consumption, but per capita, electricity demand in Africa remains very low at around 550 kWh (370 kWh in sub-Saharan Africa) compared with 920 kWh in India and 2 300 kWh in Developing Asia.

#### 4.1.3.6. Electricity supply from centralised grids

- 4.1.3.6.1. Record growth of renewables – led by wind and solar PV, which in 2020 grew by 12% and 23%, respectively, combined with a decline in global electricity demand – put fossil fuel-fired and nuclear power plants in a tight spot in 2020. Demand from non-renewable sources decreased by more than 3%.
- 4.1.3.6.2. Coal was the hardest hit among all sources of electricity in 2020, down 440 TWh. The 4.4% drop in generation from coal was the largest ever absolute decline and the largest relative decline in the past fifty years. Driven by low gas prices, the United States alone accounted for almost half of the global net decline. The European Union was responsible for an additional 23% of the decline – a decline largely offset by increases in generation from renewable sources.
- 4.1.3.6.3. Gas-fired power plants experienced lesser declines in generation compared to coal, down only 1.6% in 2020. Gas was less affected owing to competitive prices, especially during the middle of the year. In the United States, where gas-fired generation increased by 2% in 2020, coal-fired generation dropped by a staggering 20%, or 210 TWh. Oil continued its uninterrupted global decline since 2012, decreasing by 4.4%.
- 4.1.3.6.4. Recent developments promise the 20th consecutive year of growth for renewables-based electricity generation in 2021. Expanding generation from renewables is expected to provide just over half of the increase in electricity supply in 2021. With generation from nuclear expected to increase by around 2%, the remaining electricity demand growth is met by coal and gas-fired power plants. The majority of the increase in electricity



generation from fossil fuels is likely to be provided by coal-fired power plants, with their output expected to increase by 480 TWh. Due to upward pressure on gas prices, natural gas benefits to only a small extent (+1%). In the United States, where coal-fired generation dropped by around 20% in 2020, we expect about half of this loss to be reversed in 2021 – as coal-to-gas switching is unwound in some parts of the country. As a result, gas-fired generation falls by almost 80 TWh in 2021 in the United States.

4.1.3.6.5. Well over half of the increase in coal-fired electricity generation in 2021 is anticipated in China. Although representing about 45% of additional global renewable generation, around half of the 8% increase in electricity supply in China is provided by fossil fuels in 2021, pushing generation from coal in China up by 330 TWh (or 7%) on 2019 levels. In India, which is expected to have the second-largest absolute demand growth after China, 70% of additional electricity demand in 2021 will be covered by thermal generation – almost all from coal. for 40% and 30% of generation output in

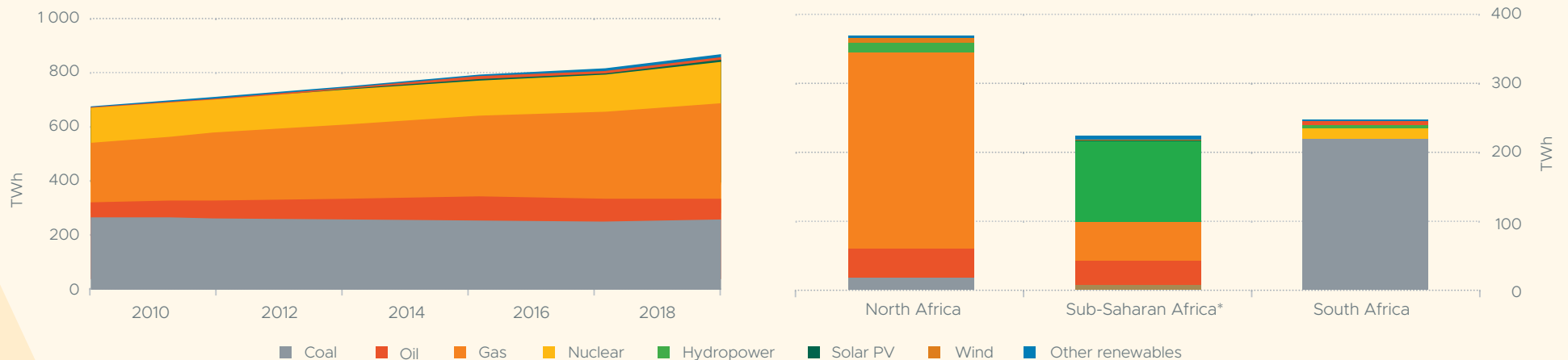
2018 respectively. Hydropower accounted for a further 16% and oil for 9%. However, there are large regional differences.

4.1.3.6.6. In North Africa, for example, natural gas contributed more than three-quarters to power generation in 2018. South Africa in contrast is hugely reliant on coal and to a modest extent on nuclear power while in the remainder of sub-Saharan Africa, hydropower provides over half of generation output with oil and gas accounting for most of the balance. Although non-hydro renewables in sub-Saharan Africa (excluding South Africa) increased by 250% over the 2010-18 period, accounting for slightly more than 7% of all renewables and 4% of total generation output in 2018 (See Figure 1 below).

4.1.3.6.7. It should be noted that natural gas fuelled most of the increase in electricity supply for the continent on the whole, but fuel shares varied by region and coal dominated in South Africa.

**Figure 2: Electricity generation by fuel in Africa, 2010-2018 and in key regions in 2018\***

*Excluding South Africa*



4.1.3.6.8. Between 2010 and 2018, total installed generation capacity in Africa increased from around 155 gigawatts (GW) to almost 245 GW or about a quarter of the capacity in European Union countries. South Africa and North African countries account for around 165 GW of this installed capacity. The capacity mix by fuel varies across the continent by country and region. North Africa accounts for almost 85 GW of Africa's 100 GW of gas-fired power plants, while the remainder is concentrated in Nigeria, Ghana, Côte d'Ivoire, Tanzania and Mozambique. South Africa accounts for 85% of the almost 50 GW of coal-fired capacity on the continent. Oil-fired capacity totals just over 40 GW; its relative importance varies greatly by country.

4.1.3.6.9. Renewable power capacity increased from 28 GW in 2010 to almost 50 GW in 2018. Hydropower is the largest source of renewable power by far and its capacity increased from 26 GW in 2010 to 35 GW in 2018, although its share in the overall generation mix has remained relatively constant at around 15%. Other renewable sources have started to develop but, for the moment, their share in generation and capacity is low. Although it has expanded in recent years, wind power development in Africa has been limited in scale compared to hydro with close to 5.5 GW of installed capacity in 2018, up from almost 1 GW in 2010.

4.1.3.6.10. North Africa accounts for around 2.6 GW of this capacity and South Africa for around 2 GW. The growth of wind power in South Africa is in part a result of its Renewable Energy Independent Power Producer Procurement Programme (REIPPPP) that was launched in 2011 and has delivered close to 3 GW of new capacity over the past five years: notable projects include the Loeiresfotein and Khobab Wind Farms (140 megawatts each) which were commissioned in 2017. Countries such as Ethiopia, Ghana, Tunisia, Kenya and Morocco are making efforts to increase their wind deployment by adopting the independent power producers (IPPs) model (Greentech Media, 2019).

4.1.3.6.11. Table 4 below highlights the implications of electricity access in the continent. Unlike Northern Africa which is on track with their electricity access targets, East and Central Africa are both off-track. While Table 4 below highlights the implications of electricity access in the continent. Unlike Northern Africa which is on track with their electricity access targets, East and Central Africa are both off-track. While West and Southern Africa have both not seen progress in 2020.

**Table 4: Electricity Access in the African Continent**

	<b>Electricity Access</b>
<b>East Africa</b>	East Africa has the highest number of unconnected households on the continent, and demand growth is primarily driven by rapid access expansion.
<b>West Africa</b>	Access expansion is the dominant driver of demand growth, in particular from Nigeria.
<b>Northern Africa</b>	Five of the six countries in Northern Africa are already at or very near universal access to electricity.
<b>Southern Africa</b>	Access expansion is the dominant driver of demand growth outside of South Africa, which already has near-universal access.
<b>Central Africa</b>	Central Africa has the lowest access rates of the five African regions, with only 24 per cent, and consolidated efforts are required to reach universal access.

Source: International Renewable Energy Agency (IRENA), 2021

4.1.1.1.1. The IRENA has lists the following as barriers to universal electricity access:

- Economic incentives for utilities to connect new customers are limited;
- Raising financing for grid expansion and electrification is challenging;
- Off- and mini-grid options are often not economically sustainable;

- Electricity supply is often unreliable;
- High connection costs prevent customers from connecting; and
- Relevant authorities have limited capacity for electrification.

#### 4.1.1.2. Fossil fuel resources and supply

4.1.1.2.1. Africa has large fossil fuel resources, with sub-Saharan Africa holding around half of the continent's oil and gas resources and nearly all of the coal resources. The remaining technically recoverable oil resources in Africa amount to some 450 billion barrels or around 7% of the world's oil resources. The 100 trillion cubic metres of remaining recoverable gas resources in Africa represent 13% of the world's gas resources. Coal resources are relatively small and concentrated in South Africa and, to a lesser extent, Mozambique (See Table 5 below).

**Table 5: Remaining recoverable fossil fuel resources in Africa, 2018<sup>1</sup>**

Oil 450 billion barrels		Natural gas 100 Trillion meters		Coal 300 billion tonnes	
Libya	23%	Algeria	26%	South Africa	72%
Nigeria	16%	Nigeria	15%	Mozambique	8%
Angola	10%	South Africa	13%	Other SSA	20%
Gabon	5%	Mozambique/Tanzania	7%		
Chad	4%	Angola	2%		
Mozambique	4%	Other North Africa	16%		
Congo	3%	Other SSA	15%		
South Africa	2%				
Other North Africa	18%				
Other SSA	16%				

Source: IEA (2019)

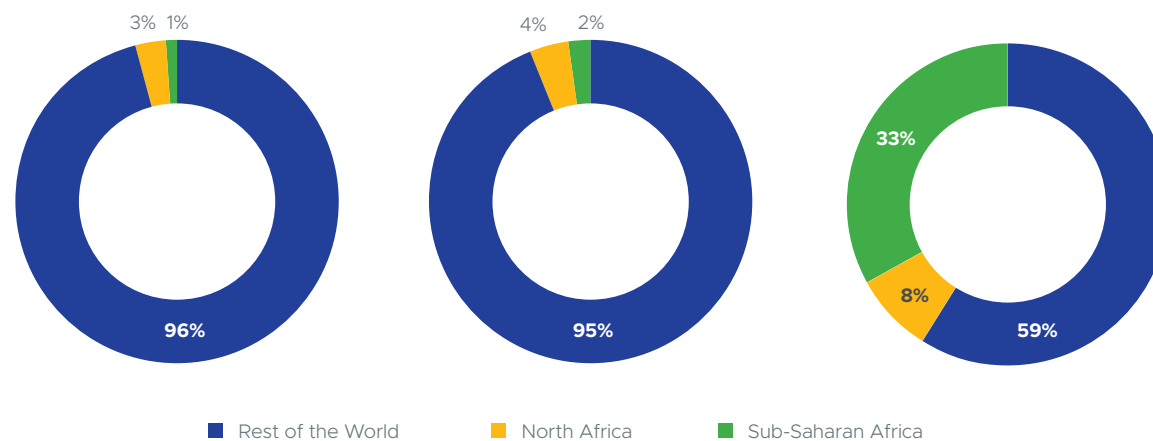
<sup>1</sup> Africa has abundant fossil fuel resources; sub-Saharan Africa accounts for around half of the continent's oil and gas resources.

- 4.1.3.7.2. The African continent is also home to many of the minerals essential to the energy industry. It has around 20% of the world's uranium resources and 40% of the manganese reserves. It also produces a large share of key precious and base metals, for example, two-thirds of global cobalt production comes from DR Congo.
- 4.1.3.7.3. The continent's resource wealth has attracted interest from international companies. Between 2011 and 2014, Africa accounted for around 20% of global oil discoveries with six countries Angola, Nigeria, Republic of the Congo (Congo), Ghana, Mozambique and Senegal adding around 5 billion barrels of offshore resources. With major discoveries in Mozambique and Tanzania, Africa also accounted for around 45% of global gas discoveries during this period.
- 4.1.3.7.4. Since the fall in oil prices in 2014, oil exploration has fallen sharply, and Africa accounted for less than 10% of global oil discoveries between 2015 and 2018. There has however been a series of major offshore gas discoveries in Egypt (2015), Mauritania and Senegal (2015-17) and South Africa (2019).
- 4.1.3.7.5. Oil production in Africa has seen major swings since 2000. In the early years after 2000, sub-Saharan Africa showed strong production growth as the expansion in Nigeria and Angola was joined by new producers such as Chad and Equatorial Guinea. The pace of production growth in sub-Saharan Africa was four-times faster than the global average and the region accounted for almost a quarter of global production growth between 2000 and 2010. This resulted in a 50% increase in net export volumes and, thanks to rising oil prices, a threefold increase in oil revenue.
- 4.1.3.7.6. However, sub-Saharan Africa faced a sharp reversal of fortune after 2010. Nigerian oil production started to decline from 2010 as regulatory uncertainties, militant attacks and the theft of oil took their toll, and Nigerian sweet crude oil also faced fierce competition from surging US tight oil output in export markets. Angola too struggled to keep up production levels as new investments failed to compensate for the rapid decline in maturing fields. Other producers such as Equatorial Guinea and Gabon also registered a gradual output decline. As a result, oil production in sub-Saharan Africa decreased by 15% from its peak in 2010 to 5 mb/d in 2018. Coupled with a 35% increase in domestic demand, this led to a 35% decline in net exports and associated revenue.
- 4.1.3.7.7. Measures to restrain the spread of Covid-19 and the ensuing recession triggered an estimated 8.5 mb/d (8.8%) drop in oil demand in 2020 – the largest ever decline in both absolute and relative terms. The transport sector, responsible for around 60% of total oil demand, was severely impacted by mobility restrictions in 2020. Jet fuel and kerosene demand dropped by 3.2 mb/d (41%), with air passenger traffic 66% below 2019 levels, and gasoline demand declined by over 3 mb/d (12%). Fuel oil demand dropped by 0.5 mb/d (8%) as bunker fuel demand declined along with international trade. Continued freight transport activity mitigated the decline in gasoil demand to 1.8 mb/d (6%), and LPG/ethane and naphtha demand was roughly unchanged as petrochemical feed-stocks benefited from increased sales of packaging, hygiene and medical equipment.
- 4.1.3.7.8. Oil demand in 2020 saw its biggest annual decline. The improving economic environment will support a rebound in global oil demand of 5.4 mb/d, or 6% above 2020 levels. Despite the rebound, demand across 2021 is expected to remain 3.2% below 2019 levels.
- 4.1.3.7.9. Covid-related restrictions on mobility continue to suppress oil demand for transport in the first half of the year, even if the impact is much less than a year earlier. Demand will rise progressively in the second half of 2021, as vaccination campaigns ramp up and travel returns. Nonetheless, oil demand is not projected to reach pre-crisis levels with demand in the fourth quarter of 2021 expected to be 1.4 mb/d lower than pre-crisis levels. International aviation's oil use is the slowest area to rebound and is expected to be 20% below 2019 levels even in December 2021. Excluding international aviation, oil demand is expected to return to 2019 levels in the last months of 2021.

- 4.1.3.7.10. China is the only major economy where oil demand in 2020 was above 2019 levels, and demand in 2021 is expected to grow further to almost 9% above 2019 levels. Oil demand in China fell 1.3 mb/d in Q1 of 2020 as the virus hit China and mobility was curtailed; however, removal of restrictions and a sharp economic rebound through the rest of the year saw oil demand return to growth. Without the increase in demand in China in 2021, global demand would be an additional 1 mb/d, or a further one percentage point, below 2019 levels.
- 4.1.3.7.11. Oil demand in the United States is expected to remain around 0.8 mb/d below 2019 levels, mainly because of the continued impact of the pandemic-related restrictions during early 2021. Demand in the European Union remains 0.4 mb/d below 2019 levels, with continued lockdowns expected to weigh heavily on 2021 annual totals. In India, after further lockdowns in the first half of the year, rapid demand growth in the second half of the year is likely to push 2021 oil demand back on par with 2019 levels.
- 4.1.3.7.12. Gasoline demand is set to increase by 1.8 mb/d in 2021 to reach 25.4 mb/d, even if it will remain 1.2 mb/d below pre-Covid levels. Demand is set to be 2 mb/d below 2019 levels during the first half of 2021 and, while demand should rise in the second half as restrictions are eased, it is expected to remain around 500 kb/d below pre-Covid levels. Behavioural changes from the Covid crisis, such as increased teleworking or greater use of bicycles in cities, outweigh greater preference for private cars vs. public transport in certain regions.
- 4.1.3.7.13. Diesel demand is set to rebound by 1.5 mb/d to 28.5 mb/d in 2021 and should remain 0.3 mb/d below 2019 levels. Diesel is less impacted by restrictions on mobility because trucks have operated at near-normal levels as demand continues for goods held up during the pandemic. New COVID restriction measures implemented in 2021 are not anticipated to restrict manufacturing and the transportation of industrial goods.
- 4.1.3.7.14. Jet fuel and kerosene demand has been the oil product most affected during the pandemic. Air traffic is expected to recover slowly in the first half of 2021 and pick up in the second half when vulnerable populations in the developed world have been vaccinated. Pent up demand could push revenue passenger kilometres (RPKs) up by 50% y-o-y. In this case, we expect total jet fuel and kerosene demand to increase by 0.8 mb/d on 2020 levels in 2021, a rebound of 17%. Despite this growth, demand would still remain 30% below 2019 levels.
- 4.1.3.7.15. Petrochemical feedstock will be the only oil sector to surpass pre-crisis levels with plastics production driven by increased needs for packaging and personal protective equipment. We expect LPG, ethane and naphtha demand to increase by 0.8 mb/d in 2021 (4%).
- 4.1.3.7.16. Fuel oil demand will increase by nearly 0.3 mb/d in 2021 (4.5%) as it is expected to benefit from a rebound in bunker fuel demand and higher industrial activity. Most of the growth will be for the new, very low sulphur fuel oil introduced by International Maritime Organisation regulations.
- 4.1.3.7.17. Africa's gas production increased rapidly in the 2000s, led by strong growth in Nigeria where the rise in oil production was accompanied by a large amount of associated gas, and in Egypt where shifting attention to gas use brought about threefold production growth. However, Africa's gas production stagnated from about 2010. Egyptian production started to trend downwards until 2016 as unfavourable energy price schemes, mounting arrears to international companies and social unrest caused a significant reduction in investment. Nigeria's rapid production growth also came to a halt as fiscal and legislative uncertainties weighed on investment. Algeria managed to maintain output levels, although its largest gas field, Hassi R'Mel, is already mature.

4.1.3.7.18. A series of major new gas discoveries seem likely to boost future gas production in Africa (See Figure 3 below). The start of production at the large Zohr offshore field has already led to a turnaround in Egypt. A gas discovery on the maritime border of Mauritania and Senegal has been followed by a final investment decision (FID) on the Tortue LNG project. FIDs on new onshore liquefaction plants are coming to fruition in Mozambique to exploit the huge offshore resources in the Rovuma Basin<sup>2</sup>. On 10 July 2020 French Oil and Gas company, Total secured \$15.8 billion funding for its LNG project in northern Mozambique.<sup>3</sup> Total has also recently made a significant gas condensate discovery off the southern coast of South Africa, and the estimated volume of resources is over 20% of the world's entire gas discoveries in 2018.

**Figure 3: Share of Africa in global gas demand and production, 2018, and new discoveries, 2011-2018**



*Recent discoveries offer the potential to fundamentally change the role of gas in Africa*

<sup>2</sup> Coral LNG reached a FID in 2017 and started construction in 2018. Mozambique LNG reached a FID in 2019 and Rovuma LNG by ExxonMobil is approaching a final investment decision at the time of writing.

<sup>3</sup> "Total secures \$15.8 billion in funding for Mozambique gas project" Reuters. July 2020

- 4.1.3.7.19. Gas in Africa is at a critical juncture. Where resources are plentiful, it could provide the continent with additional electricity for baseload and flexibility needs, energy for industrial growth and a sizeable source of revenue. But whether that happens depends on countries with gas putting in place well-articulated strategies to turn the discoveries into production and to build infrastructure to deliver gas to consumers cost-effectively in a competitive global LNG market.
- 4.1.3.7.20. Coal production in Africa is dominated by South Africa, which accounted for 93% of the continent's output in 2018. Production in the main current producing region in Mpumalanga province is starting to fall, and mining activities are now shifting to the northern Limpopo province on the border with Mozambique (IEA, 2018). Around two-thirds of the country's output is consumed in domestic markets and most of the rest is exported via the Richards Bay Coal Terminal. Mozambique started coal production in 2010 and is the second-largest coal producer in Africa. Other countries such as Botswana and Zimbabwe are aiming to ramp up coal output, although building infrastructure – rail or roads – to connect production sites to demand or export centres remains a challenge.
- 4.1.3.8.2. Increases in electricity generation from all renewable sources should push the share of renewables in the electricity generation mix to an all-time high of 30% in 2021. Combined with nuclear, low-carbon sources of generation well and truly exceed output from the world's coal plants in 2021.
- 4.1.3.8.3. In 2021, the biofuels market is likely to recover and approach 2019 production levels as transportation activity slowly resumes and biofuel blending rates increase. Biofuels are consumed mostly in road transportation, blended with gasoline and diesel fuels, and thus are less affected by continued depressed activity in the aviation sector.
- 4.1.3.8.4. According to International Renewable Energy Agency (IRENA, 2021), Africa arguably has the largest renewable energy resources of any continent. Sunlight is abundantly available everywhere, while other types of resources are more plentiful in some countries and regions than in others – such as geothermal along the Rift Valley in East Africa, or wind power in the Horn of Africa and various coastal areas. Africa's theoretical potential to generate onshore renewable energy from existing technologies is more than 1,000 times larger than its projected 2040 demand for electricity, which means that it has more than enough renewable energy resources to serve its own demand, even in the long run. With the right investments and enabling frameworks, it could even emerge as a net exporter of renewable energy.

#### 4.1.3.8. Renewable energy potential

- 4.1.3.8.1. Renewable energy use increased 3% in 2020 as demand for all other fuels declined. The primary driver was an almost 7% growth in electricity generation from renewable sources. Long-term contracts, priority access to the grid, and continuous installation of new plants underpinned renewables growth despite lower electricity demand, supply chain challenges, and construction delays in many parts of the world. Accordingly, the share of renewables in global electricity generation jumped to 29% in 2020, up from 27% in 2019. Bioenergy use in industry grew 3%, but was largely offset by a decline in biofuels as lower oil demand also reduced the use of blended biofuels.
- 4.1.3.8.5. Table 6 on the next page shows that Africa has an estimated theoretical onshore renewable energy potential of 2 431 763 TWh/y. Of this, 1 449 742 TWh/y is from Solar PV which is the highest followed by 978 066 TWh/y from Wind and Biomass with 2 374 TWh/y. Hydropower and Geothermal are the lowest with 1 476 TWh/y and 105 TWh/y, respectively. However, Northern Africa has the highest potential with 848 736 TWh/y followed by East Africa with 551 282 TWh/y. Southern Africa, West Africa and Central Africa have a potential of 418 462, 381 289 and 231 994, respectively.

**Table 6: Estimated Theoretical Onshore Renewable Energy Potential in Africa (TWh/y)<sup>4</sup>**

	East Africa	West Africa	Northern Africa	Southern Africa	Central Africa	Total per Technology
Hydropower	334	101	56	415	570	1 476
Wind	242 096	140 513	348 782	171 739	74 936	978 066
Solar PV	308 105	240 611	499 898	246 212	154 916	1 449 742
Geothermal	105					105
Biomass	642	64		96	1 572	2 374
<b>Total</b>	<b>551 282</b>	<b>381 289</b>	<b>848 736</b>	<b>418 462</b>	<b>231 994</b>	<b>2 431 763</b>

4.1.3.8.6. According to IRENA (2021) as shown in Table 6 above, the development of solar in Africa has been slow, with only around 4 GW of new solar PV capacity added between 2010 and 2018, more than two-thirds of it in sub-Saharan Africa. The main challenges and barriers that countries face include limited institutional capacity within government, lack of scale and competition, high transaction costs and the perceived high risk of such projects (World Bank, 2018). This has prompted the World Bank to start the Scaling Solar initiative to address these challenges by providing a “one-stop-shop” to help governments mobilise privately funded grid-connected solar projects at competitive costs.

4.1.3.8.7. IRENA (2021) also assessed the potential of CSP on the continent and estimated the likely potential as being around 470 000 TWh a year. East Africa has the highest potential, followed by Southern Africa. Developments around CSP have also been slow except for large solar CSP projects in Morocco and South Africa.

4.1.3.8.8. Hydropower has been the main renewable energy resource developed to date with around 35 GW of hydro capacity across Africa, with Angola, Ethiopia, DR Congo, Zambia, South Africa, Sudan, Mozambique and Nigeria each having 2 GW or more. Ethiopia has hydropower capacity of nearly 4 GW and more developments are planned, most notably the 6 GW Grand Ethiopian Renaissance Dam, which will be the largest in Africa when it comes into service in 2022. South Africa has installed hydropower capacity of close to 4 GW including the recent 1.3 GW Ingula plant.

4.1.3.8.9. Central Africa has very rich hydropower resources thanks mostly to the Congo River, the deepest river in the world and the second-longest in Africa after the Nile. There is a large mismatch between the significant hydropower potential in this region and the much more limited local electricity demand. This means that large-scale regional interconnections will be essential to promote its development. The DR Congo in particular has enormous hydropower potential that has been estimated at 100 GW, which could generate about 774 TWh of electricity per year. Plans in DR Congo to develop the Grand Inga Dam further have been beset with difficulties, but projects have been moving forward elsewhere.

<sup>4</sup> These potentials are purely theoretical potentials, with no techno-economic evaluation undertaken. These resource potentials, therefore, are subject to a significant reduction when economic parameters are applied.



- 4.1.3.8.10. While state-owned enterprises remain the largest developers of hydropower projects, many have been built by Chinese developers and backed by concessional financing. Chinese investors accounted for 60% of investment in sub-Saharan hydropower projects between 2010 and 2015.
- 4.1.3.8.11. Small-scale hydropower (1-10 MW) and mini-hydro power (0.1-1 MW) could provide power for rural electrification in some areas of sub-Saharan Africa, and there is particular potential in the central and south-eastern parts of the continent. A recent study estimated around 21 800 MW of small-scale hydropower technical potential (Korkovelos et al., 2018), with the central corridor of the sub-continent and especially South Africa, DR Congo and Sudan having the most potential. The same study also estimated that the total mini-hydropower technical potential in sub-Saharan Africa was around 3 400 MW.
- 4.1.3.8.12. With close to 5.5 GW of installed wind power capacity in 2018, there is plenty of room for expansion given its theoretical potential to produce as much as 460 000 TWh of electricity a year (IRENA, 2018). Most wind resources are found close to coastal locations, mountain ranges and other natural channels in the eastern and northern regions of the continent. Algeria, Egypt, Somalia, South Africa and Sudan are among the countries with the highest wind energy potentials (IRENA, 2084). The best offshore wind energy potential is found off the coasts of Madagascar, Mozambique, Tanzania, Angola and South Africa.
- 4.1.3.8.13. Wind can be cost-competitive with other technologies where the resources are good, but other factors could limit its deployment. For example, in East and North Africa, where the best resource potential is estimated, domestic markets are small and power grids are not well developed, meaning that significant variable generation from wind could be challenging to manage without additional grid investment.
- 4.1.3.8.14. Geothermal resources can be found throughout Africa but the bulk of the potential is concentrated in the East Africa Rift System, where total potential could be as much as 105 TWh/y (IRENA, 2021). This potential is largely untapped at present. Only Kenya has tapped its geothermal potential and installed capacity of almost 700 MW.
- 4.1.3.8.15. Other countries in East Africa are now taking steps to make use of geothermal energy: Ethiopia is operating a 7 MW pilot plant and new developments totalling more than 1 GW are planned in Djibouti, Eritrea, Tanzania and Uganda. The expansion of geothermal power in the East Africa region faces several barriers, but technical and financial support is available (notably from Japan) to help countries formulate geothermal master plans and to promote private sector funding and local capabilities.
- 4.1.3.8.16. Bioenergy continues to dominate the sub-Saharan energy mix and made up almost 60% of primary energy use in 2018. Almost three-quarters of bioenergy demand is accounted for by the traditional use of solid biomass in the residential sector, although there is also some use of solid biomass and biogas for modern power generation and heat.
- 4.1.3.8.17. Bioenergy can generate around 800 MW of electricity from the current installed capacity, mainly in East and South Africa. However, large-scale deployment will be challenging, as the levelised costs of power generation from bioenergy are often higher than gas-fired generation and hydropower, due in part to the cost of collecting the biomass.

#### 4.1.4. Regional Developments

- 4.1.4.1. The region is relatively well endowed with energy resources. The SADC region has vast energy potential from solar, wind, nuclear, hydro, thermal, gas and petroleum sources in several countries. However, biomass is by far the major source of energy in most regional countries. According to a report by the Renewable Energy Policy Network for the 21st Century (REN21, 2015), traditional biomass such as wood and charcoal accounts for more than 45 percent of final energy consumption in the region.

- 4.1.4.2. Electricity, as the dominant source of energy in the region, is generated mainly through thermal or hydroelectric resources. The coal industry so far is the backbone of power generation in the region and a significant share of the resource is allocated for export. The region has a large reserve of low-cost hydroelectricity in the north (especially Inga Reservoir in the DRC) and Kariba Dam on the Zambia/Zimbabwe border in the middle of the regional system, as well as large reserves of cheap coal in Botswana, Mozambique, South Africa and Zimbabwe.
- 4.1.4.3. Natural gas is becoming more significant to the region's energy sector, as Mozambique, Namibia, South Africa and Tanzania are developing the natural gas fields in their respective countries (SARDC, 2010). New natural gas discoveries by international oil companies in Mozambique and Tanzania during the past decade have ignited investor interest in this previously under-explored region. The nascent petroleum and gas sub-sector is however plagued by volatile prices. Although the region is endowed with some petroleum and gas resources, these are not directly available to the region due to either foreign commitments or the lack of the necessary infrastructure to exploit, process, and store and distribute throughout the region.
- 4.1.4.4. Furthermore, the region has some of the most significant known reserves of uranium and the mineral is being mined in Namibia and South Africa for use as fuel for nuclear power plants while exploration is underway in Botswana and Zimbabwe. Nuclear technology is included in the electricity sub-sector but what is required is to demonstrate that nuclear power can be a safe electricity generation option and win the confidence of the population and governments to endorse nuclear energy deployment in the SADC region. Only South Africa has nuclear capacity, with tentative plans for a new nuclear programme.
- 4.1.4.5. The region has a large potential for renewable energy, including hydropower, which is already being exploited on a commercial scale. However, the necessary infrastructure for grid connection is poor. The prices for most renewable energy technologies are coming down but more needs to be done in the form of innovative financing. A key factor of the SADC energy sector is the fact that the region has faced an electricity deficit since 2007 due to a combination of factors that have contributed to a diminishing generation surplus capacity against increasing growth in demand. In recent years, the sub-region has experienced a power deficit situation due to a number of reasons, including growing demand against limited expansion in generation capacity.
- 4.1.4.6. While SADC is committed to renewable energy and aims to meet its renewable energy objectives, a number of challenges still remain:
- a) Renewable energy entails high upfront costs, especially for technology.
  - b) Most renewable energy equipment is imported, with no local options for manufacturing.
  - c) There may not be capacity to connect large-scale energy projects to the grid.
  - d) Much renewable energy equipment is of poor quality and the region lacks appropriate testing facilities to ensure effectiveness.
  - e) Research, development, and production of renewable energy infrastructure occur outside the region and there are no localisation strategies in place.
  - f) Renewable energy depends heavily on donor subsidies at present.
  - g) There are no guidelines for assessing the impacts and benefits of renewable energy incentives, such as feed-in tariffs.
  - h) Data on possible deforestation caused by biomass development is lacking, inhibiting progress on regulation and decision-making.

4.1.4.7. Although plans have been put in place to address the supply shortage by 2020, projects intended to address the shortage lag behind the deadline due to failure to package projects for funding, below-cost tariffs, poor project preparation, issues with Power Purchase Agreements (PPAs), and absence of regulatory frameworks, among other constraints. Massive investment in generation, transmission and distribution infrastructure will be required to sustain the projected increase in power demand in the region. Approximately between US\$93 billion and US\$212 billion is required for short and long-term projects to boost power supply by 2015 and 2027.

4.1.4.8. One of the most pressing constraints is the need to improve the transmission line capacity and strengthen the regional grid. Approximately 60-70% of the matched bids in the Southern African Power Pool (SAPP) cannot take place due to transmission capacity constraints.

4.1.4.9. More than 23 085 MW of new generation capacity is expected to be commissioned between 2019 and 2023. A number of rehabilitation and new generation projects are being undertaken to address the generation supply gap. Table 7 below shows planned committed generation capacity country by country. IPPs will contribute 15%. Solar and wind contribution is at 10% and 2% respectively. A total of 3 766 MW is planned to be commissioned in 2020 down from 4824 MW that was planned for 2019.

**Table 7: Committed Generation Capacity 2019 to 2023, MW**

	2019	2020	2021	2022	2023	Total	% Share	IPPs	Solar	Wind
Angola	1043	65	0	2100	0	3208	13.90%	0	0	0
Botswana	0	410	0	0	0	410	1.78%	310	10	0
DRC	152.4	360	0	0	0	513.4	2.22%	0	0	0
Eswatini	0	10	0	0	0	10	0.04%	0	10	0
Lesotho	0	0	20	0	0	20	0.09%	0	20	0
Malawi	136	60	278	0	258	732	3.17%	220	60	0
Mozambique	30	30	0	550	0	610	2.64%	210	60	0
Namibia	10	220	44	0	0	274	1.19%	171	77	134
South Africa	3234	1219	2342	1525	805	9125	39.53%	1150	1319	0
Tanzania	0	27	1500	3430	600	5557	24.07%	977	375	200
Zambia	0	765	120	200	101	1186	5.14%	320	320	0
Zimbabwe	240	600	600	0	0	1440	6.24%	0	0	0
<b>Total</b>	<b>4846.4</b>	<b>3766</b>	<b>4904</b>	<b>7805</b>	<b>1764</b>	<b>23085</b>	<b>100%</b>	<b>3358</b>	<b>2291</b>	<b>384</b>

Source: Southern African Power Pool (2019)

4.1.4.10. The SAPP's generation mix is currently dominated by thermal (coal) with 60.67%. Other generation technologies available in SAPP are hydropower, solar, distillate, nuclear, wind, gas biomass and landfill.

4.1.4.11. Nearly all the SAPP Member States have high solar penetration levels that provide a great potential and meaningful contribution of solar energy to the current power deficit. The total renewable energy contribution is expected to rise to at least 35% of the regional energy mix by 2030.

4.1.4.12. In its bid to meet the rising demand of electricity, the SADC region is implementing several Generation and Transmission projects across the region. Some of the projects include the following amongst others:

- Zambia-Tanzania-Kenya interconnector
- Mozambique-Malawi Interconnector and Namibia-Angola-Interconnector
- Zimbabwe-Zambia-Botswana-Namibia Interconnector
- Mozambique-Zimbabwe-South Africa Inter-connector

4.1.4.13. For example, the parallel operation of the 220kV Marvel (Zimbabwe)-Francistown (Botswana) tie line. For many years, the 220kV Marvel (ZESA) – Francistown (Botswana) tie line was being operated either with one end in open position or as a radial feeder, feeding an island load in Botswana. This was due to experiences of under-voltage, over-load, and loss of load in the Botswana power system in the event of loss of the 400 kV Insukamini (Zimbabwe)-Phokoje (Botswana) tie line. In the last few years, the Botswana power system was strengthened by commissioning the 400 kV Phokoje-Morupule B-Isang transmission line and the 600 MW Morupule B power station, among other development. Therefore, SAPP embarked on a project to run the 220kV and 400kV Zimbabwe-Botswana interconnectors in parallel. The project involved the installation of new telecommunication, protection, metering, and synchronising systems. Further, wheeling rates and power transfer limits were updated. The two tie lines were synchronised in parallel from June-July 2018 for testing and in October 2019 for commercial operation. Table 8 on the next page presents SADC 's renewable energy targets within member countries in line with fuel technology utilised.

**Table 8: Renewable Energy Targets in the SADC Member States**

Country	Sector/Technology	Target
Angola	Electricity access Renewable energy (small-scale) Hydropower Biofuels	Increase in renewable energy capacity of the following amounts by 2025: <ul style="list-style-type: none"> <li>• Small hydro: 100 MW, with 60 MW for municipalities</li> <li>• Solar: 100 MW, with 10 MW off-grid</li> <li>• Wind: 100 MW</li> <li>• Biomass: 500 MW</li> </ul>
Botswana	Energy access Renewable electricity Renewable energy	<ul style="list-style-type: none"> <li>• 82 percent access to modern energy services by 2016; 100 percent access by 2030</li> <li>• Capacity increases expected from REFIT programme (delayed)</li> <li>• 15 percent renewable share in final energy consumption by 2036, but may increase to 20 percent in 2017 Renewable Energy Strategy once approved.</li> </ul>
DRC	Energy access (non-renewable energy-specific)	<ul style="list-style-type: none"> <li>• 60 percent overall energy access (not renewable-specific) by 2025 (from 9 percent currently)</li> </ul>
Lesotho	Grid extension (non-renewable energy-specific)	<ul style="list-style-type: none"> <li>• Targets pending completion of Sustainable Energy Strategy 2018</li> </ul>
Madagascar	Renewable electricity	<ul style="list-style-type: none"> <li>• 85 percent renewable share in electricity generation by 2030</li> </ul>
Malawi	Electricity access Electricity efficient device Renewable energy Biofuels	By 2025/2030: <ul style="list-style-type: none"> <li>• 30 percent access to electricity (up from 9 percent)</li> <li>• 100 percent use of efficient cook stoves in off-grid households</li> <li>• 6 percent renewable share in energy mix (up from 1 percent)</li> <li>• Biofuels mandate of 20 percent ethanol and 30 percent biodiesel</li> </ul>
Mauritius	Renewable energy	<ul style="list-style-type: none"> <li>• 35 percent of electricity from renewables by 2025; generation shares of 17 percent bagasse, 8 percent wind, 4 percent waste, 2 percent solar, 2 percent geothermal by 2025 (under review)</li> </ul>
Mozambique	Renewable electricity	<ul style="list-style-type: none"> <li>• 400 MW increase in installed renewable energy capacity by 2024, including:</li> <li>• Wind: 150 MW</li> <li>• Hydro: 100 MW large-scale, 100 MW small-scale</li> <li>• Solar: 30 MW</li> <li>• Biomass: 30 MW</li> </ul>

Country	Sector/Technology	Target
Namibia	Renewable electricity	<ul style="list-style-type: none"> <li>70 percent renewable share in electricity generation by 2030</li> </ul>
Seychelles	Renewable electricity	<ul style="list-style-type: none"> <li>5 percent renewable share in electricity generation by 2020; 20 percent by 2030.</li> </ul>
South Africa	Renewable electricity	<ul style="list-style-type: none"> <li>43 percent renewable energy sector share by 2030.</li> <li>20 400MW new capacity to be procured from Solar PV and Wind between 2022 and 2030 (IRP).</li> <li>Approximate market value for RE based on IRP 2019<sup>5</sup>: <ul style="list-style-type: none"> <li>&gt; R99 billion for Solar PV</li> <li>&gt; R271 billion for wind; and</li> <li>&gt; R48 billion for distributed generation of less than 10 MW</li> </ul> </li> </ul>
Eswatini	Renewable electricity	<ul style="list-style-type: none"> <li>60 MW of intermittent resources such as solar PV by 2030.</li> <li>50 percent renewable share in energy consumption by 2030.</li> </ul>
Tanzania	Renewable electricity	<ul style="list-style-type: none"> <li>5 percent renewable share in electricity generation by 2030 (up from less than 1 percent)</li> </ul>
Zambia	Electricity access Biofuel	<ul style="list-style-type: none"> <li>200 MW increase in renewable energy capacity by 2020.</li> </ul>
Zimbabwe	Electricity access Renewable energy Hydropower (small-scale) Biofuel	<ul style="list-style-type: none"> <li>1,100 MW increase in renewable energy capacity by 2025; 2,100 MW increase by 2030 (16.5 percent increase overall).</li> <li>2,400 GWh increase in renewable energy generation by 2025; 4,600 GWh increase by 2030 (26.5 percent increase overall)</li> <li>Note: targets are conditional on final approval by the government.</li> </ul>

Source: SADC Renewable Energy Report 2018

5 Based on the R/MW overnight capital cost per technology (GreenCapeUtility-Scale Renewable Energy Market Intelligence Report 2020)

- 4.1.4.14. The interest to increase renewable energy and energy efficiency initiatives in Southern Africa has been driven largely by electricity supply shortages affecting several countries in the region.
- 4.1.4.15. Furthermore, the changing economics of renewable energy and in particular wind and solar energy as well as the emergence of new policy concepts such as feed-in tariffs, net metering, auctioning of power supply from IPPs and clean energy certificates (CELS), have led to increasing renewable energy investments (see Table 8 on the previous page).
- 4.1.4.16. The SADC region is endowed with significant deposits of coal (and associated coal bed methane gas), crude oil, shale gas and natural gas. This optimal exploitation could potentially prove to be the “missing ingredient” in terms of diversifying the region’s energy mix, reducing the cost of energy and improving its accessibility to the citizens of the region, as well as reducing carbon dioxide emissions, which are associated with advancing global warming and climate change. Natural gas is becoming more significant to the region’s energy sector as Angola, DRC, Madagascar, Mozambique, Namibia, South Africa and Tanzania develop natural-gas fields in their respective countries. Parallel to these developments, countries endowed with coal resources, particularly Botswana, Mozambique, South Africa and Zimbabwe are redoubling efforts to extract coal-bed methane gas on a commercial scale.
- 4.1.4.17. Investments in the oil and gas sector are rising, particularly in Angola, Mozambique and Tanzania due to the vast resources found in those countries. Mauritania and Senegal are countries where hydrocarbons have recently been discovered. However, the sector is plagued by volatile prices, where low prices are generally discouraging investment.
- 4.1.4.18. The main producers of gas in the SADC region are Angola, Tanzania, DRC and Mozambique. Angola leads the region in deposits of gas and petroleum, while South Africa is rich in shale gas and coal-bed methane gas. Tanzania is emerging as a force in this sector as new discoveries of natural gas continue to be made along its Indian Ocean coast. Mozambique has also seen a rapid expansion of its gas industry since the commissioning of the 865 km-long gas pipeline from Pande and Temane gas fields in south-central Mozambique to Secunda in South Africa by the multinational company ROMPCO, headquartered in South Africa.
- 4.1.4.19. The Rovuma area, in the far north of Mozambique near the Tanzanian border, has seen positive results of natural gas exploration while the Tete Province, with its vast coal deposits, is also home to significant coal-bed methane gas. The Democratic Republic of Congo (DRC) Namibia, have recently discovered significant reserves of natural gas offshore. The other SADC Member States such as Botswana, Malawi, Zambia and Zimbabwe have large reserves of coal and hence coal-bed methane gas, which has not yet been extracted commercially, although extensive pilot tests have been conducted, especially in Botswana and Zimbabwe.
- 4.1.4.20. The Anadarko-operated Mozambique LNG project will be Mozambique’s first onshore LNG development. It will initially consist of two LNG trains with a total nameplate capacity of 12.88 mtpa to support the development of the Golfinho/ Atum fields. The project is entirely located within Offshore Area 1.
- 4.1.4.21. Only 6 countries have proven gas reserves with Namibia being the only one of these with no gas production. The following table (Table 9 below) of figures shows the proven and probable natural gas reserves and current production for SADC countries. The remaining SADC countries Lesotho, Madagascar, Malawi, Mauritius, Seychelles, Swaziland, and Zambia have no known reserves. Table 9 below presents gas reserves within member countries in the SADC region as indicated through proven reserves, probable reserves and production reserves.

**Table 9: Gas reserves in the Region**

Country	Proven reserve (Tcf)	Probable reserve (Tcf)	Production reserve (Tcf)	Remarks
Angola	1.6	13	350	The IEA reported that the Ministry of Petroleum puts proven plus probable reserves at 10 Tcf, with another 26 Tcf possible; while the EIA assumes proven reserves at 1.6 Tcf with another 9.5-25 Tcf possible. Only two small gas-only fields have been discovered (offshore in blocks 1 and 2, close to Soyo).
Botswana	0	15	-	Coal bed methane is mentioned (up to 15 Tcf) but no plans for exploration
DRC	35	35	0.3	Despite the considerable gas reserves, exploration and exploitation are not planned though oil production and exports flourish. Small amount of gas are used for electricity generation.
Mozambique	97	192	162	Pande (proven 2.3 Tcf; probable 3.6 Tcf; already produced 0.46 Tcf) was discovered in 1961, Temane (proven 1 Tcf, proven and probable 1.5 Tcf; already produced 0.2 Tcf) was discovered in 1967. Another field, Buzi, was too small to be feasible exploited (0.2 Tcf).
Namibia	2.2	2.2	-	Exploitation not yet proven to be economically feasible (Kudu field is 170 km offshore).
South Africa	2	15 (+485 Shale)	45 (Mossel Bay)	100 to 120 Bcf/yr imported from Mozambique for industrial use
Tanzania	22	67	30	Gas production will probably develop similar to neighbouring Mozambique
Zimbabwe	0	0	-	Possibly coal bed methane deposits

Source: African Development Bank



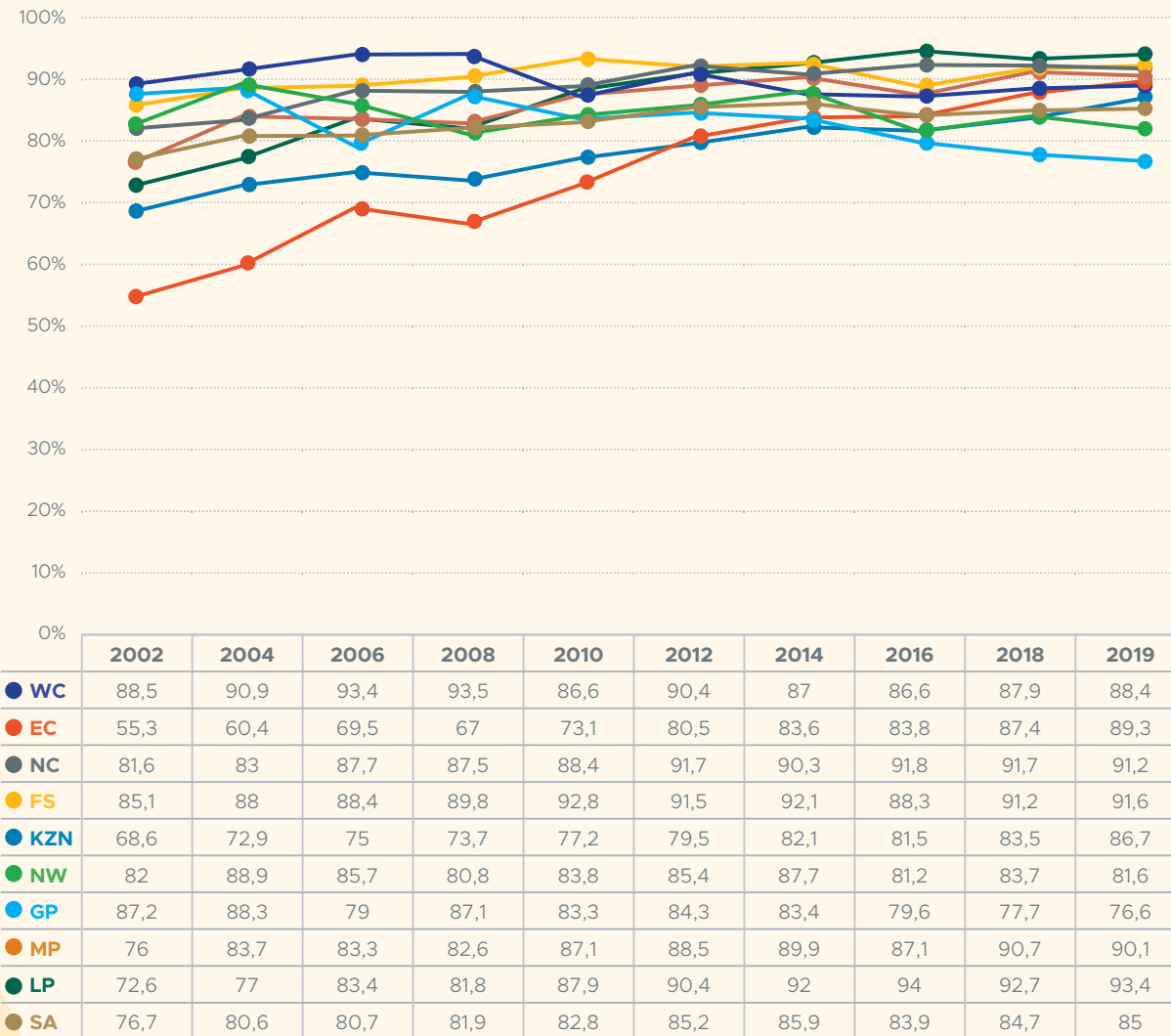
- 4.1.4.22. Mozambique will serve as the second-largest LNG producer in Africa after the completion of various ongoing projects, and it has the potential to become the third-largest global LNG exporter after Qatar and Australia. To put this into perspective, the combined production capacity of Mozambique's Area 1 LNG Project, the Rovuma LNG Project and Coral South FLNG Project would equal 81% of all African LNG exports in 2018.
- 4.1.4.23. The region of Cabo Delgado, north of Mozambique, is home to one of the world's recent richest gas finds. However, is also playing host to a spate of violence pitting government forces against internal rebels. The rebels, for the third time this year, have seized Mocimboa da Praia, located about 60 kilometres south of the LNG project and the closest harbour.
- 4.1.4.24. North of Mozambique, Tanzanian gas demand is set to rise in the coming years on the back of higher consumption in the power sector, as the government looks to provide more access to electricity for the southeast African country's growing population. Whilst the country's \$30 billion LNG project which has been in the planning for the past five years is being held up by regulatory delays, Tanzania's onshore Mnazi Bay gas field producing some 65 - 75 MMcf/d of gas and is providing around 70% of the country's gas supply.
- 4.1.4.25. The gas demand is expected to rise further as Tanzania builds out its Kinyerezi power station complex near the capital Dar es Salaam. The discovery of over 46 trillion cubic feet (TCF) of offshore natural gas in Tanzania places the East African country as a significant competitor in the global LNG market. Their proximity to the Asian LNG market heightens the expectation of this resource for power generation, regional supply, and intercontinental export.
- 4.1.4.26. Invictus Energy (Pty)Ltyd, an independent oil and gas exploration company focused on high impact energy resources in sub-Saharan Africa with its headquarters in Perth, Australia, has commenced field operations at the Muzarabani oil and gas project in preparation for the drilling of two test wells later next year in Zimbabwe, Mashonaland Central Province. The Muzarabani Oil and Gas wells will be drilled around October-November 2021 to a total depth deeper than 4000 metres and will aim to confirm the prospect's prospective resources of 4.5 Trillion Cubic feet. This is a new project in Southern Africa, with a potential to increase oil and gas supply in the SADC region. It has potential to drive economic growth and employment if the exploration exercise is successful by end of 2021.

#### 4.1.5. National Developments

- 4.1.5.1. The energy sector in South Africa has been, and continues to be, at the centre of the economic and social development. The industry directly affects the economy by using labour and capital to produce energy. This role is particularly important when economic growth and job creation are such high priorities in the country. In addition to the energy economic contributions in general, relatively lower and stable energy prices are very instrumental in stimulating the country's economy.
- 4.1.5.2. According to DMRE (2020), the South African energy sector is dominated by coal, which is plentiful and cheap, and is ranked among the lowest energy costs in the world. Apart from coal, which contributed around 69% to the total primary energy supply in 2016, South Africa gets energy locally from biomass, such as wood and dung, natural gas, hydro-power, nuclear power, solar power and wind. The National Development Plan (NDP) envisages that by 2030 South Africa will have an energy sector that promotes economic growth and development through adequate investment in energy infrastructure. The plan also envisages that by 2030 South Africa will have an adequate supply of electricity and liquid fuels to ensure that economic activities and welfare are not disrupted, and that at least 95% of the population will have access to grid or off-grid electricity.

- 4.1.5.3. The South African energy supply is dominated by coal which constituted 69% of the primary energy supply in 2016, followed by crude oil with 14% and renewables with 11%. Nuclear contributed 3% while natural gas contributed 3% to the total primary supply during the same period. The primary energy supply in this case includes indigenous production and imported sources less exported quantities.
- 4.1.5.4. Owing to the lack of reserves, the country imports over 90% of its crude oil from Saudi Arabia, Togo, Nigeria and Angola. During the transformation stage, the country produced approximately 6.6% of its fuel requirements from gas (GTL), 46.8% from coal (CTL), and 46.6% from crude oil (DOE, Energy Balance 2016). Majority of petroleum products are refined in the country, however, some petroleum products were imported to supplement the production shortfall.
- 4.1.5.5. South Africa has the 5th largest recoverable coal reserves in the world, estimated at 66.7 billion tons (DMR, 2016). Consequently, South Africa's indigenous energy-resource base is dominated by coal. By international standards, South Africa's coal deposits are relatively shallow with thick seams, which make them easier and cheaper to mine. At the present production rate, it is estimated that there is more than 50 years of coal supply left. South Africa's dependency on coal-based energy is unlikely to change significantly in the next two decades, owing to the relative lack of suitable alternatives to coal. In addition to the extensive use of coal in the domestic economy, 24% of South Africa's coal was exported in 2016 and only 1% imported.
- 4.1.5.6. The following are key findings highlighted by Statistics South Africa in its General Household Survey (GHS) for 2019:
- a. The percentage of South African households that were connected to the mains electricity supply increased from 76.7% in 2002 to 85% in 2019 (see Figure 4 below);
  - b. Household with access to mains electricity was most common in Limpopo (93.4%), Free State (91.6%), Northern Cape (91.2%), and Mpumalanga (90.1%), and least common in Gauteng (76.67%), North West (81.6%) and KwaZulu Natal (86.7%); and
  - c. The largest increases between 2002 and 2018 were observed in Eastern Cape (34.0%), and Limpopo (20.8%) while the percentage of households with access to mains electricity declined in Gauteng (-10.6%) and Western Cape (-0.1%). These declines can be associated with the rapid in-migration experienced by these provinces and the associated increase in households. Figure 4 below shows the distribution of household connectivity to the electricity grid per province of South Africa

**Figure 4: Percentage of households connected to the mains electricity supply by province**

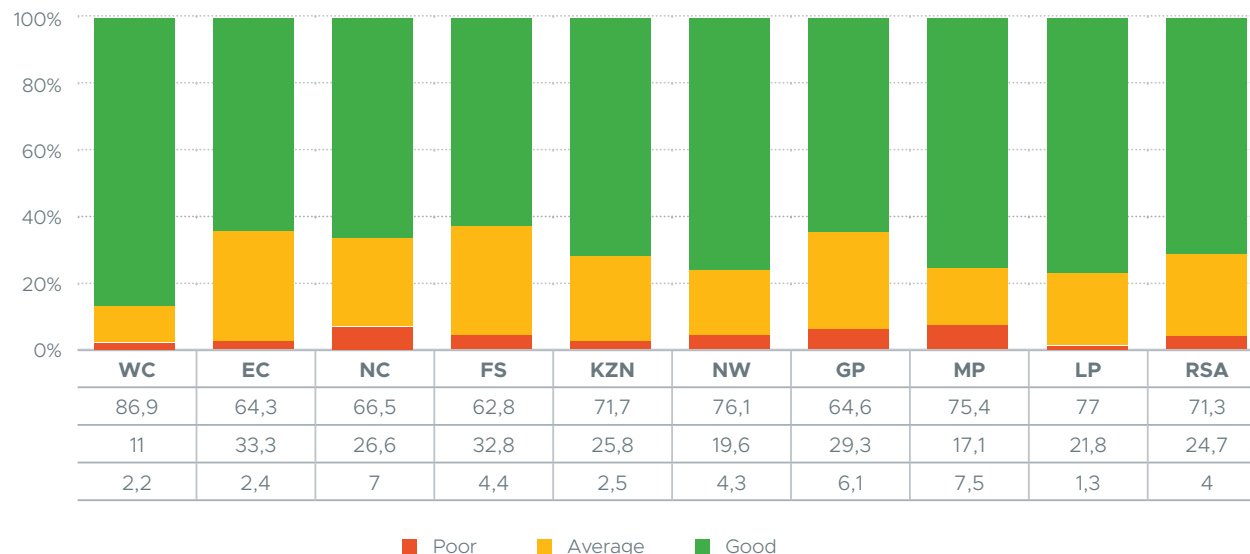


Source: Statistics SA

4.1.5.7. The percentage of households that used electricity for cooking was highest in Free State (86.3%) and Northern Cape (84.2%) and lowest in Limpopo (62.2%). The use of paraffin was most common in Gauteng (7.3%) and least common in Western Cape (0.7%). The use of wood was particularly noticeable in Limpopo (32.1%), Mpumalanga (16.7%), Eastern Cape (10.5%) and KwaZulu-Natal (8.4%).

4.1.5.8. Figure 5 below presents information on the percentage of households that rated their electrical supply services as 'good', 'average' or 'poor' by province for the years 2010 and 2018. Nationally, 65.7% of households rated the service they received as 'good'. This represents a decline of 1.8% since 2010 when 67.5% rated electricity supply services as 'good'. The figure shows that households most commonly rated the service as 'good' in Western Cape (84.5%), Mpumalanga (7.8%) and North West (71.3%). Only 64.6% of households in Gauteng rated their service as 'good'. Only 54.3% of households in Free State and 57.0% of households in Gauteng rated their service as 'good'. Figure 5 below shows households' rating of the quality of electrical supply services per province since 2010 to 2018.

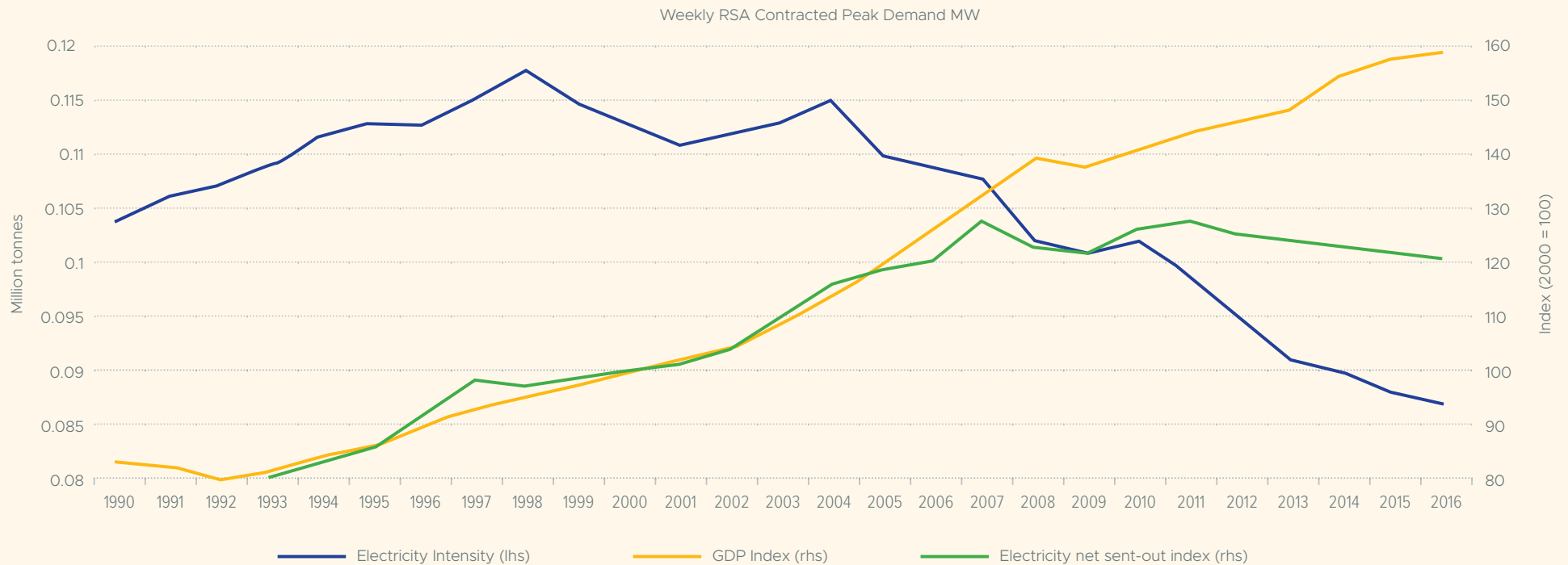
**Figure 5: Households' rating of the quality of electrical supply services by province, 2010 and 2018**



Source: Statistics SA

4.1.5.9. According to Ener-data(2021), electricity consumption remained stable between 2016 and 2019 at around 240 TWh, before decreasing by 4.8% to 208 TWh in 2020. Industry is the main electricity consumer (48%), followed by the residential sector (24%) and the services sector (17%). Trends in demand and supply are displayed in Figure 6 below. However, COVID 19 impacted negatively on electricity demand after the Presidential announcement of hard lockdown on the 26th of March 2020. Electricity consumption remained stable between 2016 and 2019 at around 240TWh, before decreasing by 48% to 208TWh in 2020. Industry is the main electricity consumer at 48% of total electricity generated, followed by households as domestic users at 24% and the services sector at 17%.

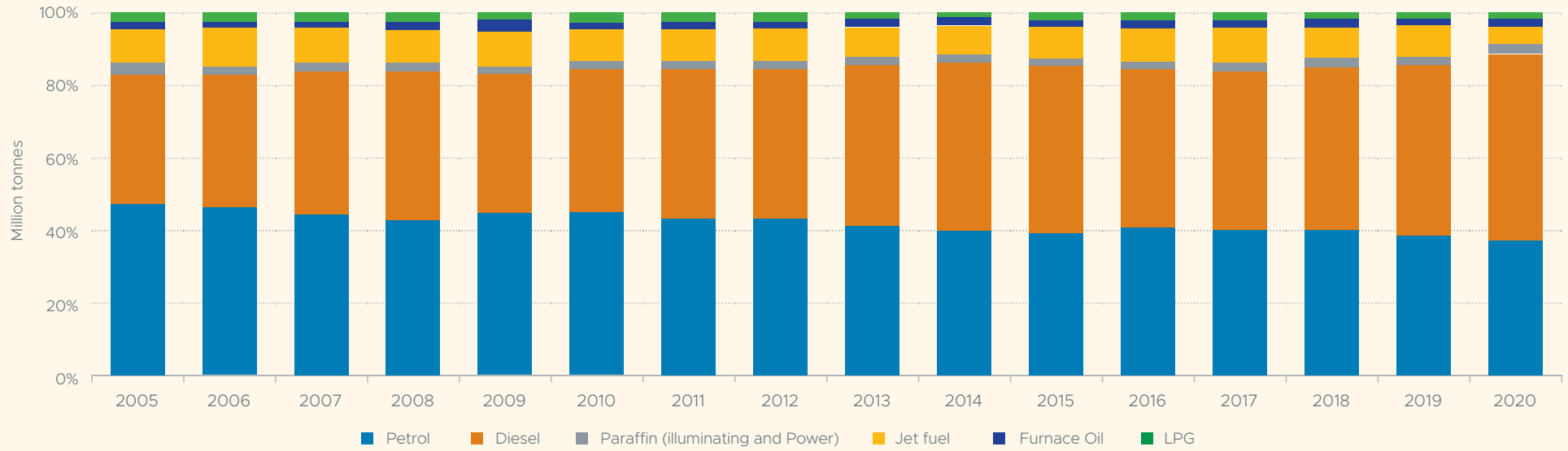
**Figure 6: Trends in Electricity demand and supply in South Africa**



#### 4.1.5.10. Petroleum and Gas Sector

- 4.1.5.10.1. Inputs of petroleum products play an important role in transport and production activities of various other sectors of the South African economy. However, South Africa does not have its own economically extractable natural crude oil resources. Therefore, South Africa relies on imports of crude oil and refined fuels to meet its liquid fuels needs. South Africa has the second-largest refining capacity in Africa after Egypt, with a total refining/liquid fuels capacity of 718 000 barrels per day (b/d) up from 703 000 b/d in 2015 (SAPIA, 2019).
- 4.1.5.10.2. According to the Department of Mineral Resources and Energy (DMRE), approximately 8761 litres of petrol were sold in 2020 while 10 773 were sold in 2019. These figures show a drop of 2 012 litres (18.6%) in 2020. This drop is a result of travel restrictions during the lockdown and more people working from home. About 1 219 fewer litres of Diesel were sold in the 2020 period compared to 2019, representing a 9.4 % drop in the volumes. The decline was a result of lockdown restrictions. South Africa has, following Egypt, the second largest crude oil refining capacity in Africa to the tune of 718 000 barrels per day. At the upstream level, the industry remains oligopolistic dominated by the six oil majors owning refineries.
- 4.1.5.10.3. There are six refineries in the country; four of the refineries are on the coast and two are inland. Two of the refineries are synthetic fuels production facilities that produce liquid fuel from coal and gas, which are owned by Sasol and PetroSA respectively. Sasol uses both the Coal-To-Liquids (CTL) and Gas-To-Liquids (GTL) technologies. The Petroleum Oil and Corporation of South Africa (PetroSA) produce synthetic products using GTL technology. In 2016, South Africa imported almost 100% of its crude oil requirements. The total primary crude oil supply was used by refineries during transformation process for liquid fuels production. This reflects the country's vulnerability and dependence on imports for its petroleum requirements. Almost all the imported crude oil is used for the production of liquid fuels, with a small percentage used towards lubricants, bitumen, solvents and other petrochemicals. According to the 2016 Energy Balances, 72% of the total petroleum products supply was produced locally. Imports amounted to 18% to make up for the local production shortfall while exports amounted to 10%.
- 4.1.5.10.4. Eskom's use of diesel in the Open-Cycle Gas Turbines (OCGT) likely declined along with falling economic activity and electricity usage during the second quarter of 2020. In addition, breakdowns at many power stations put upward pressure on Eskom's diesel usage. Notably, the decline in diesel sales was much smaller compared to the decline in petrol sales. However, the upward pressure on diesel purchases from Eskom, as well as the fact that most industries have now resumed their operations and the fact that diesel sales volumes are a lot less price sensitive compared to petrol, diesel sales volumes are expected to recover faster than petrol and jet fuel sales.
- 4.1.5.10.5. Jet fuel consumption dropped from 2 438 litres in 2019 to 1 090 litres in 2020, the biggest drop of the fuel consumption of 55,29 %. This massive drop was as a result of the air travel largely coming to a standstill during the lockdown and severe restriction on international travel for most of 2020. Air travel, in general, will likely be extraordinarily slow to recover amidst lingering COVID-19 fears and precautionary and cost-cutting measures taken by the government, consumers and businesses.
- 4.1.5.10.6. LPG consumption also saw a 9.6 % drop in 2020. However, 82 and 76 more litres of paraffin (illuminating and Power) and furnace oil respectively, were sold in 2020 compared to 2019, representing a 13.2 % and an 18.5 % increase in consumption, respectively (see Figure 7 on the next page). This increase in consumption might be due to the effects of the lockdowns where people spend more time at home. Figure 7 shows the distribution of consumption of petrol and diesel products in South Africa including that of jet fuel, paraffin and furnace oil. It shows the pattern of consumption of petroleum products in the country's energy mix.

**Figure 7: Consumption of petrol and diesel products in South Africa<sup>6</sup>**



Source: Department of Mineral Resources and Energy (DMRE), 2020

<sup>6</sup> Paraffin sales include illuminating paraffin and power paraffin.

- 4.1.5.10.7. Petroleum products consumed in South Africa comes mostly from domestic refineries that import crude oil and Coal-to-liquid (CTL) and Gas-to-liquid (GTL) plants. According to the Department of Mineral Resources and Energy (DMRE), a significant amount of crude oil was sourced from African countries; however, the Middle Eastern countries are still an important source of crude oil for South Africa. About 53% of crude oil requirements were met by African countries, mainly from Nigeria (39%), Angola (6%), Ghana (7%) and Togo (1%). This figure increased from 51% in the previous financial year on average. About 89 million barrels per day was from within the continent. The crude oil imports from January to December 2018 were about 170 million barrels per day. There was a 16.44% increase in crude oil imports in 2018 as compared to the year 2017. This increase may be that the refineries were operating with minimal or no disruptions.
- 4.1.5.10.8. The majority of South Africa's refinery output is transported via pipeline, road or rail. Transnet Pipelines (TPL) operates two liquid petroleum pipelines between Durban and the inland region - the Multi Products Pipeline (MPP) and the crude oil pipeline to Sasolburg servicing the NATREF refinery. As of 2018, TPL has stopped injecting petroleum products into the Durban to Johannesburg Pipeline (DJP) and after 6 to 7 months of smooth operation of the MPP, the DJP was decommissioned. In an effort to alleviate the supply burden resulting from demand growth, there are plans to build a 300 000 boe/d refinery located in the Eastern Cape Province called Project Mthombo. Current refinery operators are reluctant to expand present capacity due to the high cost involved and because of the surfeit of liquid petroleum products available in the international market. Nonetheless, South Africa's refineries are well placed on a cash operating basis within its regional peer group (European and African countries that have more than one refinery) indicating their current competitive situation relative to these other manufacturers.
- 4.1.5.10.9. Currently natural gas is imported into South Africa by Sasol Gas via an 865 km pipeline from the Temane and Pande gas fields in Mozambique. Reserves in the Temane and are estimated around 2.6 trillion cubic feet (TCF). The pipeline has a capacity of 240 million gigajoules (GJ) per annum. Approximately 120million GJ is used annually by Sasol in the GTL and chemicals plant in Secunda, while the balance is distributed to commercial and industrial customers via a pipeline network covering more than 2 000km in the Free State, Gauteng, Mpumalanga and KwaZulu-Natal. In 2016, natural gas made up 3% of the total primary energy supply in South Africa. Natural gas domestic production amounted to 18% in 2016 whilst imports amounted to 82% during the same period.
- 4.1.5.10.10. Renergen is the first company in South Africa to build a small-scale onshore LNG plant. It intends to monetise its LNG by developing between 12 - 18 LNG filling stations across South Africa by 2023. Renergen has signed a deal with Total under which the French major will rebrand its filling stations on the N3 national route between Johannesburg and Durban as LNG outlets. The LNG sold at these filling stations would be exclusively for the use of trucks and buses, and will reportedly cost 15 - 25% less than diesel. The first phase of the project is planned to supply 400 trucks from 2021, with the second phase supplying approximately 3,000 - 5,000 trucks from 2023.
- 4.1.5.10.11. Sasol has confirmed the much-speculated intention to sell its equity interests in the ROMPCO. Speculations emerged that the petrochemicals producer was seeking to sell off some of its African assets as part of its restructuring. Sasol has entered into a \$145million sale agreement of its shareholding in a gas-to-power plant in Mozambique with Azura Power, one of the prominent Independent Power Plant operators in the continent<sup>7</sup> and a gas pipeline running from the country into South Africa. Sasol said that the sale is part of its drive to raise as much as \$5 billion through asset sales amid cost overruns and lower oil prices by end of its 2021 financial year.



- 4.1.5.10.12. Meanwhile, government departments, including Infrastructure South Africa (and entity of the Department of Public Works and Infrastructure), the National Treasury, and the DBSA have recently signed a memorandum of agreement that will kick-start work on the National Infrastructure Fund. A joint statement released by these government departments said that the fund: “is meant to fundamentally transform the state’s approach to the financing of infrastructure projects, reduce the current fragmentation of infrastructure spend, and thereby ensure more efficient and effective use of resources and improve the speed and quality of delivery”. Indications are that spending on energy infrastructure is likely to make up a large portion of such infrastructure investments.
- 4.1.5.10.13. The Gas Amendment Bill was presented at the Economic Cluster in August 2020 and was well received. The Bill was submitted to DPME for the issuing of a final SEIAS sign-off certificate that will accompany the Bill to Parliament. After the certificate is issued, the Bill will be considered by Cabinet to get approval for submission to Parliament.
- 4.1.5.10.14. It is expected that small-scale importation and trading of LNG will precede the establishment of LNG storage and gasification terminals in South Africa. In this regard, the Energy Regulator has recently licenced the operations of Volco (Pty) Ltd (Volco) and Volco Alfa (Pty) Ltd (Volco Alfa), which will import the small-scale LNG into South Africa in the Western Cape Province. The LNG will then be transported to customers’ sites via trucks using 40’ ISO containers, where it will be stored, regasified and traded to the customers in gaseous form. Total South Africa, a subsidiary of French oil major Total, has recently made a gas discovery 175 km off the southern coast of South Africa on the Luiperd prospect, located on Block 11B/12B in the Outeniqua Basin. This discovery follows the adjacent Brulpadda discovery in 2019, which proved a significant new petroleum province in the region. The discovery of gas condensate fields in 2020 are significant and they have the potential to expedite the government’s much touted energy transformation.
- 4.1.5.10.15. Whilst studies are still being conducted, early estimates are that the two gas fields may hold in excess of 1 billion barrels of gas condensate each. If these estimates are accurate, these discoveries would be huge for South Africa as a non-producing country, which is heavily reliant on oil and gas imports. In an unrelated offshore development, the South African government has given Sasol and partners the go-ahead to explore the coast of KZN, despite dozens of appeals against the project. Up to four wells will be drilled in offshore block ER236 in the northern area of interest in water depths ranging between 1 500m and 2 100m, and in the southern area in water depths between 2 600m and 3 000m. The Sasol and Eni project is being bol-stered under the government’s Operation Phakisa, which set a target in 2014 to locate and drill 30 exploration wells by 2024.
- 4.1.5.11. Gas-to-Power Programme and Importation of LNG**
- 4.1.5.11.1. The Gas to Power Programme represents an important step in the government’s quest to find solutions to the growing challenge of energy shortage in the country. The envisaged gas-to-power projects are to be located at the ports of Saldanha, Coega and Richards Bay where preferred bidders will develop, finance, construct and operate gas-fired power generation plants. During the first phase, 1,000 MW would be generated at the Coega Industrial Development zone in the Eastern Cape province and an additional 2,000 MW at Richards Bay. The LNG imports would be delivered in special ships to terminals at both Coega and Richards Bay where it is to be re-gasified into natural gas before being distributed via new gas pipelines to consumers such as power generation plants, industries and residential properties.
- 4.1.5.11.2. The key challenges in the sector are to bring gas demand and supply on stream at the same time and spread geographically to stimulate broader localised demand. Without local demand, it would be difficult to develop distributed gas supply and without such distributed gas supply, it would be difficult to develop local gas demand. The Gas to Power Programme

has been put in place as one way of overcoming this challenge. This would potentially anchor gas demand while creating a long-term sustainable gas demand. The intention of the Gas to Power Programme is that of not only supplying power but also that of supplying a limited amount of gas, marketed in the form of a Gas Supply Agreement (GSA), for use by industrial and other users. In addition to the planned Coega and Richards Bay LNG-to-power projects, it is also envisaged that PetroSA would soon finalize a plan to import LNG for its Mossel Bay GTL refinery. The refinery has been running production at minimal scale due to the critical decline in indigenous gas feedstock supply, according to South Africa Parliamentary Committee on Mineral Resources and Energy.

- 4.1.5.11.3. The supply of gas from the southern Mozambique fields to South Africa is currently scheduled to begin falling from 2023 onwards. However, in a recent development, Sasol has approved the final investment decision (FID) on the Production Sharing Agreement (PSA) that will enable the \$760 million investment in Temane natural gas project. The project will entail Mozambique in-country monetization of gas through a 450-megawatt gas-fired power plant, Central Térmica de Temane (CTT), and the liquefied petroleum gas (LPG) facility. The balance of the gas produced will be exported to South Africa to sustain Sasol's operations. The PSA development aims at securing additional gas supply from southern Mozambique into Sasol's gas value chain starting in 2024.
- 4.1.5.11.4. Elsewhere, South African state-owned rail, port and pipeline company, Transnet, signed a \$2 million cost-sharing agreement with the World Bank in mid-2019 to study future use of Transnet pipelines for the development of inland natural gas transmission and the establishment of virtual LNG pipelines. These facilities are earmarked to become operational by 2024, according to Transnet.
- 4.1.5.11.5. Cabinet approved the submission of the Gas Amendment Bill of 2020 to Parliament at its virtual meeting on 24 February 2021. A post-Cabinet

statement released then after said the proposed Bill sought to align the gas industry to, amongst others, new transportation technologies of natural and unconventional gases that were not catered for in the current Gas Act of 2001. The Bill will now undergo further Parliamentary consultation processes to ensure it was widely endorsed for implementation once passed into law.

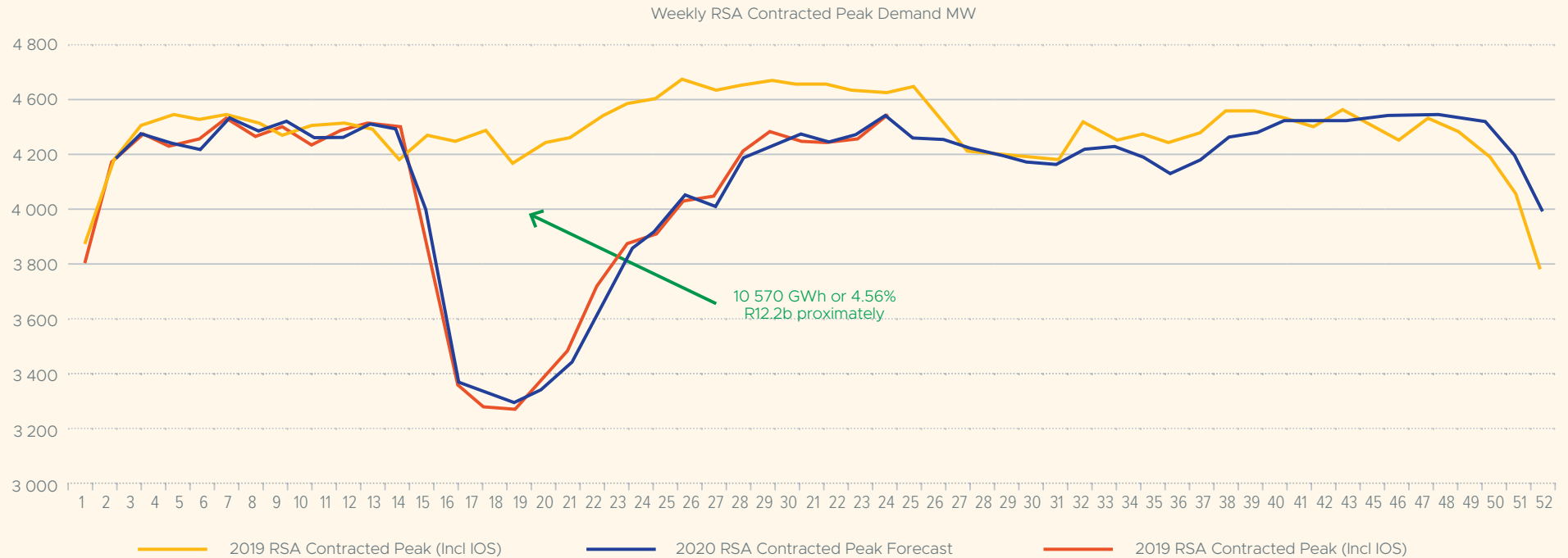
- 4.1.5.11.6. Currently, oil and gas activities in South Africa are carried out under the Mineral and Petroleum Resources Development Act (MPRDA), which came into force in 2004. The Department of Mineral Resources and Energy (DMRE) plans to regulate oil and gas separately to mining, with the new Upstream Petroleum Resources Development Bill. In a statement issued in January 2021, The DRME said that the department has concluded consultations with interested and affected parties and will be processing the Bill for onward transmission to Parliament. This suggests that the bill could pass this year. The finalization of the bill is expected to unlock the country's untapped potential in the upstream oil and gas reserves.

#### 4.1.5.12. Electricity

- 4.1.5.12.1. The Global Pandemic has also impacted South Africa's Electricity Industry and this likely to have an impact for some time to come. Not all impacts are negative but most are. The lockdown did allow Eskom some space to do extra plant maintenance and that has had an impact on the security of supply as it did improve the plant reliability overall.
- 4.1.5.12.2. On the negative side it had the following impacts:
  - a) Reduction in the energy demand as a result industry closing down;
  - b) Reduction in the revenue accrued by Eskom;
  - c) Delays in commissioning of new generation capacity; and
  - d) Slight reduction in the peak demand but not to the same extent as the energy demand reduction because it is driven more by residential load and everybody was at home.

4.1.5.12.3. Figure 8 below shows the impact by comparing the pre-lockdown forecast with the actual to week 29 and the revised forecasts thereafter.

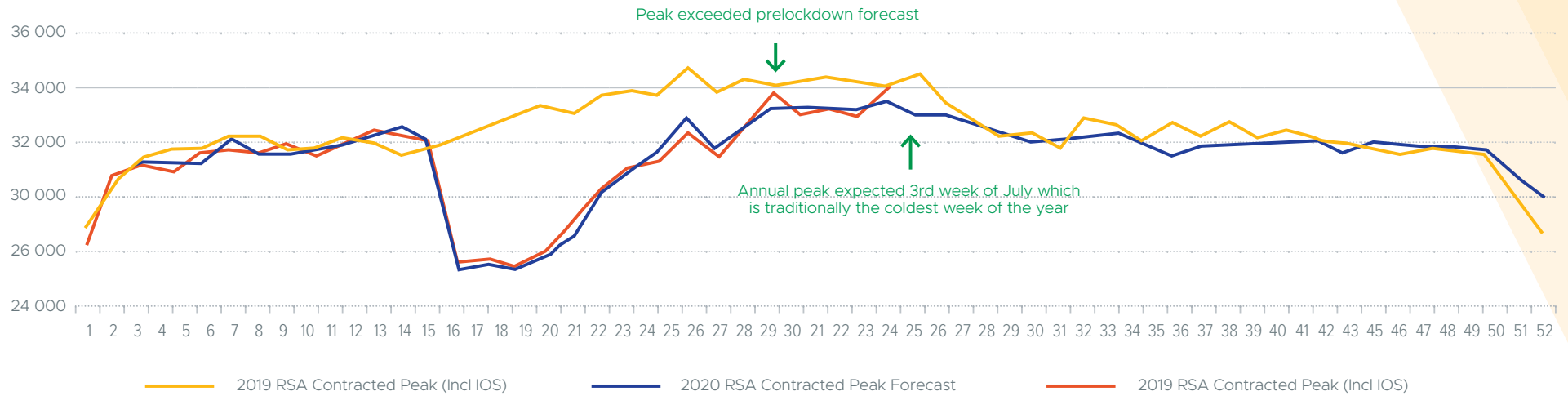
**Figure 8: Impact of COVID-19 on energy forecast**



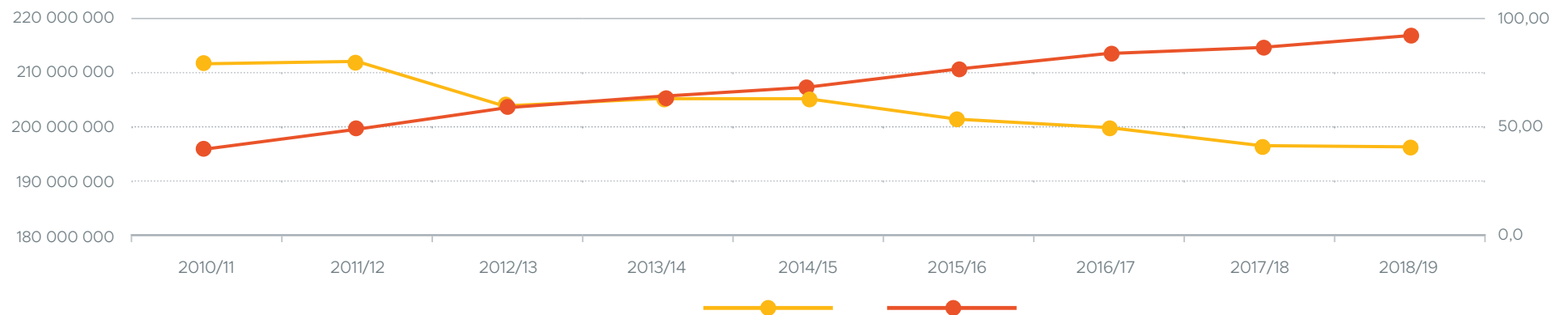
4.1.5.12.4. The above shows graphically the impact and the result is that the current estimated impact is about 4.56% reduction in energy sales.

4.1.5.12.5. The Demand curve shown in Figure 9 below does not demonstrate the same impact as it is driven by the evening peak, which is residential load. This has meant that for those hours Eskom was still using the OCGTs.

**Figure 9: Impact of COVID-19 on energy demand curve**



**Figure 10: Eskom Sales MWh vs Price**



Source: Eskom

4.1.5.12.6. The lockdown also impacted international travel and this has delayed the commissioning of a number of RE IPPs as well as work on Koeberg and Kusile. The future impact of all this is not clear yet.

4.1.5.12.7. Electricity as an economic enabler

- a) It is apparent that the price of electricity has impacted economic growth in South Africa. Figure 10 below shows the steady decline in sales as the price increased.
- b) This has also been testified to under oath by industry players at the public hearings that NERSA has held on various Eskom tariff and RCA applications. What is clear from interactions with industry is that the electricity price is a major factor in decisions to retrench staff and scale back activities. It is not the only factor, that is clear, and they don't claim it to be the only factor but it is a major factor.
- c) There is also a growing call to change the pricing methodology from industry players. This mirrored by that self-same sentiment within NERSA. If electricity is to play its rightful key role in economic recovery, then something needs to change and there needs to be a new approach to Eskom tariff setting as well as municipal tariff setting.
- d) Since Eskom has applied to NERSA for approval of its Retail Tariff Plan and in addition, the review of the MYPD methodology falls due now is the opportune time to address these issues holistically. This needs to include the addressing of the whole subsidy framework as the current framework is part of the problem in that the industrial customers are paying too much in subsidies.
- e) The review of the Negotiated Pricing Agreement Framework for both long term agreements and short term agreements is underway with the Department of Mineral Resource and Energy and these are vital short term measures to save and preserve

economic activity. However, what is required are standard tariffs for qualifying customers based upon some of the key principles in these frameworks. This would provide a platform for increased economic activity which would, in turn, lead to lower electricity prices in real terms in the future. It would also provide a strong message to investors that South Africa is a good location to establish production facilities.

4.1.5.12.8. Impact of Distributed Generation

- a) The advent of widespread rooftop solar generation brings with it several issues which are not immediately obvious to those who are not involved in the industry. These issues arise from the desire of the possessors of this type of generation to sell back onto the Grid. However, solar PV is only an energy source and does not contribute anything towards the capacity requirements of the network. Thus the Network Service Provider (NSP) is still left with the same Maximum Demand Charge whether the SolarPV is present or not. Since residential properties are generally on an average tariff this means that the reduction in standard time sales impacts the overall price for everybody. This means that non-owners of SolarPV start to subsidize the owners of SolarPV which will eventually lead to the poor subsidizing the rich.
- b) To counter the situation described above the tariffs need to be changed and a new approach taken which starts to correctly allocate fixed or network infrastructure costs from variable costs. This will result in all customers paying higher fixed charges but lower energy charges. For the average customer overall, the total unit charge will remain the same on a billing period basis. This approach will also need to address the tariff paid to those feeding energy back onto the Grid. There needs to be a standard formula for this that will apply to all municipalities as some seem to not understand fully all the issues.

- c) Currently and according to Schedule 2 of the ERA as amended on 26 March 2020, the registration threshold is between 100kW and 1MW. The DMRE embarked on a process to amend Schedule 2 by increasing the registration threshold from 1MW to a proposed 100MW, this is in response to the electricity crisis which has culminated into load shedding. Increasing this threshold has been seen as a move that can mitigate the supply constraint in the short to medium term. However, on 10 June 2021 the President announced that the threshold for Registration is being lifted from 1MW to 100MW instead. This is significantly higher than the DMRE proposal of lifting it to 10MW. This significant increase will worsen the duck curve phenomenon discussed above.

#### 4.1.5.12.9. The Integrated Resource Plan for Electricity (IRP)

- a) The IRP provides South Africa's long-term plan for electricity generation. It primarily aims to ensure the security of electricity supply, minimise the cost of that supply, limit water usage and reduce greenhouse gas (GHG) emissions, while allowing for policy adjustment in support of broader socio-economic developmental imperatives. The IRP2019 was promulgated in October 2019 and replaced the IRP2010 as the country's official electricity infrastructure plan.
- b) It calls for 37 696MW<sup>8</sup> of new and committed capacity to be added between 2019 and 2030 from a diverse mix of energy sources and technologies as ageing coal plants are decommissioned and the country transitions to a larger share of renewable energy. By 2030, the electricity generation mix is set to comprise of 33 364MW (42.6%) coal, 17 742MW (22.7%) wind, 8 288MW (10.6%) solar

photovoltaic (PV), 6 830MW (8.7%) gas or diesel, 5000MW (6.4%) energy storage, 4600MW (5.9%) hydro<sup>9</sup>, 1 860MW (2.4%) nuclear and 600MW (0.8%) concentrating solar power (CSP). Additionally, a short-term gap at least 2000MW is to be filled between 2019 and 2022, thereby further raising new capacity requirements, while distributed or embedded generation for own-use is positioned to add 4 000MW between 2023 and 2030. The IRP is intended to be frequently updated, which could impact future capacity allocations from various energy sources and technologies.

- c) The execution of the IRP is informed by Ministerial determinations, made by the Minister of Mineral Resources and Energy under section 34 of the Electricity Regulation Act No.4 of 2006 (i.e. new generation capacity). Once released and concurred with NERSA, the determinations signify the start of a procurement process and creates certainty for investors. Up until the release of the IRP2019, procurement under the IPPPP was informed by Ministerial determinations made in accordance with the IRP2010<sup>10</sup>.

4.1.5.12.10. There is currently no annual growth in electricity demand. There has not been for the last 10 years and there is no sign of that changing. Eskom has 51 757MW of licenced capacity and the renewable licenced capacity is 6 676.90MW.

4.1.5.12.11. South Africa has a high level of Renewable Energy potential and in line with the national commitment to transition to a low carbon economy. According to IRP2019 total installed capacity for renewable energy (solar PV, wind, CSP) will be 26 630MW by 2030 and 11017MW of coal plants will be decommissioned. Renewable Energy sources are self-

8 Excluding Koeberg nuclear plant life extension, a 2000MW gap to be filled between 2019 and 2022 and distributed/embedded generation capacity allocations for own use.  
 9 2 500MW imported hydro is planned by 2030 to facilitate the Grand Inga Hydro power Project Treaty between South Africa and the Democratic Republic of Congo(DRC).  
 10 Ministerial determinations for IPP procurement of 30 130MW have been made in alignment with the IRP2010, including 14 725MW from renewable energy (excluding 2 609MW imported hydro) and 12796MW from non-renewable energy (including 1800MW cogeneration).

dispatchable and therefore cannot completely replace baseload plant that is closing down. In fact, as an example, one Megawatt of baseload plant would have to be replaced by about 3.3MW of Solar coupled with about 16MWh of storage. The exact figures can be debated but the principle needs to be taken cognisance of. Therefore, future iterations of the IRP2019 will provide a view of the total capacity and technologies required beyond 2030.

4.1.5.12.12. According to the IPP office, the REIPPPP has made the following significant impacts in the energy sector as of December 2020:

- a) 6 422MW<sup>11</sup> of electricity had been procured from 112 RE Independent Power Producers (IPPs) in seven bid rounds<sup>12</sup>
- b) 4 949MW of electricity generation capacity from 76 IPP projects has been connected to the national grid;
- c) As of December 2020, 56 206GWh of energy has been generated by renewable energy sources procured under the REIPPPP since the first project became operational. Renewable energy IPPs have proven to be very reliable. The 76 operational projects were procured over 7 bid rounds from Bid Windows 1, 2, 3, 3.5, 4 and Small Bid Windows 1 and 2 with a total of 4 949MW procured.
- d) Investment (equity and debt) to the value of R209.7 billion, of which R41.8billion (20%) is foreign investment, was attracted from Germany, France, Italy, Spain and the USA.
- e) Created 57 236 job years<sup>13</sup> for South African citizens to date. This number includes the knock all effect of activities that are happening

in the electricity industry on other sectors that might also lead to more job creation outside the permanent and temporary jobs that are indicated.

- f) Socio-economic development contributions of R1.4 billion to date.
- g) 57.0 Mton CO<sup>2</sup> offset by electricity generated from IPPs.
- h) 67.4 Million kiloliters of water savings since programme inception.
- i) A total of 13 813 MW (see Table 10 below) was determined under the IRP2019 as follows:
  - 2 000 MW determined under the Risk Mitigation IPP Programme (RMIPPPP); and
  - 11 813 MW under the Second Ministerial Determination for RE, Gas, Storage and Coal.

4.1.5.12.13. Table 10 on the next page presents the strategic outlook for the roll-out of IPP Procurement Programmes in line with IRP2019.

4.1.5.12.14. The IRP 2019 according to Table 10 has made an allocation with no limit of Distributed / embedded Generation up to the beginning of 2023, thereafter the IRP 2019 makes an allocation of 500MW per annum. The minister has further sent out a notice to waive the requirement for license applicants to get a deviation from minister in compliance with section 10(2)(g) of the ERA, where applicants want to put up own use generation above 1MW. These interventions are meant to stimulate growth in the electricity generation space and thereby alleviate the supply constraint in the short to medium term. This has been further enabled by the increase of the registration threshold to 100MW as discussed above.

11 6 422MW from 92 large scale RE plus 9MW from 20 small scale REIPPs.

12 Bid windows 1, 2, 3, 3.5, 4 and smalls BW1 (1S2) and smalls BW2 (2S2).

13 The equivalent of a full time employment opportunity for one person for one year.

**Table 10:** Committed Generation Capacity 2019 to 2023, MW

	Determination (MW)	Technology share of total determinations	Respective IRP 2019 target by 2030 (MW)	Determination share of respective IRP 2019 target by 2030	IRP 2019 capacity allocation reference years
Short term capacity gap	2 000	14.5%	2 000	100.0%	2019 to 2022
Coal	1 500	10.9%	1 500	100.0%	2023 to 2027
Energy storage	513	3.7%	2 088	24.6%	2022
Solar PV	2 000	14.5%	6 000	33.3%	2022 to 2024
Wind	4 800	34.7%	14 400	33.3%	2022 to 2024
Gas & diesel	3000	21.7%	3 000	100.0%	2024 to 2027

Source: IPP Office (2021)

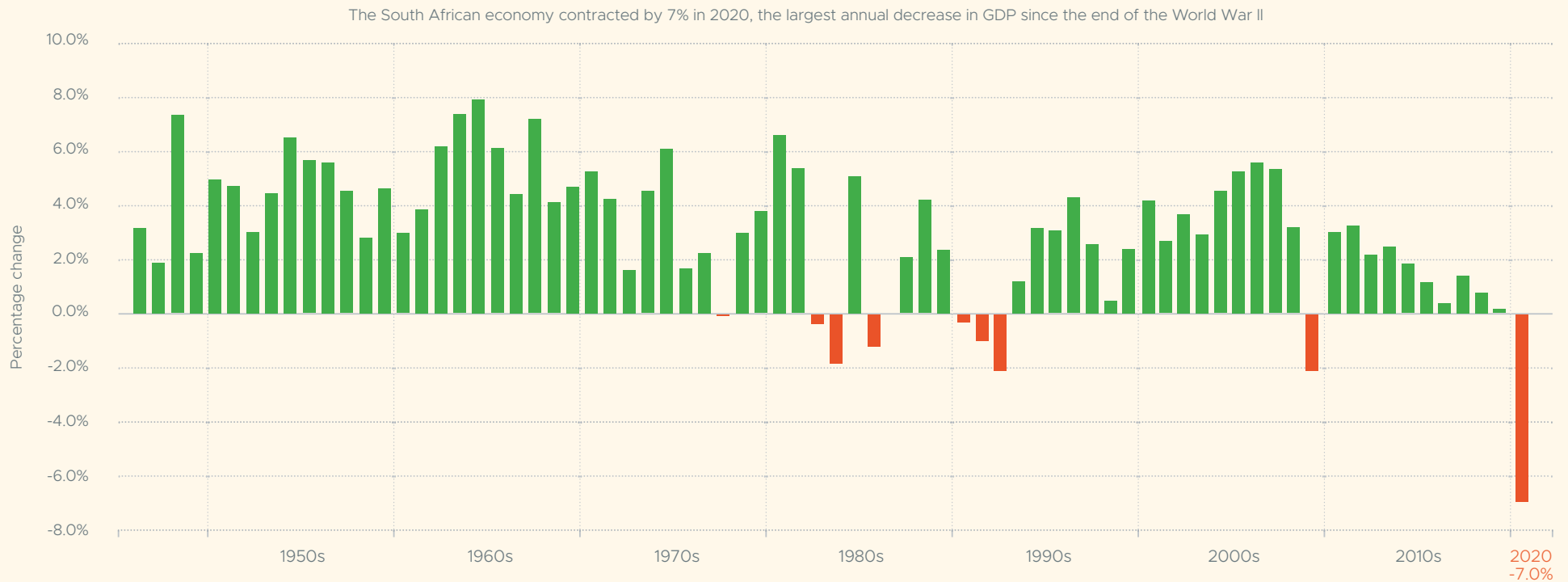


## 4.2. ECONOMIC OUTLOOK

### 4.2.1. Economic Growth

4.2.1.1. Figure 11 below shows the annual GDP growth rate for South Africa since 1950 to 2020.

**Figure 11: Annual GDP Growth: 1950 - 2020**



- 4.2.1.2. The positive growth recorded in the third and fourth quarters of 2020 was not enough to offset the devastating impact of COVID-19 in the second quarter when lockdown restrictions were at their most stringent. Economic activity for the entire year decreased by 7.0% in 2020 compared with 2019. This is the biggest annual fall in economic activity the country has seen since at least 1946.
- 4.2.1.3. The second biggest economic decline was recorded in 1992 when the economy contracted by 2.1%, as illustrated in Figure 11 above. At that time, the South African economy slumped through a two-year-long recession, due to global economic downturn, the economy shrank by 1.5% during the 2008/09 global financial crisis in 2009.
- 4.2.1.4. GDP per capita decreased in 2020 to a level last seen in 2005. Again adjusting for inflation, GDP per capita peaked in 2014 and has since been declining. This means that economic growth has been struggling to keep up with population growth. Consumer spending is set for modest growth in 2021, with fixed investment projected to respond sluggishly. However, a recovery in consumer spending and, crucially, a return to private capex growth is expected in 2022. This results in real GDP expanding by a projected 2.8%, notably faster than previously expected.

## 4.2.2. Inflation

- 4.2.2.1. The average annual consumer price inflation was 3.3% in 2020. This was 0.8 % lower than the corresponding average of 4.1% in 2019. Inflation is expected to average below the midpoint (4.5%) of the South African Reserve Bank's (SARB) inflation target. The possibility of another modest policy rate cut later in 2021 should not be ruled out.
- 4.2.2.2. However, for now, the repo rate remains on hold for the rest of 2021. Contained rand weakening, with the risk that the currency could remain stronger than expected, gives confidence in less inflationary pressures

and an optimistic the inflation outlook. Some short-term inflationary pressures are likely to be seen arising from food prices and higher fuel costs, but this is likely to be countered by subdued underlying price pressure as a muted consumer demand recovery is anticipated for 2021. The forecast for the rise in headline consumer inflation has remained unchanged at 3.9% for 2021, with a projected acceleration to an average of 4.4% in 2022 (BER, 2021).

## 4.2.3. Unemployment

- 4.2.3.1. According to Statistics South Africa, the number of employed persons decreased by 2.2 million to 14.1 million in the second quarter of 2020 compared to the first quarter of 2020. This unprecedented change is the largest quarter to quarter decline since 2008. Contrary to what one would expect in the face of such a massive decline in employment, the number of unemployed persons declined substantially as well by 2.8 million to 4.3 million compared to first quarter of 2020. In spite of this massive decline in employment, the number of discouraged work-seekers, like the number of unemployed, decreased by 447 000. The majority of those who moved out of these three categories moved into the category of not economically active for reasons other than discouragement, which increased by 5.6 million between the two quarters.
- 4.2.3.2. The expanded definition of unemployment includes those discouraged from seeking work, 42.6% of the labour force was without work in the October-December quarter of 2020, amounting to 11.1 million people. However, bolstered by the Temporary Employer-Employee Relief Scheme (TERS) programme and top-ups to social grants payments, real disposable income declined by 4.5% in 2020, which is significantly less than the real GDP contraction. The unemployment rate is expected to continue to worsen under the soaring economic conditions, aggravated by worsening morbidity and declining aggregate investment albeit at a declining rate.

#### 4.2.4. Exchange Rate

- 4.2.4.1. The supportive risk environment saw the rand exchange rate strengthen by an average of 5.8% against the US dollar in the third quarter of 2020. The local currency appreciated in the fourth quarter of 2020, albeit remaining at much weaker levels than at the beginning of 2020. Although the oil price has increased in the international market, the further boost to the prices of iron ore and the platinum group metals bodes well for South Africa's terms of trade. This brings hope that that 2021 could be a year to experience favourable domestic balance of payments position, which in turn could help to underpin the rand exchange rate (BER, 2021).
- 4.2.4.2. Improvements on the current account balance and better global risk appetite has the potential to keep the rand at current stronger levels of around R15/\$ in the foreseeable future. However, with SA at the back of the global vaccine rollout queue, concerns relating to the country's unsustainable public debt position and a number of pre-existing growth constraints, the sustainability of the current firmer trend is in question. BER expects the currency to weaken moderately to R15.75/\$ by the end of 2021. The weakening trend is set to continue in 2022, with the currency projected to end the year at R16.50/\$.

#### 4.2.5. Credit Rating

- 4.2.5.1. South Africa's rapidly worsening fiscal metrics during the course of 2019 alerted all three major ratings agencies to put the country on a negative outlook during the second half of 2019. These led to sovereign credit rating downgrades in March and April 2020, taking the country to general sub-investment grade (sub-IG). The final downgrade from investment-grade status by Moody's at the end of March saw SA exiting the Financial Times Stock Exchange (FTSE) World Government Bond Index on 30 April. The impact of the COVID-19 pandemic added to reasons for the downgrade and has since overshadowed the economic fight.
- 4.2.5.2. In April, both Fitch and Standards & Poor's (S&P) Global Ratings downgraded SA's sovereign credit rating by another notch to push it deeper into sub-IG territory. Fitch rating agency highlighted that the downgrade was due to "the lack of a clear path towards government debt stabilisation", with a further shock to government finances and growth due to COVID-19.
- 4.2.5.3. Fitch now has South Africa's foreign currency rating two notches below investment grade, while S&P Global Ratings is at three notches below IG.

### 4.3. PE(R)STEL FACTORS ANALYSIS

The specific factors considered in the environmental scan are shown in the tables below.

**Table 11: Political factors**

POLITICAL FACTORS	IMPACT IF FACTOR IS NOT ADDRESSED	NERSA RESPONSE TO THE FACTOR
<b>Electricity Industry Regulation</b>		
1. Municipalities' executive authority for funding of municipal infrastructure	<ul style="list-style-type: none"> <li>Some municipalities are unable to fund, build, operate and maintain adequate electricity infrastructure – which has a negative impact on security of supply</li> <li>Ring-fencing of municipal electricity revenues</li> <li>Unsustainable cross subsidising of municipal services</li> </ul>	<ul style="list-style-type: none"> <li>Engage with relevant ministries regarding municipal funding more broadly</li> <li>Base municipal tariffs within the broader municipal funding model</li> </ul>
2. Role of SOEs in economic recovery	<ul style="list-style-type: none"> <li>Regulatory mandates that promote a just energy transition undermined</li> <li>Reputational damage to NERSA</li> </ul>	<ul style="list-style-type: none"> <li>Eskom Political Task Team (PTT) involvement</li> <li>Establish and execute Eskom Engagement Task Team under steer of the PTT</li> <li>Develop collaborative relationships with key delivery ministries, such as, inter alia, National Treasury (Operation Vulindlela), Department of Public Enterprises, COGTA etc.</li> </ul>
<b>Piped-Gas Industry Regulation</b>		
1. Delays in finalisation of legislative and policy amendments and developments (with specific reference to the Gas to Power IPP and the Gas Utilisation Master Plan)	<ul style="list-style-type: none"> <li>Cost of gas may be too high</li> <li>It may deter / delay entry into the gas market</li> </ul>	<ul style="list-style-type: none"> <li>Develop a report on regulatory advocacy and engagements with relevant policy makers</li> </ul>
2. Lack of policy on gas infrastructure investment	<ul style="list-style-type: none"> <li>Uncertainty for investment</li> <li>Lost opportunity to encourage competition in piped-gas industry</li> <li>Impedes growth of the gas market in SA</li> <li>It may deter / delay entry into the gas market</li> </ul>	<ul style="list-style-type: none"> <li>Continued regulatory advocacy and engagements with relevant policy makers</li> <li>Advocate the development of the Gas Utilisation Master Plan, Gas IP, Gas Infrastructure Plan</li> </ul>

**Table 11: Political factors (continued)**

POLITICAL FACTORS	IMPACT IF FACTOR IS NOT ADDRESSED	NERSA RESPONSE TO THE FACTOR
<b>Piped-Gas Industry Regulation (continued)</b>		
3. Emerging gas policy in Mozambique	<ul style="list-style-type: none"> <li>• Security of gas supply – Supply diversification</li> </ul>	<ul style="list-style-type: none"> <li>• Monitor ability of SASOL to supply</li> <li>• Undertake regulatory and intergovernmental engagements</li> <li>• Monitor utilisation of excess capacity in ROMPCO Pipeline</li> <li>• Approve tariffs for SA side of cross border assets to facilitate investment and additional gas supply</li> </ul>
4. Regulating the gas market – bundled and unbundled approach to LNG projects	<ul style="list-style-type: none"> <li>• May deter infrastructure investments</li> <li>• Regulatory uncertainty</li> </ul>	<ul style="list-style-type: none"> <li>• Develop a NERSA position paper on regulating the gas market – bundled and unbundled</li> <li>• Continued regulatory advocacy and engagements with relevant policy makers</li> <li>• Revisit the Gas Rules</li> </ul>
5. Alignment of Gas Infrastructure Plan, the IRP and IEP	<ul style="list-style-type: none"> <li>• Possible duplication or contradictions</li> <li>• Regulatory uncertainty</li> </ul>	<ul style="list-style-type: none"> <li>• Continued regulatory advocacy and engagements with relevant policy makers</li> </ul>
<b>Petroleum Pipelines Industry Regulation</b>		
1. Geo-political upheavals impacting on petroleum producing transient countries	<ul style="list-style-type: none"> <li>• Higher and volatile fuel prices</li> <li>• Rand/dollar exchange rate volatility</li> <li>• Security of supply compromised.</li> </ul>	<ul style="list-style-type: none"> <li>• Participate in fuel price policy and regulatory framework reviews</li> <li>• Participating in regional structures dealing with petroleum matters.</li> </ul>
2. Neighbouring countries finding alternative methods of importing fuel other than through South Africa	<ul style="list-style-type: none"> <li>• Low volumes through the Transnet’s Multi-Product Pipeline and concomitant high tariffs</li> <li>• Threats to security of supply</li> </ul>	<ul style="list-style-type: none"> <li>• Monitor interventions by Transnet to increase the volumes</li> <li>• Regulate in a manner that does not promote migration from pipelines to other modes of transport</li> <li>• Participate in supply managers forums and other security of supply committees</li> <li>• Continued regulatory advocacy</li> </ul>

POLITICAL FACTORS	IMPACT IF FACTOR IS NOT ADDRESSED	NERSA RESPONSE TO THE FACTOR
<b>Petroleum Pipelines Industry Regulation (continued)</b>		
3. Decline in investment friendliness of South Africa	<ul style="list-style-type: none"> <li>Further large-scale investments in petroleum infrastructure (and demand sectors) slows down.</li> <li>Petroleum Infrastructure may not be sufficient to meet future demand</li> <li>Decline in fuel demand which can lead to higher tariffs and/or stranded assets</li> </ul>	<ul style="list-style-type: none"> <li>Adjust regulatory framework to attract investments</li> <li>Continued regulatory advocacy and engagements with relevant policy makers to ensure efficiencies</li> <li>Identify and implement key measures to improve regulatory certainty through consistent and defensible decisions, based on world-class regulatory frameworks, methodologies and mechanisms</li> <li>Regulate in a manner that promotes competition</li> </ul>
<b>Transversal Regulatory and Organisational</b>		
1. Developmental State	<ul style="list-style-type: none"> <li>Decisions of NERSA could be in conflict with policy</li> </ul>	<ul style="list-style-type: none"> <li>Continued regulatory advocacy and engagements with relevant policy makers</li> </ul>
2. Manage interface between different policy thrusts of Government (new growth path, IPAP2)	<ul style="list-style-type: none"> <li>Decisions of NERSA could be in conflict with policy</li> </ul>	<ul style="list-style-type: none"> <li>Make decisions that are not in conflict with the Acts</li> <li>Develop and implement a strategic engagement framework on developing legislation/policy changes</li> </ul>
3. Policy gaps and inconsistencies	<ul style="list-style-type: none"> <li>Regulatory uncertainty</li> <li>Lack of credibility of regulatory system</li> </ul>	<ul style="list-style-type: none"> <li>Review impact on NERSA's mandate</li> <li>Continued regulatory advocacy and engagements with relevant policy makers</li> <li>Develop a report on the cost of projects, the impact and implications thereof e.g. Integrated Resource Plan</li> </ul>
4. Discussion/debate around nationalisation	<ul style="list-style-type: none"> <li>Uncertainty for investment</li> </ul>	<ul style="list-style-type: none"> <li>Identify and implement key measures to improve regulatory certainty through consistent and defensible decisions, based on world-class regulatory standards, procedures and processes</li> </ul>
5. Review of Sustainable Development Goals	<ul style="list-style-type: none"> <li>NERSA may not assist the country in achieving its goals</li> </ul>	<ul style="list-style-type: none"> <li>Regulate in such a manner that accessibility and affordability is enhanced</li> </ul>

**Table 12: Economic factors**

ECONOMIC FACTORS	IMPACT IF FACTOR IS NOT ADDRESSED	NERSA RESPONSE TO THE FACTOR
<b>Electricity Industry Regulation</b>		
1. Lack of competition in electricity supply industry	<ul style="list-style-type: none"> <li>Impact on the ability of the Independent Power Producers to access the industry</li> <li>High electricity prices to industrial consumers</li> </ul>	<ul style="list-style-type: none"> <li>Enforce Third-Party Access through regulatory decisions</li> <li>Amend the dispatch rules to include balancing rules</li> <li>Continued regulatory advocacy and engagements with relevant policy makers</li> </ul>
2. Subsidies in Industry	<ul style="list-style-type: none"> <li>Subsidies cause wrong investment decisions</li> </ul>	<ul style="list-style-type: none"> <li>Continued regulatory advocacy and engagements, also focusing on the following:                             <ul style="list-style-type: none"> <li>approval of municipal tariffs that rationalise application of subsidies; and</li> <li>limiting surpluses that municipalities can accumulate for cross-subsidisation.</li> </ul> </li> </ul>
3. Electricity Price to commercial entities in the municipalities has reached a critical level	<ul style="list-style-type: none"> <li>Commerce and industry closing down</li> </ul>	<ul style="list-style-type: none"> <li>Develop a paper on tariffs in municipalities, focusing on, among others:                             <ul style="list-style-type: none"> <li>Influencing tariff structures</li> <li>Determining whether the actual application of tariffs yields expected result.</li> </ul> </li> </ul>
4. Impact of poverty	<ul style="list-style-type: none"> <li>Lack of affordability and accessibility</li> </ul>	<ul style="list-style-type: none"> <li>Focus on pro-poor regulation</li> </ul>
5. Increased consumption of coal by China and India	<ul style="list-style-type: none"> <li>Security of supply</li> </ul>	<ul style="list-style-type: none"> <li>Regulate the stock piles</li> <li>Develop a report on the introduction of renewable energy in the energy mix (taking into account its limitations)</li> </ul>
6. Inter-dependency of SADC on SA economy	<ul style="list-style-type: none"> <li>SADC countries' power plans not realised</li> </ul>	<ul style="list-style-type: none"> <li>Contribute through regional structures such as RERA towards the realisation of SADC countries' power plans</li> <li>Review NERSA's role in international trade</li> </ul>
7. Economic decline and low credit rating	<ul style="list-style-type: none"> <li>Depressed economy leading to less disposable income, which in turn would result in an increase in bad debt and an ESI that is not economically viable.</li> <li>Low credit rating Limits investment attraction,</li> <li>Reduction in economic growth affects affordability</li> </ul>	<ul style="list-style-type: none"> <li>Ensure that electricity price increases are kept to the minimum by enforcing efficient licensee operations and ensure that pro-poor regulation is strengthened</li> <li>Infrastructure investments and development implementation has been affected and delayed.</li> <li>Requires regulation review to align the economy and investment attraction</li> </ul>

ECONOMIC FACTORS	IMPACT IF FACTOR IS NOT ADDRESSED	NERSA RESPONSE TO THE FACTOR
<b>Electricity Industry Regulation (continued)</b>		
8. Credit worthiness of State-Owned Entities (SOEs)	<ul style="list-style-type: none"> <li>Impact on infrastructure investment due to higher cost of debt and inability to issue bonds</li> <li>Higher tariffs</li> </ul>	<ul style="list-style-type: none"> <li>Regulate in a manner that drives efficiency</li> <li>Set credit rating criteria in the MYPD methodology</li> </ul>
9. Drought – water infrastructure	<ul style="list-style-type: none"> <li>Development of shale gas prospects to encourage gas-to-power projects in the country</li> <li>Security of supply</li> </ul>	<ul style="list-style-type: none"> <li>Review the efficient management of water resources in generation of electricity</li> </ul>
10. Decline in electricity demand due to COVID-19 pandemic	<ul style="list-style-type: none"> <li>Low demand has led to low income and profit sustainability. In addition this has threatened energy security and investment attraction as delays in manufacturing have halted mega projects</li> </ul>	<ul style="list-style-type: none"> <li>There is a need to review tariffs and price methodologies to determine whether it is responsive to the long, medium and short term economic impact of COVID-19 and develop appropriate responses</li> </ul>
<b>Piped-Gas Industry Regulation</b>		
1. Inadequate competition in gas industry	<ul style="list-style-type: none"> <li>Barrier to competitive outcomes ( key barriers including lack of gas supplies and infrastructure to enable such supplies)</li> <li>Likely perpetuation of current monopoly in the industry</li> </ul>	<ul style="list-style-type: none"> <li>Continued regulatory advocacy and engagements with relevant policy makers to facilitate entry</li> <li>Enforce Third-Party Access through regulatory decisions</li> <li>Review and implement Maximum Prices Methodology and Tariff Guidelines</li> </ul>
2. Insufficient infrastructure investment	<ul style="list-style-type: none"> <li>No/limited growth in the gas market</li> <li>Lack of gas import infrastructure</li> <li>Lack of entry of new gas suppliers</li> </ul>	<ul style="list-style-type: none"> <li>Develop a regulatory advocacy report to the DMRE and IPPs regarding gas-to-power procurement programme</li> <li>Continued advocacy with policy makers to expedite finalisation of Gas Masterplan and alignment of IEP, IRP and Gas Infrastructure Plan</li> </ul>
3. Unexplored indigenous gas sources	<ul style="list-style-type: none"> <li>Impact growth of gas industry</li> <li>Discourage investment</li> <li>Lack of competition in gas industry</li> </ul>	<ul style="list-style-type: none"> <li>Continued research and monitoring of developments in new gas sources</li> <li>Develop and maintain gas trade relations with neighbouring countries.</li> <li>Explore prospects for LNG imports</li> </ul>



**Table 12: Economic factors (continued)**

ECONOMIC FACTORS	IMPACT IF FACTOR IS NOT ADDRESSED	NERSA RESPONSE TO THE FACTOR
<b>Piped-Gas Industry Regulation (continued)</b>		
<p>4. Gas supply uncertainty – Sasol Gas indicated in FY19 that it expects its gas fields in Mozambique to start declining in 2023</p>	<ul style="list-style-type: none"> <li>Sasol Gas may not be able to meet supply obligations going forward</li> <li>May jeopardise existence and growth of the gas industry</li> </ul>	<ul style="list-style-type: none"> <li>Engagements with relevant stakeholders, including <i>inter alia</i> Sasol Gas, the Industrial Gas Users Association – Southern Africa regarding the viability of potential new sources of supply</li> <li>Gather data from Sasol Gas in terms of S28 and Regulation 9 of the Gas Act, in terms of which Sasol is expected to provide information on its gas reserves</li> <li>Continued regulatory advocacy and engagements with relevant policy makers to facilitate the entry of new gas suppliers, and the development of infrastructure to enable such supplies</li> </ul>
<b>Petroleum Pipelines Industry Regulation</b>		
<p>1. Low economic growth in South Africa</p>	<ul style="list-style-type: none"> <li>Reduced demand for liquid fuel</li> <li>Further large-scale investments in petroleum infrastructure will stop</li> <li>Petroleum Infrastructure may not be sufficient to meet future demand</li> </ul>	<ul style="list-style-type: none"> <li>Identify and implement key measures to improve regulatory certainty through consistent and defensible decisions, based on world-class regulatory standards, procedures and processes</li> </ul>
<p>2. HDSA and B-BBEE participation</p>	<ul style="list-style-type: none"> <li>No third-party access to storage facilities</li> <li>Non-transformed petroleum pipelines industry</li> <li>Social upheavals</li> </ul>	<ul style="list-style-type: none"> <li>Participate in Charter Counsel</li> <li>Develop and implement a strategic engagement framework on transformation</li> </ul>
<p>3. Importation of fuels via trucks through other ports of entry into South Africa</p>	<ul style="list-style-type: none"> <li>Lower volumes through pipelines leading to higher tariffs.</li> <li>Disruption of regulatory framework</li> </ul>	<ul style="list-style-type: none"> <li>Monitor developments in this regard</li> <li>Continued regulatory advocacy</li> </ul>

ECONOMIC FACTORS	IMPACT IF FACTOR IS NOT ADDRESSED	NERSA RESPONSE TO THE FACTOR
Transversal Regulatory and Organisational		
1. Impact of environmental levies and the Carbon Tax Act on prices	<ul style="list-style-type: none"> <li>Impossible to facilitate achievement of affordable energy services</li> </ul>	<ul style="list-style-type: none"> <li>Develop a position paper on the impact of environmental levies to policy makers</li> </ul>
2. Manage interface between different policy thrusts of Government	<ul style="list-style-type: none"> <li>Decisions of NERSA could be in conflict with policy</li> </ul>	<ul style="list-style-type: none"> <li>Make decisions that are not in conflict with the Acts</li> <li>Develop and implement a strategic engagement framework on developing legislation/policy changes</li> </ul>
3. Downgrade of South Africa's credit status	<ul style="list-style-type: none"> <li>Capital flight (foreign and local)</li> </ul>	<ul style="list-style-type: none"> <li>Identify and implement key measures to improve regulatory certainty through consistent and defensible decisions, based on world-class regulatory standards, procedures and processes.</li> </ul>
4. Persistently low economic growth rate	<ul style="list-style-type: none"> <li>Cost of energy – impact on consumers</li> <li>May deter investments and present barriers to entry</li> </ul>	<ul style="list-style-type: none"> <li>Review tariffs to encourage manufacturing</li> <li>Continued advocacy with policy makers</li> </ul>

**Table 13: Regulatory factors**

REGULATORY FACTORS	IMPACT IF FACTOR IS NOT ADDRESSED	NERSA RESPONSE TO THE FACTOR
<b>Electricity Industry Regulation</b>		
<p>1. <b>Regulatory reform in the electricity sector</b></p>	<ul style="list-style-type: none"> <li>• Electricity supply and demand misaligned with weak market signals to curb inefficient electricity use</li> <li>• Electricity market reforms poorly managed with avoidable unintended consequences</li> <li>• Information asymmetry               <ul style="list-style-type: none"> <li>&gt; Poor quality of evidence used to base decisions</li> <li>&gt; Unsubstantiated decisions taken due to lack of all relevant information available</li> </ul> </li> <li>• Contraction in energy intensive usage sectors</li> <li>• Loss of value from natural resource endowments</li> <li>• Economic recovery constrained</li> </ul>	<ul style="list-style-type: none"> <li>• Establish regulatory reform department with capability to assess:               <ul style="list-style-type: none"> <li>&gt; Technical aspects</li> <li>&gt; Economic aspects</li> <li>&gt; Legal aspects</li> </ul> </li> <li>• Techno-economic evaluation of a regulated ESI that promotes choices that encourages:               <ul style="list-style-type: none"> <li>&gt; Productive (technical) efficiency (least cost of supply);</li> <li>&gt; Allocative efficiency (provide the greatest benefit relative to costs);</li> <li>&gt; Dynamic efficiency (timely responses to changes that enhance economic efficiency)</li> </ul> </li> <li>• Acquisition of global, regional and national data to support decision making and advocacy</li> <li>• Establishment of an Integrated Energy Modelling capability and associated Integrated Energy Modelling System (IEMS)</li> <li>• Review of licencing/registration regulations/rules</li> <li>• Promoting collaboration and information sharing with stakeholders whose activities are affected by Energy Regulator decisions and advice</li> <li>• Policy, legislative and regulatory advice to relevant ministries,</li> <li>• Research and implement programmes to progress electricity sector reforms with specific focus on, inter alia:               <ul style="list-style-type: none"> <li>&gt; Tariff setting methodology reviews – cost reflective tariffs driven by efficiency;</li> <li>&gt; Capacity investments in a high reserve margin environment – underutilised/stranded assets;</li> <li>&gt; Transition to ‘smart’ tariffs – to reflect how and when electricity is consumed.</li> </ul> </li> </ul>

REGULATORY FACTORS	IMPACT IF FACTOR IS NOT ADDRESSED	NERSA RESPONSE TO THE FACTOR
Electricity Industry Regulation (continued)		
<p>2. Rationally regulated electricity supply industry</p>	<ul style="list-style-type: none"> <li>• Weakly coordinated and poorly managed unbundling of Eskom</li> <li>• Unpredictable and uncertain electricity price path</li> <li>• Inefficient use of electricity resulting from weak regulatory signals</li> <li>• Inefficient investment decisions resulting in stranded assets</li> <li>• NERSA reputational risks</li> </ul>	<ul style="list-style-type: none"> <li>• Implementation of the Regulatory Reporting System for financial data and a Regulatory Reporting System for non-financial data:               <ul style="list-style-type: none"> <li>&gt; Revision of ERTSA</li> <li>&gt; Establish 'municipal' ERTSA</li> </ul> </li> <li>• Development of energy database that integrates energy production and consumption data as evidence for:               <ul style="list-style-type: none"> <li>&gt; Developing and regularly updating a benchmarked and trusted electricity price path;</li> <li>&gt; Making sound and substantiated decisions, including inter alia, review of the tariff setting methodology and all other tariffs setting/approval processes;</li> <li>&gt; The transition to efficient cost reflective tariffs;</li> <li>&gt; The integrated Type of Use and Time of Use tariffs;</li> <li>&gt; The development of regulatory instruments that promote equitable access to electricity, including, inter alia, a review of the Inclining Block Tariffs, the efficiency of the Free Basic Electricity subsidy etc.</li> </ul> </li> <li>• Conclusion of Eskom matters – regulatory, legal or otherwise, including, inter alia:               <ul style="list-style-type: none"> <li>&gt; MYPD applications (consolidated or otherwise);</li> <li>&gt; RCA reviews;</li> <li>&gt; Supplementary applications;</li> <li>&gt; Review and revision of MYPD methodology;</li> <li>&gt; Development and finalisation of MYPD5 methodology;</li> <li>&gt; implement mechanisms to address EAF and reserve margin to address the 'fallacy of capacity constraints'.</li> </ul> </li> </ul>

**Table 13: Regulatory factors (continued)**

REGULATORY FACTORS	IMPACT IF FACTOR IS NOT ADDRESSED	NERSA RESPONSE TO THE FACTOR
<b>Electricity Industry Regulation (continued)</b>		
3. <b>Compliance of municipalities with electricity licence conditions</b>	<ul style="list-style-type: none"> <li>Undermine reliability of municipal distribution of electricity – Security and quality of supply</li> <li>Undermine affordability of, and accessibility to, electricity</li> <li>Continued tariff misalignment between Eskom, IPPs and municipalities</li> <li>Key national programmes will be undermined</li> <li>Undermine service delivery</li> </ul>	<ul style="list-style-type: none"> <li>Benchmarking of municipal electricity supply metrics</li> <li>Base approval of municipal tariffs on cost of supply studies</li> <li>Increased compliance monitoring and robust enforcement of licence conditions – penalties, tribunals etc.</li> <li>Continued regulatory advocacy and engagements, also focusing on the following:                             <ul style="list-style-type: none"> <li>Interdepartmental engagement to locate evidence-based electricity tariffs within the broader municipal funding model;</li> <li>limiting surpluses that municipalities can accumulate for cross-subsidisation;</li> <li>approval of municipal tariffs based on cost of supply studies.</li> </ul> </li> </ul>
4. <b>Coordinated regulation of gas and electricity industries</b>	<ul style="list-style-type: none"> <li>Inconsistent policy messages deterring investment</li> <li>Incorrect signals sent to the market resulting in inefficient investment decisions and stranded assets</li> </ul>	<ul style="list-style-type: none"> <li>Strengthen internal coordination and strategic interactions with government structures</li> <li>Collaboration with other regulators to address regulatory asymmetry</li> </ul>
5. <b>Management of concurrent jurisdiction with other regulators or institutions</b>	<ul style="list-style-type: none"> <li>Regulatory overlap</li> <li>No clear roles and responsibilities</li> <li>Lack of cooperation may lead to delay in decision-making</li> </ul>	<ul style="list-style-type: none"> <li>Continued regulatory advocacy and engagements with relevant policy makers</li> <li>Develop and implement Memorandums of Understanding (MOUs) and Memorandums of Agreement (MOAs) with appropriate regulators or institutions</li> </ul>
<b>Piped-Gas Industry Regulation</b>		
1. <b>Light-handed approach of current regulatory framework and weak enforcement powers</b>	<ul style="list-style-type: none"> <li>Difficult to effectively enforce regulatory mandate</li> </ul>	<ul style="list-style-type: none"> <li>Continued regulatory advocacy and engagements with relevant policy makers, with specific reference to the review of the Gas Act and the National Energy Regulator Act</li> <li>Develop and implement MOUs with the appropriate regulators or institutions, focusing among others on reducing confusion and unnecessary regulatory burden and cost</li> </ul>

REGULATORY FACTORS	IMPACT IF FACTOR IS NOT ADDRESSED	NERSA RESPONSE TO THE FACTOR
Piped-Gas Industry Regulation (continued)		
2. Regulatory gaps, limited discretion and fragmentation of legislation (gas) (not regulating entire value chain)	<ul style="list-style-type: none"> <li>Regulatory uncertainty</li> <li>Legal challenges</li> <li>Unnecessary regulatory burden</li> <li>Unintended consequences (e.g. High distribution tariffs)</li> <li>Ineffective regulation of industry</li> <li>Difficulty in approving vs setting gas prices and tariffs</li> </ul>	<ul style="list-style-type: none"> <li>Report on regulatory advocacy and engagements regarding provisions/ measures to be included in the Gas Amendment Bill</li> <li>Amendments to the Gas Act by the DMRE</li> </ul>
3. Lack of experience in regulating new activities (e.g. LNG, Shale gas, FSRU, regasification)	<ul style="list-style-type: none"> <li>Inappropriate regulation of new activities</li> </ul>	<ul style="list-style-type: none"> <li>Develop the rules, norms and standards for the regulation of the new activities</li> <li>Develop and implement a skills gap analysis and appropriate training for staff in regulating new activities</li> </ul>
4. Information asymmetry	<ul style="list-style-type: none"> <li>Possible incorrect decisions taken due to lack of accurate/adequate information for decision making</li> </ul>	<ul style="list-style-type: none"> <li>Develop and implement an appropriate method of ensuring the collection of accurate data</li> <li>Implement the Regulatory Reporting Manuals to overcome information asymmetry</li> </ul>
5. Concurrent jurisdiction regarding the regulation of gas	<ul style="list-style-type: none"> <li>Lack of cooperation may lead to delay in decision making</li> </ul>	<ul style="list-style-type: none"> <li>Development and implementation of MOUs and MOAs with regulators with concurrent jurisdiction</li> </ul>
6. Cross-border regulation and harmonisation of processes, methodologies and procedures	<ul style="list-style-type: none"> <li>Regulatory uncertainty</li> </ul>	<ul style="list-style-type: none"> <li>Continued engagement with INP to harmonise regulatory processes.</li> <li>Finalise and implement MOU with Mozambique regarding sharing of information and mutual co-operation on regulatory matters</li> </ul>
7. Complementary jurisdiction misalignment in application of policy objectives	<ul style="list-style-type: none"> <li>Regulatory and investment uncertainty</li> </ul>	<ul style="list-style-type: none"> <li>Continued regulatory advocacy and engagement in with relevant policy makers</li> <li>Develop appropriate MOUs</li> </ul>

**Table 13: Regulatory factors (continued)**

REGULATORY FACTORS	IMPACT IF FACTOR IS NOT ADDRESSED	NERSA RESPONSE TO THE FACTOR
<b>Petroleum Pipelines Industry Regulation</b>		
1. <b>Concurrent and complementary jurisdiction</b>	<ul style="list-style-type: none"> <li>Regulatory uncertainty</li> </ul>	<ul style="list-style-type: none"> <li>Harmonise regulatory methodologies (internally and externally)</li> <li>Continued regulatory advocacy and engagements with relevant policy makers and other regulators</li> </ul>
2. <b>Cross-border regulation and harmonisation of processes, methodologies and procedures</b>	<ul style="list-style-type: none"> <li>Regulatory uncertainty</li> <li>Reduce intra-regional and/or intercontinental trade</li> </ul>	<ul style="list-style-type: none"> <li>Participation in RERA's Petroleum and Gas Regulatory Subcommittee</li> <li>Participation in regional and continental regulatory structures</li> </ul>
3. <b>Possible market interventions by Government:</b> <ul style="list-style-type: none"> <li>biofuels</li> <li>strategic stocks</li> <li>security of supply</li> <li>cleaner fuels</li> <li>changing energy landscape</li> </ul>	<ul style="list-style-type: none"> <li>Inadequate regulatory framework</li> </ul>	<ul style="list-style-type: none"> <li>Continued regulatory advocacy and engagements with relevant policy makers</li> <li>Continued participation in SADC structures (e.g. Oil and Gas Subcommittee)</li> <li>Identify potential regulatory process amendments</li> <li>Provide inputs on suggested policy and regulatory amendments</li> <li>Pro-actively engage on possible market interventions and adjust framework accordingly</li> </ul>
<b>Transversal Regulatory and Organisational</b>		
1. <b>Management of concurrent jurisdiction</b>	<ul style="list-style-type: none"> <li>Regulatory overlap</li> <li>No clear roles and responsibilities</li> </ul>	<ul style="list-style-type: none"> <li>Continued regulatory advocacy and engagements with relevant policy makers</li> <li>Develop and implement MOUs and MOAs with regulators with concurrent jurisdiction</li> </ul>
2. <b>Perception of independence of the Regulator</b>	<ul style="list-style-type: none"> <li>Uncertainty for investment</li> </ul>	<ul style="list-style-type: none"> <li>Develop and execute a Stakeholder Engagement Strategy to inform a Stakeholder relations management system</li> <li>Communication strategy, including, inter alia, attention to NERSA's activities, information dissemination, approach to Records of Decision etc.</li> </ul>
3. <b>Review of the Energy Regulator Act</b>	<ul style="list-style-type: none"> <li>Negative impact on regulatory ability if identified gaps are not addressed in the Act</li> </ul>	<ul style="list-style-type: none"> <li>Continued regulatory advocacy and engagements with relevant policy makers</li> </ul>

REGULATORY FACTORS	IMPACT IF FACTOR IS NOT ADDRESSED	NERSA RESPONSE TO THE FACTOR
Transversal Regulatory and Organisational (continued)		
4. Implementation of regulatory programmes and projects approved at continental and regional level	<ul style="list-style-type: none"> <li>NERSA may not be in a position to contribute to continental and regional matters that may have an impact on the energy industry, and the country as a whole</li> </ul>	<ul style="list-style-type: none"> <li>NERSA needs to incorporate continental and regional programmes in its regulatory activities (<i>since RSA is a member and an important role player in regional and continental structures, e.g. RERA &amp; AUC</i>)</li> </ul>

**Table14: Social factors**

SOCIAL FACTORS	IMPACT IF FACTOR IS NOT ADDRESSED	NERSA RESPONSE TO THE FACTOR
Electricity Industry Regulation		
1. Resistance from consumers to have pre-paid split meters	<ul style="list-style-type: none"> <li>Increased losses (energy and costs) for licensees</li> <li>Ineffective credit control and negative impact on viability of distributors</li> </ul>	<ul style="list-style-type: none"> <li>Consumer education</li> </ul>
2. Regulatory instruments to reduce poverty	<ul style="list-style-type: none"> <li>Increased poverty</li> <li>Boycotting of payments of electricity</li> <li>Social unrest and ongoing service delivery protests</li> <li>Destruction of electricity supply infrastructure</li> </ul>	<ul style="list-style-type: none"> <li>Public consultations to understand community grievances and extent to which regulatory instruments can influence outcomes</li> <li>Develop regulatory approaches and instruments that promote equitable and appropriate access to electricity</li> <li>Continued regulatory advocacy and engagements with relevant policy makers – with specific reference to poverty reduction measures</li> <li>Review Free Basic Electricity and other proactive poverty reduction subsidies to reduce social wealth gaps</li> </ul>
3. Social unrest and ongoing service delivery protests	<ul style="list-style-type: none"> <li>Destruction of electricity supply infrastructure</li> </ul>	<ul style="list-style-type: none"> <li>There is a need to regulate in a manner that promotes equitable distribution</li> </ul>



**Table 14: Social factors (continued)**

SOCIAL FACTORS	IMPACT IF FACTOR IS NOT ADDRESSED	NERSA RESPONSE TO THE FACTOR
<b>Piped-Gas Industry Regulation</b>		
1. Implementation of HDSA/B-BBEE participation policy	<ul style="list-style-type: none"> <li>Limited participation in market by HDSA/B-BBEE and industry transformation</li> <li>Access to gas and infrastructure</li> </ul>	<ul style="list-style-type: none"> <li>Ensure third-party access</li> <li>Continued regulatory advocacy and engagements with relevant policy makers – with specific reference to the development of a charter</li> <li>Enforce transformation provisions in BBBEE legislation</li> </ul>
2. Uncontrolled building on pipeline servitudes	<ul style="list-style-type: none"> <li>May result in damage to pipelines, posing a threat to security of supply</li> <li>Environmental impact and related costs for clean-up, rehabilitation and improved security, resulting in increased tariffs</li> <li>Threat to surrounding infrastructure and people</li> </ul>	<ul style="list-style-type: none"> <li>Increase pressure on licensees to consult with municipalities by monitoring and enforcing compliance with licence conditions and Regulations</li> </ul>
<b>Petroleum Pipelines Industry Regulation</b>		
1. Lack of awareness of positioning of pipelines by other relevant authorities	<ul style="list-style-type: none"> <li>Health, safety and environmental risks – bad publicity or reputational risk for NERSA</li> </ul>	<ul style="list-style-type: none"> <li>Public awareness campaigns to explain NERSA’s role and responsibilities</li> <li>Monitor and enforce compliance with licence conditions and Regulations for licensees to liaise with municipalities</li> </ul>
2. Increase of attempted theft on the pipelines	<ul style="list-style-type: none"> <li>Security of supply compromised</li> <li>Health and safety risk</li> <li>Environmental impact and related costs for clean-up, rehabilitation and improved security, resulting in increased tariffs</li> </ul>	<ul style="list-style-type: none"> <li>Monitor and enforce compliance with licence conditions</li> <li>Promote improved coordination and cooperation with other regulatory authorities, municipalities and law enforcement agencies</li> </ul>

SOCIAL FACTORS	IMPACT IF FACTOR IS NOT ADDRESSED	NERSA RESPONSE TO THE FACTOR
Transversal Regulatory and Organisational		
1. High level of unemployment	<ul style="list-style-type: none"> <li>Political instability that can affect delivery of infrastructure to the poor</li> </ul>	<ul style="list-style-type: none"> <li>Ensure that NERSA's Internship and Learnership programmes are current and effective</li> <li>Investigate how NERSA can use tariffs to allow licensees to employ young people as apprentices</li> </ul>
2. Service delivery protests (consumer activism)	<ul style="list-style-type: none"> <li>Alienated and marginalised communities</li> <li>Potential increase in tariffs</li> </ul>	<ul style="list-style-type: none"> <li>Conduct customer education and public consultation initiatives</li> <li>Develop a position paper on the most appropriate funding mechanisms</li> <li>Develop a position paper on tariff reducing instruments in order to obtain policy clarity</li> </ul>
3. Perception of independence of the Regulator	<ul style="list-style-type: none"> <li>Uncertainty for investment</li> </ul>	<ul style="list-style-type: none"> <li>Develop a strategic engagement framework with all role players</li> <li>Develop a proactive communication strategy on NERSA's activities – particularly on how decisions are reached</li> </ul>
4. Resistance to energy infrastructure close to settlements	<ul style="list-style-type: none"> <li>Security of supply</li> </ul>	<ul style="list-style-type: none"> <li>Ensure that the sector is ready for expropriation proceedings in terms of the Electricity Regulation Act</li> </ul>

**Table 15: Technological factors**

TECHNOLOGICAL FACTORS	IMPACT IF FACTOR IS NOT ADDRESSED	NERSA RESPONSE TO THE FACTOR
<b>Electricity Industry Regulation</b>		
1. Technological innovation e.g. Smart Grid	<ul style="list-style-type: none"> <li>• Security of supply</li> <li>• Stranded assets</li> </ul>	<ul style="list-style-type: none"> <li>• Develop appropriate rules to cater for technological innovation in the sector</li> <li>• Monitor compliance with robust enforcement</li> <li>• Develop measures in order to protect user information</li> <li>• As the grid becomes more sophisticated, NERSA may need new regulations to protect the grid over the long-term</li> <li>• Customer education</li> <li>• Engagement with smart technology providers and platforms (especially SOEs, where potential leverage and social benefit – such as Telkom, SITA etc.) to develop smart tariff applications towards real-time monitoring of the electricity systems.</li> </ul>
2. Renewable Generation	<ul style="list-style-type: none"> <li>• Security of supply</li> <li>• SA not meeting environmental targets</li> </ul>	<ul style="list-style-type: none"> <li>• Amend the Grid Code to include dispatch rules</li> <li>• Create market and balancing rules</li> </ul>
3. Gas as primary energy source	<ul style="list-style-type: none"> <li>• Security of supply</li> </ul>	<ul style="list-style-type: none"> <li>• Continued regulatory advocacy and engagements with relevant policy makers</li> </ul>
4. Nuclear Generation	<ul style="list-style-type: none"> <li>• Security of supply</li> <li>• Higher tariffs</li> </ul>	<ul style="list-style-type: none"> <li>• Develop an evidence-based report on the expansion of nuclear energy in the energy mix</li> <li>• Conduct customer education</li> <li>• Conduct a skills analysis and develop a strategy to upgrade NERSA skills</li> </ul>
5. Energy efficiency	<ul style="list-style-type: none"> <li>• Revenue shortfall for municipalities/distributors/Eskom</li> </ul>	<ul style="list-style-type: none"> <li>• Continued regulatory advocacy and engagements with relevant policy makers with specific reference to a different funding model for municipalities so that they do not have to depend mainly on electricity revenues</li> <li>• Continued monitoring of the implementation and the impact of energy efficient measures</li> </ul>
6. Storage technologies	<ul style="list-style-type: none"> <li>• Could impact prices and security of supply</li> <li>• Will not harness the benefits of e.g. renewable energy, mini grids, etc.</li> </ul>	<ul style="list-style-type: none"> <li>• Create a regulatory environment to include this technology and capacity building of NERSA staff to improve understanding</li> <li>• Develop rules codes to define how these technologies connect with the electricity grid</li> </ul>

TECHNOLOGICAL FACTORS	IMPACT IF FACTOR IS NOT ADDRESSED	NERSA RESPONSE TO THE FACTOR
<b>Electricity Industry Regulation (continued)</b>		
7. Embedded and self-generation	<ul style="list-style-type: none"> <li>Eskom and Municipal sustainability at risk</li> </ul>	<ul style="list-style-type: none"> <li>Engage with stakeholders</li> <li>Develop a framework to address sustainability issues</li> <li>Develop rules for registration</li> <li>Develop systems to ensure monitoring to form inputs into planning processes.</li> </ul>
<b>Piped-Gas Industry Regulation</b>		
1. Regulatory framework lags technological innovation	<ul style="list-style-type: none"> <li>Unregulated gas activities (risk)</li> <li>Deters entry and investment</li> <li>Regulatory uncertainty</li> <li>NERSA could be exposed to possible legal action</li> <li>Ineffective and fragmented regulation of the gas industry</li> </ul>	<ul style="list-style-type: none"> <li>Continued regulatory advocacy</li> <li>Incentivise through tariffs, prices and licensing</li> <li>Monitor developments in the industry</li> <li>Ensure that a regulatory framework is developed in order to be ready for the regulation of the industry with technological innovation</li> </ul>
2. Lack of piped-gas infrastructure for new technology (Liquefied Natural Gas, regasification, Compressed Natural Gas, Floating Liquefied Natural Gas, Liquefied Natural Gas tanks etc.)	<ul style="list-style-type: none"> <li>Deters investment and growth of downstream industry</li> </ul>	<ul style="list-style-type: none"> <li>Continued regulatory advocacy and engagements with relevant policy makers</li> </ul>
3. Resistance to new gas technology (e.g. Shale Gas hydraulic fracturing)	<ul style="list-style-type: none"> <li>SA misses out on opportunity to replace crude imports with domestic GTL</li> </ul>	<ul style="list-style-type: none"> <li>Conduct research on new gas technology and the impact on regulation</li> <li>Continuously monitor developments of gas technologies</li> <li>Review adequacy of current regulatory regime and rules</li> <li>Continued regulatory advocacy and engagements with relevant policy makers</li> <li>Conduct a skills analysis and develop a strategy to upgrade NERSA skills on regulation of new gas technologies</li> </ul>
4. Lack of gas storage infrastructure	<ul style="list-style-type: none"> <li>Security of supply could be compromised</li> </ul>	<ul style="list-style-type: none"> <li>Continued regulatory advocacy and engagements with relevant policy makers</li> </ul>

**Table 15: Technological factors (continued)**

TECHNOLOGICAL FACTORS	IMPACT IF FACTOR IS NOT ADDRESSED	NERSA RESPONSE TO THE FACTOR
<b>Piped-Gas Industry Regulation (continued)</b>		
5. Inadequate research on new gas technologies and developments in the gas industry	<ul style="list-style-type: none"> <li>Investment in the industry affected</li> <li>Unexplored indigenous gas sources</li> <li>Lack of understanding of the possibilities in the gas industry</li> <li>Inadequate skills to match new technically inclined developments upstream</li> </ul>	<ul style="list-style-type: none"> <li>Continued regulatory advocacy and engagements with relevant policy makers</li> <li>Promote research as well as customer and public education in the gas industry and latest developments</li> <li>Ensure skills transfer in interactions with specialist service providers (e.g. skills transfer clauses in service level agreements with consultants)</li> <li>Ensure continued training on new developments in the industry</li> </ul>
<b>Petroleum Pipelines Industry Regulation</b>		
1. Alternative forms of energy and technological improvements that reduce demand for petrol	<ul style="list-style-type: none"> <li>Risk of stranded assets</li> <li>Risk of bankrupting new entrants</li> <li>Lower pipeline volumes will lead to higher tariffs, which may result in incentives to use alternative modes of transport</li> </ul>	<ul style="list-style-type: none"> <li>Forward looking regulatory framework</li> <li>Monitor trends and potential alignment of tariff methodologies</li> <li>Create an environment to regulate within changing landscape</li> <li>Monitor supply and demand</li> </ul>
2. Fragmentation of the different product grades of fuel – losing economies of scale	<ul style="list-style-type: none"> <li>Lower volumes will lead to higher tariffs. Higher Transnet Pipeline costs due to higher interface volumes.</li> <li>It will reduce available storage capacity for individual products</li> <li>It will reduce availability of storage capacity per product grade and may consequently further reduce third-party access</li> </ul>	<ul style="list-style-type: none"> <li>Licence tanks to store more than one type of product</li> </ul>
<b>Transversal Regulatory and Organisational</b>		
1. Rapid development in ICT sector	<ul style="list-style-type: none"> <li>Lost efficiencies and limited communication impact and reach</li> </ul>	<ul style="list-style-type: none"> <li>Harness technologies to speed up processes and improve efficiency</li> <li>Implement cyber security controls</li> </ul>
2. Technological Developments	<ul style="list-style-type: none"> <li>There are several advancements that affect NERSAs ability to deliver and respond</li> </ul>	<ul style="list-style-type: none"> <li>NERSA needs to assess how to take advantage of technological advancement in their operations beyond COVID-19</li> </ul>

**Table 16: Environmental factors**

ENVIRONMENTAL FACTORS	IMPACT IF FACTOR IS NOT ADDRESSED	NERSA RESPONSE TO THE FACTOR
<b>Electricity Industry Regulation</b>		
1. Climate change imperatives	<ul style="list-style-type: none"> <li>• Can impact the security of supply because renewable energy generators cannot contribute to meeting peak demand and are unreliable in delivery of energy.</li> <li>• The current high cost of renewable energy generators will impact on the accessibility to all end users.</li> </ul>	<ul style="list-style-type: none"> <li>• Evidence based regulatory advocacy and engagements with, inter alia:               <ul style="list-style-type: none"> <li>&gt; Relevant policy makers;</li> <li>&gt; Civil Society; and</li> <li>&gt; Consumers</li> </ul> </li> </ul>
2. Environmental activism	<ul style="list-style-type: none"> <li>• Security of supply</li> </ul>	<ul style="list-style-type: none"> <li>• Continued regulatory advocacy and engagements with relevant policy makers</li> </ul>
3. Growing awareness of environmental factors	<ul style="list-style-type: none"> <li>• SA not meeting its reduction in greenhouse gas emission targets</li> </ul>	<ul style="list-style-type: none"> <li>• Utilise the Multi-Year Price Determination to facilitate contributing towards the reduction of greenhouse gas emissions</li> </ul>
4. Carbon tax (off sets and carbon trading)	<ul style="list-style-type: none"> <li>• Higher prices of all non-renewable energy</li> </ul>	<ul style="list-style-type: none"> <li>• Continued regulatory advocacy and engagements with relevant policy makers</li> <li>• Monitor developments and decisions taken by the G20</li> </ul>
5. Minimum Emission Standard	<ul style="list-style-type: none"> <li>• Shutting down of power stations that do not comply</li> <li>• Security of supply</li> </ul>	<ul style="list-style-type: none"> <li>• Sensitise stakeholders on the impact of the standard</li> </ul>
6. Reduction in emission due to low activities	<ul style="list-style-type: none"> <li>• This has presented an opportunity for use of alternative energy sources</li> </ul>	<ul style="list-style-type: none"> <li>• NERSA needs to adjust its policies and processes to address procurement of large renewable energy projects. The regulatory methodologies to deal with these need to be revised</li> </ul>
<b>Piped-Gas Industry Regulation</b>		
1. Continued use of fossil fuels resulting in global warming	<ul style="list-style-type: none"> <li>• Imposition of carbon taxes to facilitate emission reduction</li> </ul>	<ul style="list-style-type: none"> <li>• Continued regulatory advocacy and engagements with relevant policy makers – specifically to promote gas as a more attractive option and environmentally friendly energy source</li> <li>• Monitor developments and decisions taken by the G20, COP26 and climate change agreements</li> </ul>

**Table 16: Environmental factors (continued)**

ENVIRONMENTAL FACTORS	IMPACT IF FACTOR IS NOT ADDRESSED	NERSA RESPONSE TO THE FACTOR
<p>2. Environmental activism, global warming, carbon taxes and emissions reduction</p>	<ul style="list-style-type: none"> <li>SA misses out on shale gas potential</li> <li>SA misses out on an opportunity to become energy self-sufficient</li> <li>Gas market cannot grow</li> </ul>	<ul style="list-style-type: none"> <li>Conduct research on shale gas and the environment</li> <li>Continued regulatory advocacy and engagements with relevant policy makers</li> <li>Participate in national debate on shale gas and task teams where possible</li> </ul>
<b>Petroleum Pipelines Industry Regulation</b>		
<p>1. Reduction of carbon emissions</p>	<ul style="list-style-type: none"> <li>Additional cost to the economy with no alternative fuel source of any scale</li> <li>Taxes applied by the economy cannot respond to the signal</li> </ul>	<ul style="list-style-type: none"> <li>Develop a report on the impact of the introduction of the Carbon Tax Act</li> </ul>
<p>2. Automotive industry is globally moving towards cleaner fuels and the market demand for cleaner fuels is increasing</p>		
<p>3. Regulations on the upgrade of refineries for cleaner fuels</p>	<ul style="list-style-type: none"> <li>Shutting down of refineries due to high costs of upgrading</li> <li>Increased requirements for import storage capacity</li> <li>Security of supply</li> </ul>	<ul style="list-style-type: none"> <li>Regulatory advocacy on consequences for the regulation of the petroleum pipeline industry</li> <li>Perform infrastructure planning</li> </ul>
<b>Transversal Regulatory and Organisational</b>		
<p>1. Environmental levies and Carbon tax policy</p>	<ul style="list-style-type: none"> <li>SA not meeting its environmental targets</li> <li>Lack of affordability</li> <li>Policy uncertainty</li> </ul>	<ul style="list-style-type: none"> <li>Continued regulatory advocacy and engagements with relevant policy makers</li> <li>Monitor developments and decisions taken by the G20</li> </ul>
<p>2. Delays in issuing environmental Impact Assessments</p>	<ul style="list-style-type: none"> <li>Security of supply</li> </ul>	<ul style="list-style-type: none"> <li>Continued regulatory advocacy and engagements with relevant policy makers</li> </ul>
<p>3. Health and Safety</p>	<ul style="list-style-type: none"> <li>Possible environmental disasters such as petroleum/gas leaks from pipelines, wind turbine blades coming loose etc.</li> </ul>	<ul style="list-style-type: none"> <li>NERSA to ensure that it discharges its responsibility regarding health and safety</li> </ul>

**Table 17: Legal factors**

LEGAL FACTORS	IMPACT IF FACTOR IS NOT ADDRESSED	NERSA RESPONSE TO THE FACTOR
<b>Electricity Industry Regulation</b>		
1. Electricity Regulation Act under review	<ul style="list-style-type: none"> <li>It will compromise the regulation of electricity supply industry</li> </ul>	<ul style="list-style-type: none"> <li>Continued regulatory advocacy and engagements with relevant policy makers, with specific reference to the need for effective regulation of electricity supply industry</li> </ul>
2. Regulatory Principles compromise	<ul style="list-style-type: none"> <li>Loss of credibility</li> <li>Listed as Regulatory Risk</li> <li>NERSA subject to liability claims</li> </ul>	<ul style="list-style-type: none"> <li>Make sure all decisions are made in accordance with sound regulatory principles.</li> </ul>
<b>Piped-Gas Industry Regulation</b>		
1. Delays in legislative amendments and developments	<ul style="list-style-type: none"> <li>May deter entry into the gas market</li> <li>Weak mandate on regulation of piped-gas</li> <li>Uncertainty in terms of the separation of the oil and gas provision in the Bill</li> <li>Differences interpretation of sections in the legislation due to ambiguous wording in the acts</li> <li>Impacts on the orderly development of the gas industry and regulatory decisions</li> </ul>	<ul style="list-style-type: none"> <li>Continued regulatory advocacy and engagements with relevant policy makers</li> <li>Amend regulatory methodologies, rules and guidelines</li> </ul>
<b>Petroleum Pipelines Industry Regulation</b>		
1. Fragmentation of legislations – possible consolidation of downstream petroleum legislation	<ul style="list-style-type: none"> <li>Regulatory burden to licensees</li> <li>Duplication of resources</li> </ul>	<ul style="list-style-type: none"> <li>Continued regulatory advocacy and engagements with relevant policy makers</li> <li>Prepare for defragmentation</li> </ul>



**Table 17: Legal factors (Continued)**

LEGAL FACTORS	IMPACT IF FACTOR IS NOT ADDRESSED	NERSA RESPONSE TO THE FACTOR
<p>2. Possible legal / legislative intervention:</p> <ul style="list-style-type: none"> <li>• Petroleum Liquid Fuels Sector Codes</li> <li>• Petroleum Pipelines Act and Regulations</li> <li>• Mineral and Petroleum Resources Act</li> </ul>	<ul style="list-style-type: none"> <li>• Regulatory uncertainty</li> <li>• Non-compliance with the BBBEE Act in issuing licenses</li> </ul>	<ul style="list-style-type: none"> <li>• Continued regulatory advocacy and engagements with relevant policy makers</li> <li>• Continued efficient regulation</li> <li>• Amend licensing rules to include BBBEE requirements</li> </ul>
<p>3. Regulatory lag</p>	<ul style="list-style-type: none"> <li>• Regulatory uncertainty</li> <li>• Loss of investments</li> <li>• Impacting NERSA’s ability to effectively regulate the industry</li> </ul>	<ul style="list-style-type: none"> <li>• Continued alignment and revisions between DMRE mandate and associated policies</li> </ul>
<b>Transversal Regulatory and Organisational</b>		
<p>1. National Energy Regulator Amendment Bill</p>	<ul style="list-style-type: none"> <li>• NERSA’s views not taken into consideration</li> <li>• NERSA not ready when the National Energy Regulator Amendment Bill becomes operational</li> </ul>	<ul style="list-style-type: none"> <li>• Continued regulatory advocacy and engagements with relevant policy makers</li> <li>• Regulatory Advocacy</li> <li>• Proactively start preparing for a change in mandate</li> </ul>
<p>2. Ability to influence supplementary legislation</p>	<ul style="list-style-type: none"> <li>• NERSA’s views not included</li> <li>• NERSA’s powers weakened</li> </ul>	<ul style="list-style-type: none"> <li>• Develop a strategic engagement framework on developing legislation/policy changes</li> <li>• Continued regulatory advocacy and engagements with relevant policy makers</li> </ul>
<p>3. Compliance with regulatory requirements (Public Finance Management Act and others)</p>		
<p>4. Fragmentation of legislations</p>		
<p>5. Infrastructure Development Act</p>	<ul style="list-style-type: none"> <li>• Expectation to fund out of tariff and tax instead of by investment.</li> </ul>	<ul style="list-style-type: none"> <li>• Develop a position paper on what the funding model should be</li> </ul>
<p>6. Pending legal cases</p>	<ul style="list-style-type: none"> <li>• Uncertainty on regulatory decisions and regulatory tools</li> </ul>	<ul style="list-style-type: none"> <li>• Implement decisions of the court as soon as the judgement is given</li> </ul>

## 5. UPDATED INTERNAL SITUATIONAL ANALYSIS

### 5.1. ORGANISATIONAL CAPACITY

5.1.1. NERSA has an approved structure of 253 staff members. The staff strength as at 30 September 2021 is 239.

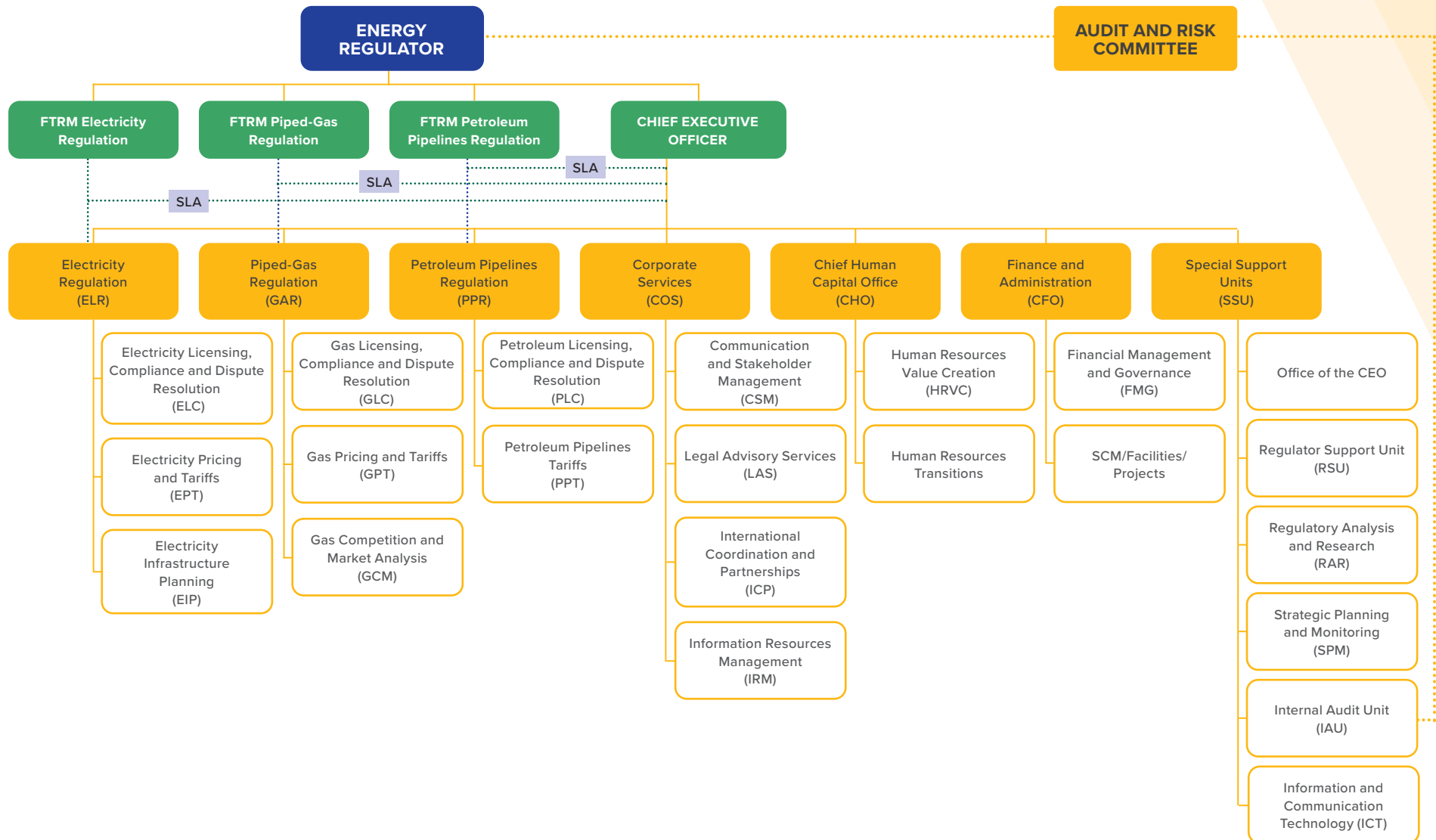
5.1.2. Table 18 summarises the staff complement of NERSA.

Table 18: NERSA Staff complement

DIVISION	DEPARTMENT	COMPLEMENT
Electricity Regulation (ELR)	FTRM	3
	Executive	3
	Electricity Pricing and Tariffs (EPT)	35
	Electricity Licensing, Compliance and Dispute Resolution (ELC)	34
	Electricity Infrastructure Planning (EIP)	13
<b>Total</b>		<b>88</b>
Piped-Gas Regulation (GAR)	FTRM	3
	Executive	5
	Gas Pricing and Tariffs (GPT)	8
	Gas Licensing, Compliance and Dispute Resolution (GLC)	11
	Gas, Competition and Market Analysis (GCM)	4
<b>Total</b>		<b>31</b>
Petroleum Pipelines Regulation (PPR)	FTRM	3
	Executive	6
	Petroleum Pipelines Tariffs (PPT)	9
	Petroleum Licensing, Compliance and Dispute Resolution (PLC)	9
<b>Total</b>		<b>27</b>
Finance and Administration (CFO)	Executive	3
	Financial Management and Governance (FMG)	7
	Supply Chain Management	13
<b>Total</b>		<b>23</b>

DIVISION	DEPARTMENT	COMPLEMENT
Human Resources (CHO)	Executive	2
	Human Resources – Value Creation	8
	Human Resources -Transactions	3
<b>Total</b>		<b>13</b>
Corporate Services (COS)	Executive	3
	Legal Advisory Services (LAS)	6
	Communication and Stakeholder Management (CSM)	9
	International Co-ordination and Partnerships (ICP)	3
	Information Resources Management (IRM)	7
<b>Total</b>		<b>28</b>
Specialised Support Units (SSU)	Internal Audit (IAU)	7
	Strategic Planning and Monitoring (SPM)	4
	Regulator Support (RSU)	11
	CEO's Office Operations (COO)	5
	Regulatory Analysis and Research (RAR)	6
	Information and Communication Technology (ICT)	10
<b>Total</b>		<b>43</b>
<b>Grand Total NERSA Staff Complement</b>		<b>253</b>

5.1.3. Below is the approved NERSA Organisational Structure:



## 5.2. Status regarding compliance with the BBBEE Act

In 2017/2018 NERSA embarked on its first B-BBEE accreditation and was awarded a Level eight (8) B-BBEE contribution status level. According to the BBBEE report, NERSA was accredited a Level seven (7) B-BBEE contribution Status. However, due to the fact that NERSA's skills development and enterprise development did not meet the minimum threshold, NERSA was discounted to a Level eight (8) contribution level.

Plans have been developed and implemented to improve the skills development and enterprise development requirements. In March 2019 the Energy Regulator approved the Enterprise Development Strategy and implementation commenced from April 2019.

## 5.3. Status regarding women and people with disabilities

- a) As at the end of 30 September 2021, NERSA's staff strength is 239 and comprises 101 (42%) males and 138 (58%) females.
- b) As at the end of 30 September 2021, the percentage of persons with disabilities is 2%.

## 5.2.4. Strengths, Weaknesses, Opportunities and Threats facing NERSA

A Strengths, Weakness, Opportunities and Threats (SWOT) framework was used to analyse the internal situation at NERSA. Each element of the SWOT analysis was further categorized into key themes and documented in the table below.

STRENGTHS	
THEME	FACTORS
Financial Outlook	<ul style="list-style-type: none"> <li>Stable revenue stream as actual revenue reported was 0.9% greater than what was budgeted for before the pandemic</li> </ul>
Skilled Workforce	<ul style="list-style-type: none"> <li>Skilled personnel with extensive knowledge and understanding on how licensees work and how to support/respond to solve problems</li> </ul>
	<ul style="list-style-type: none"> <li>High degree of transparency</li> </ul>
	<ul style="list-style-type: none"> <li>Staff complement constitutes 57% females, which positively contributes to the is developmental agenda</li> </ul>
COVID-19 Response	<ul style="list-style-type: none"> <li>Adequate management of NERSA's operational, maintenance and safety expenditures in order to effectively respond to the COVID-19 pandemic and ensure investments stabilise/ improve over time</li> </ul>
	<ul style="list-style-type: none"> <li>Adequate management of NERSA's operational, maintenance and safety expenditures in order to effectively respond to the COVID-19 pandemic</li> </ul>
Corporate Governance	<ul style="list-style-type: none"> <li>New ways of working in response to COVID-19 pandemic have enhanced staff wellbeing and ensured business continuity and service delivery despite the pandemic</li> </ul>
Environmentally Sustainable	<ul style="list-style-type: none"> <li>NERSA is continuing their journey towards becoming a green organisation by refurbished building and application for a Green Building certificate</li> </ul>

WEAKNESSES	
THEME	FACTORS
B-BBEE Threshold Compliance	<ul style="list-style-type: none"> <li>• inability to meet the minimum threshold targets on spend for skills development and enterprise development resulting in NERSA's overall B-BBEE level being discounted from a Level 7 to a Level 8</li> </ul>
Cultural Issues	<ul style="list-style-type: none"> <li>• Perceptions of bureaucracy exist widely throughout the organisation</li> <li>• Slow decision-making and delegation of associated activities</li> <li>• Sense of “bullied” / “unhappy” employees resulting in the increased legal matters/ issues and the rise of grievances</li> <li>• Span of control in the divisional organisational structure is not optimal</li> <li>• Trust issues persists and result in challenges in obtaining external support in the development of information systems</li> <li>• Ambiguous roles and responsibilities between NERSA governance and management/ executive committees</li> <li>• Lack of clear direction from members as instructions continuously change</li> <li>• Lack of exposure of employees to the industry operations (practicalities)</li> <li>• Where innovation, new ideas or better ways to do things are brought to the organisation, the individuals get marked down during the performance moderation process due to smoothing of the curve, demoralising individuals.</li> <li>• Misalignment in terms of actual vs expected remuneration</li> <li>• Non-Dynamic organisation structure to move with new organisation requirements, regrading of positions and appropriate compensation of employees.</li> <li>• Decisions are not aligned to the developments within the global and regional energy industry (landscape changes)</li> <li>• Skills of individuals are under-utilised and over-utilised in some instances</li> <li>• Internal rotation of staff seems to happen/to be viable when there is a vacant position by successfully passing an interview, but at no salary increase for the same graded position despite having competed with external candidates who would qualify for a percentage increase.</li> <li>• Several team members feel as though they are working in silos</li> <li>• Lack of knowledge sharing, cooperation, and collective decision making/ contributions from various departments</li> <li>• Gap between organisational structure and skills required in specific areas (e.g. relevant and needed skillsets among board composition)</li> </ul>

**WEAKNESSES**

THEME	FACTORS
External Relationships	<ul style="list-style-type: none"> <li>• There is a need to focus on improving relationships between NERSA and industry players and ensure information is shared, collected and used in a timely manner that benefits the collective</li> </ul>
	<ul style="list-style-type: none"> <li>• Negative perceptions of stakeholders exists</li> </ul>
	<ul style="list-style-type: none"> <li>• There is a need to clarify the roles between NERSA and the Environmental department and TNPA</li> </ul>
Processes and Procedures	<ul style="list-style-type: none"> <li>• Lack of effective and efficient documentation management (process to receive and archive/store documents in soft and hard copy formats)</li> </ul>
	<ul style="list-style-type: none"> <li>• Government policies make it difficult to automate and streamline processes</li> </ul>
	<ul style="list-style-type: none"> <li>• Internal processes and systems need to be updated, digitised and improved in order to support the “new normal” ways of working (e.g. home working)</li> </ul>
	<ul style="list-style-type: none"> <li>• Decentralised and fragmented data – as information is not stored on a single platform and cannot be easily accessed for informed decision-making (licensee data and information)</li> </ul>
	<ul style="list-style-type: none"> <li>• NERSA is mainly responsive to industry developments (need to become more proactive)</li> </ul>
	<ul style="list-style-type: none"> <li>• Improvements in retention processes and procedures is required</li> </ul>
	<ul style="list-style-type: none"> <li>• Meeting to be confined to normal working hours to maintain a healthy work life balance.</li> </ul>
Organisational Strategy	<ul style="list-style-type: none"> <li>• Lack of alignment of structure to strategy</li> </ul>
	<ul style="list-style-type: none"> <li>• Lack of common understanding of the strategy</li> </ul>

OPPORTUNITIES	
THEME	FACTORS
Implementation of Technological Innovations	<ul style="list-style-type: none"> <li>Technological progress has allowed for new forms of producing, storing, transforming, and consuming energy, altering the nature of the energy system (need to keep up with the pace of technological change)</li> </ul>
	<ul style="list-style-type: none"> <li>There is a need to integrate new technologies and business models into existing structures (e.g. online application and document approval systems)</li> </ul>
	<ul style="list-style-type: none"> <li>There is a need to establish a more efficient process to collect information from industries</li> </ul>
Response to changing customer Needs	<ul style="list-style-type: none"> <li>NERSA should consider the option of utilising electrification funds that are collected through the tariff to support vulnerable customers who are unable to afford their energy bills</li> </ul>
	<ul style="list-style-type: none"> <li>Ensure energy security through; reduction of the regulatory burden on new applications, ensure sector regulatory certainty, fast-tracking of application processing and consider proposals on the reduction of energy prices</li> </ul>
	<ul style="list-style-type: none"> <li>Use of analytics (energy modelling, investment, and economic driver analytics) to inform a demand-led strategy</li> </ul>
Collaboration and Relationship Development	<ul style="list-style-type: none"> <li>Continue interactions with DMRE in order to legislate and establish a structure to implement mandate</li> </ul>
	<ul style="list-style-type: none"> <li>Implement DMRE regulations to unlock significant local production and importation (when there is a shortfall) of LPG</li> </ul>
	<ul style="list-style-type: none"> <li>Implement SADC's established Regional Electricity Regulatory Association (RERA) that will assist in harmonising the region's cross border policies and regulations (once finalised)</li> </ul>
Departments/ Divisions	<ul style="list-style-type: none"> <li>Opportunity exists for NERSA to develop/ employ individuals responsible for data modelling in order to accelerate the decision-making processes</li> </ul>
	<ul style="list-style-type: none"> <li>Improve the alignment of internal characteristics to the external environment</li> </ul>
	<ul style="list-style-type: none"> <li>There is potential to invest in additional digital infrastructure / innovations across the value chain in order to stay up to date/ ahead of the market</li> </ul>
	<ul style="list-style-type: none"> <li>Prepare NERSA for different outcomes/responses to disasters/events using scenario based responses (e.g. mild, harsh, severe)</li> </ul>
Employees	<ul style="list-style-type: none"> <li>Balance diverse expectations of employees in order to build trust within NERSA</li> </ul>
	<ul style="list-style-type: none"> <li>Capitalise on the ability to learn from new colleagues, to generate new ideas and remain relevant</li> </ul>



THREATS	
THEME	FACTORS
COVID-19 Pandemic	<ul style="list-style-type: none"> <li>The COVID-19 crisis may have a significant impact on investments, sustainability of energy supply, ability to invest in aging electricity networks, infrastructure and revenues due to changes in industry volumes</li> <li>Adjust to new ways of working, upskilling staff and continued virtual activities/ operations</li> </ul>
Energy Finance Sector	<ul style="list-style-type: none"> <li>There has been a slow migration to cost reflective tariffs, inadequate project preparation, issues with Power Purchase Agreements, and absent regulatory frameworks which stunt investment and financing in the energy sector</li> </ul>
Regulatory Landscape	<ul style="list-style-type: none"> <li>Lack of region-wide regulatory framework that addresses renewable energy</li> <li>Limited relevance of regulation within the emerging distributed energy landscape</li> <li>Regulatory control within the entire supply chain of the regulated industries is limited</li> <li>Projects intended to address the supply shortage are delayed due to absent regulatory frameworks and below-cost tariffs which indirectly impacts the ability for energy operators/ suppliers to sustain demand</li> <li>NERSA decisions have been legally challenged</li> <li>Encroachment of various departments in running NERSA affairs</li> </ul>
Technological Advancements	<ul style="list-style-type: none"> <li>Fast changing energy landscape due to emerging innovative energy generation technologies</li> <li>NERSA will have to move fast to keep up with the pace of technological change and the rising need for flexible operation of power systems</li> <li>Regulatory frameworks need to balance the need for providing certainty while being flexible enough to effectively integrate new technologies and business models</li> </ul>
Economic Outlook	<ul style="list-style-type: none"> <li>There is an unknown long-term impact on the economy and industry as a result of the recession, pandemic, credit downgrade, poverty, and inequality</li> </ul>
Industry Changes	<ul style="list-style-type: none"> <li>There has been changes to the operating industries (Sasol Gas' and Engen intentions to divest in some of its infrastructure assets)</li> <li>There have been amendments to the Competition Act which need to be accounted for from a regulatory perspective</li> <li>Industry development creates challenges in terms of legislation</li> </ul>
Legislation Issues	<ul style="list-style-type: none"> <li>Several instances of legislative shortcomings persist</li> </ul>

## PART C \ MEASURING OUR PERFORMANCE

### 6. INSTITUTIONAL PROGRAMME PERFORMANCE INFORMATION

#### 6.1. INTRODUCTION

6.1.1. The table below indicates the link between NERSA programmes and the outcomes stated in the Strategic Plan as well as the MTSF Priorities.

OUTCOMES	PROGRAMME	LINK TO MTSF PRIORITY
<ul style="list-style-type: none"> <li>Efficiency in facilitating entry, setting prices and resolving disputes</li> <li>A stable and diverse energy sector system and pricing regime which supports access through regulatory services that are delivered on time and to quality standards</li> <li>Innovation drives our response to the transition of the Industry</li> </ul>	<b>Programme 1:</b> Regulatory Service Delivery	<ul style="list-style-type: none"> <li>MTSF Priority 2: Economic Transformation and Job Creation.</li> </ul>
<ul style="list-style-type: none"> <li>Energy industry regulatory framework is relevant for the effective regulation for the benefit of the customers and stakeholders.</li> <li>Integrated and value-added services to customers</li> </ul>	<b>Programme 2:</b> Advocacy And Engagement	<ul style="list-style-type: none"> <li>MTSF Priority 2: Economic Transformation and Job Creation</li> <li>MTSF Priority 2: A better Africa and world</li> </ul>
<ul style="list-style-type: none"> <li>Innovation drives our response to the transition of the Industry</li> </ul>	<b>Programme 3:</b> Innovation	<ul style="list-style-type: none"> <li>MTSF Priority 1: Capable, Ethical and Developmental State</li> </ul>
<ul style="list-style-type: none"> <li>Integrated and value-added services to customers</li> </ul>	<b>Programme 4:</b> Operational Efficiency and Quality Management	<ul style="list-style-type: none"> <li>MTSF Priority 1: Capable, Ethical and Developmental State</li> <li>MTSF Priority 3: Education, skills and health</li> </ul>
<ul style="list-style-type: none"> <li>Integrated and value-added services to customers</li> </ul>	<b>Programme 5:</b> People and Organisational Culture	<ul style="list-style-type: none"> <li>MTSF Priority 3: Education, Skills And Health.</li> </ul>

6.1.2. NERSA followed a new approach to our planning processes. This resulted in the formulation of new outcomes and the review of certain sections of Part C of the approved Strategic Plan 2020/21 – 2024/25. In line with the provisions of the *Revised Framework for Strategic Plans and Annual Performance Plans*, the amended Part C of the Strategic Plan is attached hereto as Annexure A.

## 6.2. PLANNED PERFORMANCE

### 6.2.1. PROGRAMME 1: REGULATORY SERVICE DELIVERY

6.2.1.1. The programme purpose is to:

- set and/or approve tariffs and prices in order to ensure a fair balance between the needs of the customer and the regulated entity;
- ensure the orderly development of the energy industry and to ensure that all activities related to all operations are licensed and registered as required by the Electricity Regulation Act, 2006 (Act No. 4 of 2006), Gas Act, 2001 (Act No. 48 of 2001) and the Petroleum Pipelines Act, 2003 (Act No. 60 of 2003);
- ensure that all licensees in the three regulated industries fully comply with their licence conditions, including those relating to health, safety, security and environmental standards and requirements, as well as any other standards and requirements prescribed by the relevant industry-specific legislation;
- ensure compliance with directives to govern relations between a licensee and its end users;
- ensure that disputes and complaints between licensees or between licensees and customers or end-users are managed effectively and settled in a manner that is appropriate; and that when needed, any mediation or arbitration required will be done within prescribed procedures.
- ensure the setting of appropriate rules, guidelines and codes of best practices in the quest to promote uniformity and standardise practices in the regulation of the three energy industries.

6.2.1.2. This programme will therefore contribute to the following:

- A fair balance between the needs of the customer and the regulated entity. While the customer needs to be protected against misuse of monopolistic powers and unnecessary price hikes, the regulated entities need to have sufficient income to ensure that they can continue operating as a going concern and have enough revenue for the maintenance and refurbishment of infrastructure.
- The creation of investor confidence and lessening the regulatory burden on licensees. In order to achieve orderly investor confidence in the energy industries, there must be standardised practices, which are the same for all participants and NERSA must maintain and safeguard these standards. This will facilitate investment in the energy industries, as investors and developers need a sound regulatory framework to ensure that they receive the expected returns for their investment.

6.2.1.3. This Programme is divided into three sub-programmes, one for each of the regulated industries, namely Electricity, Piped-Gas and Petroleum Pipelines. The planned performance in the three subprogrammes are grouped into the following categories, which are based on NERSA's key regulatory functions:

1. Setting and/or approval of tariffs and prices
2. Licensing and registration
3. Compliance monitoring and enforcement
4. Dispute resolution, including mediation, arbitration and handling of complaints
5. Setting of rules, guidelines and codes for regulation

### 6.2.1.4. Sub-Programme: Electricity Industry Regulation

NERSA embarked on a process to develop a strategy for the regulation of the Electricity Industry. This process will be continued for the regulation of the Piped-Gas Industry and Petroleum Pipeline Industry. Therefore, the planned performance for this sub-programme looks different from the sub-programmes for the other two regulated industries.

#### i Setting and/or approval of tariffs and prices

##### a) Outcomes, Outputs, Performance Indicators and Targets

OUTCOMES	OUTPUTS	OUTPUT INDICATORS	ANNUAL TARGETS						
			AUDITED PERFORMANCE			ESTIMATED PERFORMANCE	MTEF PERIOD		
			2018/19	2019/20	2020/21	2021/22	2022/23	2023/24	2024/25
<b>MTSF PRIORITY 2: ECONOMIC TRANSFORMATION AND JOB CREATION</b>									
Efficiency in facilitating entry, setting prices and resolving disputes	1. Reviewed Electricity MYPD Methodology	Energy Regulator decision on the Reviewed Electricity Pricing Framework taken by the relevant subcommittee or Energy Regulator within the stated timeframe	New target	New target	New target	New target	Regulator decision by 30 June 2022	-	-
	2. Electricity pricing for Eskom and municipalities	Energy Regulator decision on Eskom and municipal electricity prices within the stated timeframe	New target	New target	New target	New target	Regulator decision by 28 February 2023	Regulator decision by 28 February 2024	Regulator decision by 28 February 2025

b) *Indicators, Annual and Quarterly Targets*

OUTPUTS	OUTPUT INDICATORS	ANNUAL TARGETS	QUARTERLY TARGETS			
			Q1	Q2	Q3	Q4
1. Reviewed MYPD Methodology	Energy Regulator decision on the Reviewed MYPD Methodology within the stated timeframe	Regulator decision by 30 June 2022	Regulator decision by 30 June 2022	-	-	-
2. Electricity pricing for Eskom and municipalities	Energy Regulator decision on Eskom and municipal electricity prices within the stated timeframe	Regulator decision by 28 February 2023	-	-	-	Regulator decision by 28 February 2023

c) *Critical projects to achieve outputs*

OUTPUTS	OUTPUT INDICATORS
1. Reviewed Electricity MYPD Methodology	1.1. Review of electricity pricing system - proposed short term and long-term frameworks
	1.2. ESKOM Pricing
	1.3. Municipality pricing
	1.4. IPPs and other new entrants pricing frameworks

## ii. Licensing and Registration

### a) Outcomes, Outputs, Performance Indicators and Targets

OUTCOMES	OUTPUTS	OUTPUT INDICATORS	ANNUAL TARGETS						
			AUDITED PERFORMANCE			ESTIMATED PERFORMANCE	MTEF PERIOD		
			2018/19	2019/20	2020/21	2021/22	2022/23	2023/24	2024/25
<b>MTSF PRIORITY 2: ECONOMIC TRANSFORMATION AND JOB CREATION</b>									
Efficiency in facilitating entry, setting prices and resolving disputes	1. Review efficiency of registration and licencing processes	Improved turnaround times for considering applications for the licencing of electricity generation facilities	New target	New target	New target	120 working days	120 working days	120 working days	120 working days
		Improved turnaround times for considering applications for the registration of electricity generation facilities	New target	New target	New target	60 working days	45 working days	45 working days	45 working days

### b) Indicators, Annual and Quarterly Targets

OUTPUTS	OUTPUT INDICATORS	ANNUAL TARGETS	QUARTERLY TARGETS			
			Q1	Q2	Q3	Q4
1. Review efficiency of registration and licencing processes	Improved turnaround times for considering applications for the licencing of electricity generation facilities	120 working days	120 working days	120 working days	120 working days	120 working days
	Improved turnaround times for considering applications for the registration of electricity generation facilities	45 working days	45 working days	45 working days	45 working days	45 working days

c) *Critical projects to achieve outputs*

OUTPUTS	OUTPUT INDICATORS
1. Review efficiency of registration and licencing processes	1.1. Process improvements
	1.2. Quality Improvement
	1.3. Conditions and Requirements for new Entities
	1.4. Stakeholder Consultation

iii. **Compliance Monitoring and Enforcement**

a) *Outcomes, Outputs, Performance Indicators and Targets*

OUTCOMES	OUTPUTS	OUTPUT INDICATORS	ANNUAL TARGETS						
			AUDITED PERFORMANCE			ESTIMATED PERFORMANCE	MTEF PERIOD		
			2018/19	2019/20	2020/21	2021/22	2022/23	2023/24	2024/25
<b>MTSF PRIORITY 2: ECONOMIC TRANSFORMATION AND JOB CREATION</b>									
Efficiency in facilitating entry, setting prices and resolving disputes	1. Compliance audit plans with reports in place and executed	Percentage variance of planned versus actual compliance audit plans	New target	New target	New target	New target	80%	80%	80%
	2. Enforcement plan in place and executed	Percentage variance of planned versus actual enforcement plan	New target	New target	New target	New target	80%	80%	80%

b) *Indicators, Annual and Quarterly Targets*

OUTPUTS	OUTPUT INDICATORS	ANNUAL TARGETS	QUARTERLY TARGETS			
			Q1	Q2	Q3	Q4
1. Compliance audit plans with reports in place and executed	Percentage variance of planned versus actual compliance audit plans	80%	Audit plans	10%	30%	40%
2. Enforcement plan in place and executed	Percentage variance of planned versus actual enforcement plan	80%	Enforcement plan	10%	30%	40%

c) *Critical projects to achieve outputs*

OUTPUTS	OUTPUT INDICATORS
1. Audit plans with reports in place and executed	1.1. Generation conditions & requirement review
2. Enforcement plan in place and executed	1.2. Transmission and Distribution conditions & requirement review
	1.3. Trading conditions and requirement review
	1.4. Enforcement Guidelines and plan



iv. **Dispute resolution, including mediation, arbitration and handling of complaints**

a) *Outcomes, Outputs, Performance Indicators and Targets*

OUTCOMES	OUTPUTS	OUTPUT INDICATORS	ANNUAL TARGETS						
			AUDITED PERFORMANCE			ESTIMATED PERFORMANCE	MTEF PERIOD		
			2018/19	2019/20	2020/21	2021/22	2022/23	2023/24	2024/25
<b>MTSF PRIORITY 2: ECONOMIC TRANSFORMATION AND JOB CREATION</b>									
Efficiency in facilitating entry, setting prices and resolving disputes	1. Reviewed complaints / dispute resolution / Investigations Framework and Process	% of categorised disputes/ complaints, including initiated investigations, closed within the agreed upon turnaround time	New target	New target	New target	New target	90%	90%	90%

b) *Indicators, Annual and Quarterly Targets*

OUTPUTS	OUTPUT INDICATORS	ANNUAL TARGETS	QUARTERLY TARGETS			
			Q1	Q2	Q3	Q4
1. Reviewed complaints / dispute resolution / Investigations Framework and Process	% of categorised disputes/ complaints, including initiated investigations, closed within the agreed upon turnaround time	90%	90%	90%	90%	90%

## v. Setting of rules, guidelines and codes for regulation

### a) Outcomes, Outputs, Performance Indicators and Targets

OUTCOMES	OUTPUTS	OUTPUT INDICATORS	ANNUAL TARGETS						
			AUDITED PERFORMANCE			ESTIMATED PERFORMANCE	MTEF PERIOD		
			2018/19	2019/20	2020/21	2021/22	2022/23	2023/24	2024/25
<b>MTSF PRIORITY 2: ECONOMIC TRANSFORMATION AND JOB CREATION</b>									
Innovation drives our response to the transition of the Industry	1. Review and develop targeted tools and systems for a changing electricity industry	Percentage variance between planned versus actual targeted tools reviewed and development planned	New target	New target	New target	New target	80%	80%	80%

### b) Indicators, Annual and Quarterly Targets

OUTPUTS	OUTPUT INDICATORS	ANNUAL TARGETS	QUARTERLY TARGETS			
			Q1	Q2	Q3	Q4
1. Review and develop targeted tools and systems for a changing electricity industry	Percentage variance between planned versus actual targeted tools reviewed and development planned	80%	-	20%	30%	30%

c) *Critical projects to achieve outputs*

OUTPUTS	OUTPUT INDICATORS
1. Reviewed complaints / dispute resolution / Investigations Framework and Process	1.1. Framework for Rules Guidelines and Codes – transformed Industry
	1.2. Generation Transformed Rules Guidelines and Codes
	1.3. Transmission and Distribution Transformed Rules Guidelines and Codes
	1.4. Trading Transformed Rules Guidelines and Codes
	1.5. New technologies Transformed Rules Guidelines and Codes
	1.6. Stakeholder Consultation

### 6.2.1.5. Sub-Programme: Piped-Gas Industry Regulation

#### i. Setting and/or approval of tariffs and prices

a) *Outcomes, Outputs, Performance Indicators and Targets*

OUTCOMES	OUTPUTS	OUTPUT INDICATORS	ANNUAL TARGETS						
			AUDITED PERFORMANCE			ESTIMATED PERFORMANCE	MTEF PERIOD		
			2018/19	2019/20	2020/21	2021/22	2022/23	2023/24	2024/25
<b>MTSF PRIORITY 2: ECONOMIC TRANSFORMATION AND JOB CREATION</b>									
A stable and diverse energy sector system and pricing regime which supports access through regulatory services that are delivered on time and to quality standards	1. 100% of complete maximum price applications considered by the ER within 120 working days after date of publication of the preliminary assessment of the maximum price applications	% of complete maximum price applications considered by the relevant subcommittee or the Energy Regulator within the stated timeframe	100%	100%	100%	100%	100%	100%	100%

OUTCOMES	OUTPUTS	OUTPUT INDICATORS	ANNUAL TARGETS						
			AUDITED PERFORMANCE			ESTIMATED PERFORMANCE	MTEF PERIOD		
			2018/19	2019/20	2020/21	2021/22	2022/23	2023/24	2024/25
<b>MTSF PRIORITY 2: ECONOMIC TRANSFORMATION AND JOB CREATION</b>									
A stable and diverse energy sector system and pricing regime which supports access through regulatory services that are delivered on time and to quality standards	2. 100% of complete applications on distinguishing features considered by the ER within 120 working days after the date of the publication of preliminary assessment of the applications	% of complete applications on distinguishing features considered by the relevant subcommittee or the Energy Regulator within the stated timeframe	New target	100%	100%	100%	100%	100%	100%
	3. 100% of complete transmission tariff applications considered by the ER within 120 working days after date of publication of preliminary assessment of tariff applications	% of complete transmission tariff applications considered by the relevant subcommittee or the Energy Regulator within the stated timeframe	No applications received	100%	100%	100%	100%	100%	100%
	4. Four calculations of the ROMPCO tariff for gas volumes below 120 million Gigajoules considered quarterly by the PGS	Number of calculations of the ROMPCO tariff for gas volumes below 120 million Gigajoule considered by the relevant subcommittee or the Energy Regulator within the stated timeframe	4	4	4	4	4	4	4

OUTCOMES	OUTPUTS	OUTPUT INDICATORS	ANNUAL TARGETS						
			AUDITED PERFORMANCE			ESTIMATED PERFORMANCE	MTEF PERIOD		
			2018/19	2019/20	2020/21	2021/22	2022/23	2023/24	2024/25
<b>MTSF PRIORITY 2: ECONOMIC TRANSFORMATION AND JOB CREATION</b>									
A stable and diverse energy sector system and pricing regime which supports access through regulatory services that are delivered on time and to quality standards	5. One report on the assessment of the adequacy of competition considered by the PGS by 31 March 2025	Number reports on the assessment of the adequacy of competition considered by the relevant subcommittee or the Energy Regulator within the stated timeframe	1	-	-	1	-	-	1

b) *Indicators, Annual and Quarterly Targets*

OUTPUTS	OUTPUT INDICATORS	ANNUAL TARGETS	QUARTERLY TARGETS			
			Q1	Q2	Q3	Q4
1. 100% of complete maximum price applications considered by the ER within 120 working days after date of publication of the preliminary assessment of the maximum price applications	% of complete maximum price applications considered by the relevant subcommittee or the Energy Regulator within the stated timeframe	100%	100%	100%	100%	100%

OUTPUTS	OUTPUT INDICATORS	ANNUAL TARGETS	QUARTERLY TARGETS			
			Q1	Q2	Q3	Q4
2. 100% of complete applications on distinguishing features considered by the ER within 120 working days after the date of the publication of preliminary assessment of the applications	% of complete applications on distinguishing features considered by the relevant subcommittee or the Energy Regulator within the stated timeframe	100%	100%	100%	100%	100%
3. 100% of complete transmission tariff applications considered by the ER within 120 working days after date of publication of preliminary assessment of tariff applications	% of complete transmission tariff applications considered by the relevant subcommittee or the Energy Regulator within the stated timeframe	100%	100%	100%	100%	100%
4. Four calculations of the ROMPCO tariff for gas volumes below 120 million Gigajoules considered quarterly by the PGS	Number of calculations of the ROMPCO tariff for gas volumes below 120 million Gigajoule considered by the relevant subcommittee or the Energy Regulator within the stated timeframe	4	1	1	1	1

## ii. Licensing and Registration

### a) Outcomes, Outputs, Performance Indicators and Targets

OUTCOMES	OUTPUTS	OUTPUT INDICATORS	ANNUAL TARGETS						
			AUDITED PERFORMANCE			ESTIMATED PERFORMANCE	MTEF PERIOD		
			2018/19	2019/20	2020/21	2021/22	2022/23	2023/24	2024/25
<b>MTSF PRIORITY 2: ECONOMIC TRANSFORMATION AND JOB CREATION</b>									
A stable and diverse energy sector system and pricing regime which supports access through regulatory services that are delivered on time and to quality standards	1. 100% of complete licence applications considered by the PGS/REC/ER within 60 working days from date of close of public comment period or period of applicant's response to objections received	% of complete licence applications considered by the relevant subcommittee or the Energy Regulator within the stated timeframe	100%	100%	100%	100%	100%	100%	100%
	2. 100% of complete applications for licence amendments/ revocations/ conversions considered by the PGS/ REC within 60 working days from date of close of public comment period or period of applicant's response to objections received	% of complete applications for licence amendments/ revocations/ conversions considered by the relevant subcommittee or the Energy Regulator within the stated timeframe	100%	100%	100%	100%	100%	100%	100%

OUTCOMES	OUTPUTS	OUTPUT INDICATORS	ANNUAL TARGETS						
			AUDITED PERFORMANCE			ESTIMATED PERFORMANCE	MTEF PERIOD		
			2018/19	2019/20	2020/21	2021/22	2022/23	2023/24	2024/25
<b>MTSF PRIORITY 2: ECONOMIC TRANSFORMATION AND JOB CREATION</b>									
A stable and diverse energy sector system and pricing regime which supports access through regulatory services that are delivered on time and to quality standards	3. 100% of complete applications for the registration of gas activities are processed and considered by the PGS within 60 working days from date of close of public comment period	% of complete applications for the registration of gas activities considered by the relevant subcommittee or the Energy Regulator within the stated timeframe	100%	100%	100%	100%	100%	100%	100%

b) *Indicators, Annual and Quarterly Targets*

OUTPUTS	OUTPUT INDICATORS	ANNUAL TARGETS	QUARTERLY TARGETS			
			Q1	Q2	Q3	Q4
1. 100% of complete licence applications considered by the PGS/REC/ER within 60 working days from date of close of public comment period or period of applicant's response to objections received	% of complete licence applications considered by the relevant subcommittee or the Energy Regulator within the stated timeframe	100%	100%	100%	100%	100%



OUTPUTS	OUTPUT INDICATORS	ANNUAL TARGETS	QUARTERLY TARGETS			
			Q1	Q2	Q3	Q4
2. 100% of complete applications for licence amendments/ revocations/ conversions considered by the PGS/REC within 60 working days from date of close of public comment period or period of applicant's response to objections received	% of complete applications for licence amendments/revocations/ conversions considered by the relevant subcommittee or the Energy Regulator within the stated timeframe	100%	100%	100%	100%	100%
3. 100% of complete applications for the registration of gas activities are processed and considered by the PGS within 60 working days from date of close of public comment period	% of complete applications for the registration of gas activities considered by the relevant subcommittee or the Energy Regulator within the stated timeframe	100%	100%	100%	100%	100%

### iii. Compliance Monitoring and Enforcement

#### a) Outcomes, Outputs, Performance Indicators and Targets

OUTCOMES	OUTPUTS	OUTPUT INDICATORS	ANNUAL TARGETS						
			AUDITED PERFORMANCE			ESTIMATED PERFORMANCE	MTEF PERIOD		
			2018/19	2019/20	2020/21	2021/22	2022/23	2023/24	2024/25
<b>MTSF PRIORITY 2: ECONOMIC TRANSFORMATION AND JOB CREATION</b>									
A stable and diverse energy sector system and pricing regime which supports access through regulatory services that are delivered on time and to quality standards	1. Twelve monthly volume balance reports assessed and analysis reports considered quarterly by the PGS	Number of monthly volume balance reports considered by the relevant subcommittee or the Energy Regulator within the stated timeframe	12	12	12	12	12	12	12
	2. One audit report on the compliance of ROMPCO pipeline considered annually by the PGS by 31 March	Number of audit reports on compliance of the ROMPCO pipeline considered by the relevant subcommittee or the Energy Regulator within the stated timeframe	1	1	1	1	1	1	1
	3. One report on compliance with licence conditions considered annually by the PGS by 31 March	Number of reports on licensees' compliance with license conditions considered by the relevant subcommittee within the stated timeframe	48 inspected facilities	45 inspected facilities	1	1	1	1	1

OUTCOMES	OUTPUTS	OUTPUT INDICATORS	ANNUAL TARGETS						
			AUDITED PERFORMANCE			ESTIMATED PERFORMANCE	MTEF PERIOD		
			2018/19	2019/20	2020/21	2021/22	2022/23	2023/24	2024/25
<b>MTSF PRIORITY 2: ECONOMIC TRANSFORMATION AND JOB CREATION</b>									
A stable and diverse energy sector system and pricing regime which supports access through regulatory services that are delivered on time and to quality standards	4. 100% of monitoring reports on the implementation of transmission tariffs considered annually by the PGS by 31 March, after one year following the approval of the transmission tariff	% of monitoring reports on the implementation of transmission tariffs considered by the relevant Subcommittee or the Energy Regulator within the stated timeframe	3	3	3	100%	100%	100%	100%
	5. Four reports (one for each licensee – SASOL, ROMPCO, Transnet and SLG) on the implementation of the RRM for the preceding financial year considered annually by the PGS/REC by 31 March	Number of reports on the implementation of the RRM for the preceding financial year considered by the relevant subcommittee or the Energy Regulator within the stated timeframe	No target planned	4	4	4	4	4	4
	6. 100% of monitoring reports per licensee on the implementation of Maximum Prices, after one year following the approval of the maximum price considered annually by the PGS by 31 March	% of monitoring reports per licensee on the implementation of Maximum Prices considered by the relevant subcommittee or the Energy Regulator within the stated timeframe	4 report for each of the 9 licences	1 report for each of the 8 licences	1 report for each of the 7 licences	100%	100%	100%	100%

b) *Indicators, Annual and Quarterly Targets*

OUTPUTS	OUTPUT INDICATORS	ANNUAL TARGETS	QUARTERLY TARGETS			
			Q1	Q2	Q3	Q4
1. Twelve monthly volume balance reports assessed and analysis reports considered quarterly by the PGS	Number of monthly volume balance reports assessed and analysis reports considered by the relevant subcommittee or the Energy Regulator within the stated timeframe	12	3	3	3	3
2. One audit report on the compliance of ROMPCO pipeline considered annually by the PGS by 31 March	Number of audit reports on compliance of the ROMPCO pipeline considered by the relevant subcommittee within the stated timeframe	1	-	-	-	1
3. One report on compliance with licence conditions considered annually by the PGS by 31 March	Number of reports on licensees' compliance with licence conditions considered by the relevant Subcommittee within the stated timeframe	1	-	-	-	1
4. 100% of monitoring reports on the implementation of transmission tariffs considered annually by the PGS by 31 March, after one year following the approval of the transmission tariff	% of monitoring reports per licensee on the implementation of transmission tariffs considered by the relevant subcommittee or the Energy Regulator within the stated timeframe	100%	-	-	-	100%

OUTPUTS	OUTPUT INDICATORS	ANNUAL TARGETS	QUARTERLY TARGETS			
			Q1	Q2	Q3	Q4
5. Four reports (one for each licensee – SASOL, ROMPCO, Transnet and SLG) on the implementation of the RRM for the preceding financial year considered annually by the PGS/ REC by 31 March	Number of reports on the implementation of the RRM for the preceding financial year considered by the relevant subcommittee or the Energy Regulator within the stated timeframe	4	-	-	-	4
6. 100% of monitoring reports per licensee on the implementation of Maximum Prices, after one year following the approval of the maximum price considered annually by the PGS by 31 March	% of monitoring reports per licensee on the implementation of Maximum Prices considered by the relevant subcommittee or the Energy Regulator within the stated timeframe	100%	-	-	-	100%

iv. **Dispute resolution, including mediation, arbitration and handling of complaints**

a) *Outcomes, Outputs, Performance Indicators and Targets*

OUTCOMES	OUTPUTS	OUTPUT INDICATORS	ANNUAL TARGETS						
			AUDITED PERFORMANCE			ESTIMATED PERFORMANCE	MTEF PERIOD		
			2018/19	2019/20	2020/21	2021/22	2022/23	2023/24	2024/25
<b>MTSF PRIORITY 2: ECONOMIC TRANSFORMATION AND JOB CREATION</b>									
A stable and diverse energy sector system and pricing regime which supports access through regulatory services that are delivered on time and to quality standards	1. 60% of complaint investigations completed within 12 months and a report on findings considered by the PGS	% of complaint investigations completed and a report on findings considered by the relevant subcommittee or the Energy Regulator within the stated timeframe	No complaint investigation needed to be completed	50%	50%	50%	60%	60%	60%
	2. 60% of initiated investigations and inquiries completed within 12 months and a report on findings considered by the PGS	% of initiated investigations completed and a report on findings considered by the relevant subcommittee or the Energy Regulator within the stated timeframe	100%	50%	50%	50%	60%	60%	60%

b) *Indicators, Annual and Quarterly Targets*

OUTPUTS	OUTPUT INDICATORS	ANNUAL TARGETS	QUARTERLY TARGETS			
			Q1	Q2	Q3	Q4
1. 60% of complaint investigations completed within 12 months and a report on findings considered by the PGS	% of complaint investigations completed and a report on findings considered by the relevant subcommittee or the Energy Regulator within the stated timeframe	60%	60%	60%	60%	60%
2. 60% of initiated investigations and inquiries completed within 12 months and a report on findings considered by the PGS	% of initiated investigations completed and a report on findings considered by the relevant subcommittee or the Energy Regulator within the stated timeframe	60%	60%	60%	60%	60%

## v. Setting of rules, guidelines and codes for regulation

### a) Outcomes, Outputs, Performance Indicators and Targets

OUTCOMES	OUTPUTS	OUTPUT INDICATORS	ANNUAL TARGETS						
			AUDITED PERFORMANCE			ESTIMATED PERFORMANCE	MTEF PERIOD		
			2018/19	2019/20	2020/21	2021/22	2022/23	2023/24	2024/25
<b>MTSF PRIORITY 2: ECONOMIC TRANSFORMATION AND JOB CREATION</b>									
A stable and diverse energy sector system and pricing regime which supports access through regulatory services that are delivered on time and to quality standards	1. Two reports on new developments in the gas industry considered bi-annually by the PGS by 30 September and 31 March	Number of reports on new developments in the gas industry considered by the relevant committee or the Energy Regulator within the stated timeframe	2	3 <sup>15</sup>	2	2	2	2	2
	2. One report on the impact of developments on competition in the gas industry considered annually by the PGS by 31 March <sup>16</sup>	Number of reports on the impact of developments on competition in the gas industry considered by the relevant committee or the Energy Regulator within the stated timeframe	New target	New target	New target	1	1	1	1

15 The planned target was 2 reports. The 3rd report was produced due to major developments in the gas industry that took place in the last quarter of the financial year.

16 The wording of this output was amended as the review of the definition of the piped-gas market was done as part of the d review of adequacy of competition



b) *Indicators, Annual and Quarterly Targets*

OUTPUTS	OUTPUT INDICATORS	ANNUAL TARGETS	QUARTERLY TARGETS			
			Q1	Q2	Q3	Q4
1. Two reports on new developments in the gas industry considered bi-annually by the PGS by 30 September and 31 March	Number of reports on new developments in the gas industry considered by the relevant subcommittee or the Energy Regulator within the stated timeframe	2	-	1	-	1
2. One report on the impact of developments on competition in the gas industry considered annually by the PGS by 31 March	Number of reports on the impact of developments on competition in the gas industry considered by the relevant subcommittee or the Energy Regulator within the stated timeframe	1	-	-	-	1

## 6.2.1.6. Subprogramme: Petroleum Pipeline Industry Regulation

### i. Setting and/or approval of tariffs and prices

#### a) Outcomes, Outputs, Performance Indicators and Targets

OUTCOMES	OUTPUTS	OUTPUT INDICATORS	ANNUAL TARGETS						
			AUDITED PERFORMANCE			ESTIMATED PERFORMANCE	MTEF PERIOD		
			2018/19	2019/20	2020/21	2021/22	2022/23	2023/24	2024/25
<b>MTSF PRIORITY 2: ECONOMIC TRANSFORMATION AND JOB CREATION</b>									
A stable and diverse energy sector system and pricing regime which supports access through regulatory services that are delivered on time and to quality standards	1. 80% of complete pipeline, storage and loading facility tariff applications considered by the REC/PPS/ER within 6 months from receipt of complete/adequate application	% of complete pipeline, storage and loading facility tariff applications considered by the relevant subcommittee or the Energy Regulator within the stated timeframe	100%	100%	90%	75%	80%	80%	85%

#### b) Indicators, Annual and Quarterly Targets

OUTPUTS	OUTPUT INDICATORS	ANNUAL TARGETS	QUARTERLY TARGETS			
			Q1	Q2	Q3	Q4
1. 80% of complete pipeline, storage and loading facility tariff applications considered by the REC/PPS/ER within 6 months from receipt of complete/adequate application	% of complete pipeline, storage and loading facility tariff applications considered by the relevant subcommittee or the Energy Regulator within the stated timeframe	80%	80%	80%	80%	80%

## ii. Licensing and Registration

### a) Outcomes, Outputs, Performance Indicators and Targets

OUTCOMES	OUTPUTS	OUTPUT INDICATORS	ANNUAL TARGETS						
			AUDITED PERFORMANCE			ESTIMATED PERFORMANCE	MTEF PERIOD		
			2018/19	2019/20	2020/21	2021/22	2022/23	2023/24	2024/25
<b>MTSF PRIORITY 2: ECONOMIC TRANSFORMATION AND JOB CREATION</b>									
A stable and diverse energy sector system and pricing regime which supports access through regulatory services that are delivered on time and to quality standards	1. 100% of complete licence applications considered by the PPS/REC/ER within 60 working days under the conditions as prescribed in Section 19(1) of the Petroleum Pipelines Act	% of complete licence applications considered by the relevant subcommittee or the Energy Regulator within the stated timeframe	100%	100%	75%	100%	100%	100%	100%
	2. 100% of complete applications for licence amendments / revocations considered by the PPS/REC/ER within 60 working days from date of close of public comment period or period of applicant's response to objections received	% of complete applications for licence amendments / revocations considered by the relevant subcommittee or the Energy Regulator within the stated timeframe	New target	New target	100%	100%	100%	100%	100%

OUTCOMES	OUTPUTS	OUTPUT INDICATORS	ANNUAL TARGETS						
			AUDITED PERFORMANCE			ESTIMATED PERFORMANCE	MTEF PERIOD		
			2018/19	2019/20	2020/21	2021/22	2022/23	2023/24	2024/25
<b>MTSF PRIORITY 2: ECONOMIC TRANSFORMATION AND JOB CREATION</b>									
A stable and diverse energy sector system and pricing regime which supports access through regulatory services that are delivered on time and to quality standards	3. One report on investigations done into suspected unlicensed activities considered annually by the REC by 31 March	Number of reports on investigations done into suspected unlicensed activities considered by the relevant subcommittee or the Energy Regulator within the stated timeframe	4	1	1	1	1	1	1
	4. One report on the geographic spread of licences issued for petroleum pipelines infrastructure and new entrants considered annually by the PPS by 31 March	Number of reports on the geographic spread of licences issued for petroleum pipelines infrastructure and new entrants considered by the relevant subcommittee or the Energy Regulator	New target	New target	New target	1 <sup>17</sup>	1	1	1
	5. Two reports on the inland security of supply considered bi-annually by the PPS by 30 September and 31 March	Number of reports on the inland security of supply considered by relevant subcommittee or the Energy Regulator within the stated timeframe	2	2	2	2	2	2	2

17 It became clear that 4 quarterly reports are too many. It was therefore decided that one consolidated report on all the investigations would be done.

b) *Indicators, Annual and Quarterly Targets*

OUTPUTS	OUTPUT INDICATORS	ANNUAL TARGETS	QUARTERLY TARGETS			
			Q1	Q2	Q3	Q4
1. 100% of complete licence applications considered by the PPS/REC/ER within 60 working days under the conditions as prescribed in Section 19(1) of the Petroleum Pipelines Act	% of complete licence applications considered by the relevant subcommittee or the Energy Regulator within the stated timeframe	100%	100%	100%	100%	100%
2. 100% of complete applications for licence amendments / revocations considered by the PPS/REC/ER within 60 working days from date of close of public comment period or period of applicant's response to objections received	% of complete applications for licence amendments / revocations considered by the relevant subcommittee or the Energy Regulator within the stated timeframe	100%	100%	100%	100%	100%
3. One report on investigations done into suspected unlicensed activities considered annually by the REC by 31 March	Number of reports on investigations done into suspected unlicensed activities considered by the relevant subcommittee or the Energy Regulator within the stated timeframe	1	-	-	-	1
4. One report on the geographic spread of licences issued for petroleum pipelines infrastructure and new entrants considered annually by the PPS by 31 March	Number of reports on the geographic spread of licences issued for petroleum pipelines infrastructure and new entrants considered by the relevant subcommittee or the Energy Regulator	1	-	-	-	1

OUTPUTS	OUTPUT INDICATORS	ANNUAL TARGETS	QUARTERLY TARGETS			
			Q1	Q2	Q3	Q4
5. Two reports on the inland security of supply considered bi-annually by the PPS by 30 September and 31 March	Number of reports on the inland security of supply considered by relevant subcommittee or the Energy Regulator within the stated timeframe	2	-	1	-	1

### iii. Compliance Monitoring and Enforcement

#### a) Outcomes, Outputs, Performance Indicators and Targets

OUTCOMES	OUTPUTS	OUTPUT INDICATORS	ANNUAL TARGETS						
			AUDITED PERFORMANCE			ESTIMATED PERFORMANCE	MTEF PERIOD		
			2018/19	2019/20	2020/21	2021/22	2022/23	2023/24	2024/25
<b>MTSF PRIORITY 2: ECONOMIC TRANSFORMATION AND JOB CREATION</b>									
A stable and diverse energy sector system and pricing regime which supports access through regulatory services that are delivered on time and to quality standards	1. Two reports on trends regarding utilisation of storage facilities and third-party access considered bi-annually by the PPS by 30 September and 31 March	Number of reports on trends regarding utilisation of storage facilities and third-party access, considered by the relevant subcommittee or the Energy Regulator within the stated timeframe	2	2	2	2	2	2	2

OUTCOMES	OUTPUTS	OUTPUT INDICATORS	ANNUAL TARGETS							
			AUDITED PERFORMANCE			ESTIMATED PERFORMANCE	MTEF PERIOD			
			2018/19	2019/20	2020/21	2021/22	2022/23	2023/24	2024/25	
<b>MTSF PRIORITY 2: ECONOMIC TRANSFORMATION AND JOB CREATION</b>										
A stable and diverse energy sector system and pricing regime which supports access through regulatory services that are delivered on time and to quality standards	2. One report on the implementation of the methodology to determine uncommitted capacity considered annually by the PPS by 31 March	Number of reports on the implementation of the methodology to determine uncommitted capacity considered by the relevant subcommittee or the Energy Regulator within the stated timeframe	Reviewed methodology to determine uncommitted capacity considered by PPS by 31 March 2019	1	1	1	1	1	1	
	3. Two reports on the construction of new facilities considered bi-annually by the PPS by 30 September and 31 March	Number of reports on the construction of new facilities considered by the relevant subcommittee or the Energy Regulator within the stated timeframe		4	4	4	2	2	2	2
	4. Two reports on licensees' compliance with statutory reporting requirements considered bi-annually by the PPS by 30 September and 31 March	Number of reports on licensees' compliance with statutory reporting requirements considered by the relevant subcommittee or the Energy Regulator within the stated timeframe		4	4	4	2	2	2	2

b) *Indicators, Annual and Quarterly Targets*

OUTPUTS	OUTPUT INDICATORS	ANNUAL TARGETS	QUARTERLY TARGETS			
			Q1	Q2	Q3	Q4
1. Two reports on trends regarding utilisation of storage facilities and third-party access considered bi-annually by the PPS by 30 September and 31 March	Number of reports on trends regarding utilisation of storage facilities and third-party access, considered by the relevant subcommittee or the Energy Regulator within the stated timeframe	2	-	1	-	1
2. One report on the implementation of the methodology to determine uncommitted capacity considered annually by the PPS by 31 March	Number of reports on the implementation of the methodology to determine uncommitted capacity considered by the relevant subcommittee or the Energy Regulator within the stated timeframe	1	-	-	-	1
3. Two reports on the construction of new facilities considered bi-annually by the PPS by 30 September and 31 March	Number of reports on the construction of new facilities considered by the relevant subcommittee or the Energy Regulator within the stated timeframe	2	-	1	-	1
4. Two reports on licensees' compliance with statutory reporting requirements considered bi-annually by the PPS by 30 September and 31 March	Number of reports on licensees' compliance with statutory reporting requirements considered by the relevant subcommittee or the Energy Regulator within the stated timeframe	2	-	1	-	1



#### iv. Dispute resolution, including mediation, arbitration and handling of complaints

##### a) Outcomes, Outputs, Performance Indicators and Targets

OUTCOMES	OUTPUTS	OUTPUT INDICATORS	ANNUAL TARGETS							
			AUDITED PERFORMANCE			ESTIMATED PERFORMANCE	MTEF PERIOD			
			2018/19	2019/20	2020/21	2021/22	2022/23	2023/24	2024/25	
<b>MTSF PRIORITY 2: ECONOMIC TRANSFORMATION AND JOB CREATION</b>										
A stable and diverse energy sector system and pricing regime which supports access through regulatory services that are delivered on time and to quality standards	1. 100% of complaints investigated and report considered by the PPS within 12 months of receipt of adequate information from relevant parties	% of complaints investigated and report considered by the relevant subcommittee or the Energy Regulator within the stated timeframe of receipt of complete information from relevant parties	No complaints were received	100%	100%	100%	100%	100%	100%	100%

##### b) Indicators, Annual and Quarterly Targets

OUTPUTS	OUTPUT INDICATORS	ANNUAL TARGETS	QUARTERLY TARGETS			
			Q1	Q2	Q3	Q4
1. 100% of complaints investigated and report considered by the PPS within 12 months of receipt of adequate information from relevant parties	% of complaints investigated and report considered by the relevant subcommittee or the Energy Regulator within the stated timeframe of receipt of complete information from relevant parties	100%	100%	100%	100%	100%

## v. Setting of rules, guidelines and codes for regulation

### a) Outcomes, Outputs, Performance Indicators and Targets

OUTCOMES	OUTPUTS	OUTPUT INDICATORS	ANNUAL TARGETS						
			AUDITED PERFORMANCE			ESTIMATED PERFORMANCE	MTEF PERIOD		
			2018/19	2019/20	2020/21	2021/22	2022/23	2023/24	2024/25
<b>MTSF PRIORITY 2: ECONOMIC TRANSFORMATION AND JOB CREATION</b>									
A stable and diverse energy sector system and pricing regime which supports access through regulatory services that are delivered on time and to quality standards	1. One report on the monitoring of the implementation of the revised tariff methodology considered annually by the PPS by 31 March	Number of reports on the monitoring of the tariff methodology considered by the relevant subcommittee or the Energy Regulator within the stated timeframe	Prudency Guidelines considered by the ER by 31 March 2019	Reviewed Tariff Methodology incorporating prudency guidelines, considered by the ER by 31 March 2020	1	1	1	1	1
	2. Reviewed pipelines tariff methodology considered by the PPS or ER by 31 March 2024	Reviewed pipelines tariff methodology considered by the relevant subcommittee or the Energy Regulator within the stated timeframe	-	-	-	-	-	Reviewed pipelines tariff methodology	-

b) *Indicators, Annual and Quarterly Targets*

OUTPUTS	OUTPUT INDICATORS	ANNUAL TARGETS	QUARTERLY TARGETS			
			Q1	Q2	Q3	Q4
1. One report on the monitoring of the implementation of the revised methodology considered annually by the PPS by 31 March	Number of reports on the monitoring of the implementation of the tariff methodology considered by the relevant subcommittee or the Energy Regulator within the stated timeframe	1	-	-	-	1

#### 6.2.1.7. Explanation of Planned Performance

The planned outputs are in line with the regulatory functions of NERSA, as contained in relevant legislation.

#### 6.2.1.8. Programme Resource Considerations

The budget for activities relating to the regulation of the energy industry is based on a ring-fencing methodology that was approved to comply with section 13 of the National Energy Regulator Act, 2004 (Act No. 40 of 2004). The methodology is based on direct employment cost as a basis of common costs apportionment. Direct costs are allocated directly to the respective industry.

The table below indicates the approved staff complement and the approved budget for 2022/23 for Programme 1: Regulatory Service delivery.

DIVISIONS	RELEVANT STRUCTURES	STAFF COMPLEMENT	BUDGET (R)	% ALLOCATION
Electricity Regulation (ELR)	Executive Manager	3	7 383 244	80%
	Electricity Pricing and Tariffs (EPT)	35	28 045 229	80%
	Electricity Licensing, Compliance and Dispute Resolution (ELC)	34	32 178 455	80%
	Electricity Infrastructure Planning (EIP)	13	15 096 076	80%
Piped-Gas Regulation (GAR)	Executive Manager	5	9 296 316	90%
	Gas Pricing and Tariffs (GPT)	8	5 451 493	95%
	Gas Licensing, Compliance and Dispute Resolution (GLC)	11	9 905 439	95%
	Gas, Competition and Market Analysis (GCM)	4	12 421 649	100%
Petroleum Pipelines Regulation (PPR)	Executive Manager	6	5 842 957	50%
	Petroleum Pipelines Tariffs (PPT)	9	8 668 365	80%
	Petroleum Licensing, Compliance and Dispute Resolution (PLC)	9	8 374 777	80%

*Note: The % allocation is based on the staff complement of the Organisation in line with the ring-fencing methodology.*

Please refer to Part D: Funding for NERSA for the detailed budget.

### 6.2.1.9. Key Risks

Please refer to Section 6.2.6 below for NERSA's detailed Strategic Risk Register.

## 6.2.2. PROGRAMME 2: ADVOCACY AND ENGAGEMENT

The programme purpose is to contribute towards relevant legislation and policies; government's transformation as well as to informed customers and stakeholders.

### 6.2.2.1 Subprogramme: Regulatory and Policy Advocacy

#### a) Outcomes, Outputs, Performance Indicators and Targets

OUTCOMES	OUTPUTS	OUTPUT INDICATORS	ANNUAL TARGETS						
			AUDITED PERFORMANCE			ESTIMATED PERFORMANCE	MTEF PERIOD		
			2018/19	2019/20	2020/21	2021/22	2022/23	2023/24	2024/25
<b>MTSF PRIORITY 1: CAPABLE, ETHICAL AND DEVELOPMENTAL STATE</b>									
Energy industry regulatory framework is relevant for the effective regulation for the benefit of the customers and stakeholders	1. Two reports on regulatory advocacy for the piped-gas and petroleum pipelines regulated industries, aimed at improvement of the regulatory framework provided through legislation, regulation and government policies considered annually by the PGS and PPS by 31 March	Number of reports on regulatory advocacy considered by the relevant subcommittee or the Energy Regulator within stated timeframe	New target	New target	New target	New target	4	4	4
	2. Regulatory and Policy advocacy procedure considered by the ER by 31 December 2022	Regulatory and Policy advocacy procedure considered by the relevant subcommittee or the Energy Regulator within the stated timeframe	New target	New target	New target	New target	Regulatory and Policy advocacy procedure	-	-

OUTCOMES	OUTPUTS	OUTPUT INDICATORS	ANNUAL TARGETS						
			AUDITED PERFORMANCE			ESTIMATED PERFORMANCE	MTEF PERIOD		
			2018/19	2019/20	2020/21	2021/22	2022/23	2023/24	2024/25
<b>MTSF PRIORITY 1: CAPABLE, ETHICAL AND DEVELOPMENTAL STATE</b>									
Innovation drives our response to the transition of the Industry	3. Regulatory Advocacy in line with the approved annual ESI Advocacy plan aimed at influencing legislative and policy changes	Percentage variance of planned versus actual annual ESI advocacy plan	New target	New target	New target	New target	65%	65%	65%

b) *Indicators, Annual and Quarterly Targets*

OUTPUTS	OUTPUT INDICATORS	ANNUAL TARGETS	QUARTERLY TARGETS			
			Q1	Q2	Q3	Q4
1. Two reports on regulatory advocacy for the piped-gas and petroleum pipelines regulated industries, aimed at improvement of the regulatory framework provided through legislation, regulation and government policies considered annually by the PGS and PPS by 31 March	Number of reports on regulatory advocacy for the piped-gas and petroleum pipelines regulated industries considered by the relevant subcommittee or the Energy Regulator within stated timeframe	4	-	-	-	4
2. Regulatory and Policy advocacy procedure considered by the ER by 31 December 2022	Regulatory and Policy advocacy procedure considered by the relevant subcommittee or the Energy Regulator within the stated timeframe	Regulatory and Policy advocacy procedure	-	-	Regulatory and Policy advocacy procedure	-
3. Regulatory Advocacy in line with the approved annual ESI Advocacy plan aimed at influencing legislative and policy changes	Percentage variance of planned versus actual annual ESI advocacy plan	65%	Annual Advocacy plan	10%	25%	30%

c) *Critical projects to achieve outputs*

OUTPUTS	OUTPUT INDICATORS
1. Regulatory Advocacy in line with the approved annual ESI Advocacy plan aimed at influencing legislative and policy changes	1.1. Research policy and legislative positions for a changing industry

### 6.2.2.4 Subprogramme: Customer and Stakeholder Engagement

a) *Outcomes, Outputs, Performance Indicators and Targets*

OUTCOMES	OUTPUTS	OUTPUT INDICATORS	ANNUAL TARGETS						
			AUDITED PERFORMANCE			ESTIMATED PERFORMANCE	MTEF PERIOD		
			2018/19	2019/20	2020/21	2021/22	2022/23	2023/24	2024/25
<b>MTSF PRIORITY 7: A BETTER AFRICA AND WORLD</b>									
Integrated and value-added services to customers	1. Two reports on stakeholder engagements for the piped-gas and petroleum pipelines regulated industries considered annually by the PGS and PPR by 31 March	Number of reports on stakeholder workshops / meetings for the piped-gas and petroleum pipelines regulated industries considered by the relevant subcommittee or the Energy Regulator within the stated timeframe	New target	New target	New target	New target	4	4	4
	2. ESI Stakeholder engagement plan	Percentage variance of planned versus actual annual ESI Stakeholder engagement plan	New target	New target	New target	New target	65%	65%	65%

OUTCOMES	OUTPUTS	OUTPUT INDICATORS	ANNUAL TARGETS						
			AUDITED PERFORMANCE			ESTIMATED PERFORMANCE	MTEF PERIOD		
			2018/19	2019/20	2020/21	2021/22	2022/23	2023/24	2024/25
<b>MTSF PRIORITY 7: A BETTER AFRICA AND WORLD</b>									
Integrated and value-added services to customers	3. Seventy five customer education programmes undertaken annually by 31 March	Number of customer education programmes undertaken within the stated timeframe	56	55	30 <sup>18</sup>	50	75	75	75
	4. One consolidated report on the customer education programmes undertaken considered annually by the ELS/REC by 31 March	Number of consolidated reports on the customer education programmes undertaken considered by the relevant subcommittee or the Energy Regulator within the stated timeframe	New target	New target	1	1	1	1	1
	5. Two reports on partnership creation to position NERSA as a recognised regulator nationally, regionally and internationally considered biannually by the REC by 30 September and 31 March	Number of reports on partnership creation considered by the relevant subcommittee or the Energy Regulator within the stated timeframe	New target	2	2	2	2	2	2

18 The target was changed from 60 to 30 customer education programmes due to the restrictions on traveling and gathering of people that will make conducting customer education workshops difficult. NERSA will utilise radio interviews and the distribution of brochures to conduct some level of customer education programmes.



OUTCOMES	OUTPUTS	OUTPUT INDICATORS	ANNUAL TARGETS						
			AUDITED PERFORMANCE			ESTIMATED PERFORMANCE	MTEF PERIOD		
			2018/19	2019/20	2020/21	2021/22	2022/23	2023/24	2024/25
<b>MTSF PRIORITY 7: A BETTER AFRICA AND WORLD</b>									
Integrated and value-added services to customers	6. One report on the implementation of the stakeholder management plan considered annually by the REC by 31 March	Number of reports on the implementation of the stakeholder management plan considered by the relevant subcommittee or the Energy Regulator within the stated timeframe	New target	1 report on 3-yearly stakeholder survey considered by the REC by 31 March 2020	1	1	1	1	1
	7. Reviewed integrated communication and stakeholder engagement strategy considered by the REC by 31 March 2023	Reviewed integrated communication and stakeholder engagement strategy considered by the relevant subcommittee or the Energy Regulator within the stated timeframe	New target	New target	New target	New target	Reviewed integrated communication and stakeholder engagement strategy	-	-
	8. One report on the analysis of the Customer satisfaction survey considered by the ER by 31 March 2025	Number of reports on the analysis of the Customer satisfaction survey considered by the relevant subcommittee within the stated timeframe	New target	New target	New target	New target	-	-	1

b) *Indicators, Annual and Quarterly Targets*

OUTPUTS	OUTPUT INDICATORS	ANNUAL TARGETS	QUARTERLY TARGETS			
			Q1	Q2	Q3	Q4
1. Two reports on stakeholder engagements for the piped-gas and petroleum pipelines regulated industries considered annually by the PGS and PPR by 31 March	Number of reports on stakeholder workshops / meetings for the piped-gas and petroleum pipelines regulated industries considered by the relevant subcommittee or the Energy Regulator within the stated timeframe	4	-	-	-	4
2. ESI Stakeholder engagement plan	Percentage variance of planned versus actual annual ESI Stakeholder engagement plan	65%	Annual ESI Stakeholder engagement plan	10%	25%	30%
3. Seventy five customer education programmes undertaken annually by 31 March	Number of customer education programmes undertaken within the stated timeframe	75	Annual Advocacy plan	15%	25%	35%
4. One consolidated report on the customer education programmes undertaken considered annually by the ELS/REC by 31 March	Number of consolidated reports on the customer education programmes undertaken considered by the relevant subcommittee or the Energy Regulator within the stated timeframe	1	-	-	-	1
5. Two reports on partnership creation to position NERSA as a recognised regulator nationally, regionally and internationally considered biannually by the REC by 30 September and 31 March	Number of reports on partnership creation considered by the relevant subcommittee or the Energy Regulator within the stated timeframe	2	-	1	-	1

OUTPUTS	OUTPUT INDICATORS	ANNUAL TARGETS	QUARTERLY TARGETS			
			Q1	Q2	Q3	Q4
6. One report on the implementation of the stakeholder management plan considered annually by the REC by 31 March	Number of reports on the implementation of the stakeholder management plan considered by the relevant subcommittee or the Energy Regulator within the stated timeframe	1	-	-	-	1
7. Reviewed integrated communication and stakeholder engagement strategy considered by the REC by 31 March 2023	Reviewed integrated communication and stakeholder engagement strategy considered by the relevant subcommittee or the Energy Regulator within the stated timeframe	Reviewed integrated communication and stakeholder engagement strategy	-	-	-	Reviewed integrated communication and stakeholder engagement strategy

c) *Critical projects to achieve outputs*

OUTPUTS	OUTPUT INDICATORS
1. ESI Stakeholder engagement plan	1.1. Develop and implement an ESI Customer Interface Tool to log/monitor stakeholder contact with NERSA

### 6.2.2.3 Explanation of Planned Performance

The planned output is in support of NERSA's regulatory functions of NERSA, as contained in relevant legislation.

### 6.2.2.4 Programme Resource Considerations

The budget for activities relating to the regulation of the energy industry is based on a ring-fencing methodology that was approved to comply with section 13 of the National Energy Regulator Act, 2004 (Act No. 40 of 2004). The methodology is based on direct employment cost as a basis of common costs apportionment. Direct costs are allocated directly to the respective industry.

The table below indicates the approved staff complement and the approved budget for 2022/23 for Programme 2: Advocacy and Engagement.

DIVISIONS	RELEVANT STRUCTURES	STAFF COMPLEMENT	BUDGET (R)	% ALLOCATION
Electricity Regulation (ELR)	Executive Manager	3	1 845 811	20%
	Electricity Pricing and Tariffs (EPT)	35	7 011 307	20%
	Electricity Licensing, Compliance and Dispute Resolution (ELC)	34	8 044 614	20%
	Electricity Infrastructure Planning (EIP)	13	3 774 019	20%
Piped-Gas Regulation (GAR)	Executive Manager	5	1 032 924	10%
	Gas Pricing and Tariffs (GPT)	8	521 339	10%
	Gas Competition and Markets (GCM)	4	286 921	5%
Petroleum Pipelines Regulation (PPR)	Executive Manager	6	5 842 957	50%
	Petroleum Pipelines Tariffs (PPT)	9	2 167 091	20%
	Petroleum Licensing, Compliance and Dispute Resolution (PLC)	9	2 093 694	20%
Corporate Services	Communication and Stakeholder Management (CSM)	9	12 617 158	100%
	International Co-ordination and Partnerships (ICP)	3	5 408 246	100%

*Note: The % allocation is based on the staff complement of the Organisation in line with the ring-fencing methodology.*

Please refer to Part D: Funding for NERSA for the detailed budget.

### 6.2.2.5 Key Risks

Please refer to Section 6.2.6 below for NERSA's detailed Strategic Risk Register.

### 6.2.3. PROGRAMME 3: INNOVATION

The programme purpose is to ensure a technology solution that supports the business in delivering integrated and value-added services to customers internally and externally.

#### 6.2.3.1 Subprogramme: Integrated and Value-Added Services

a) *Outcomes, Outputs, Performance Indicators and Targets*

OUTCOMES	OUTPUTS	OUTPUT INDICATORS	ANNUAL TARGETS						
			AUDITED PERFORMANCE			ESTIMATED PERFORMANCE	MTEF PERIOD		
			2018/19	2019/20	2020/21	2021/22	2022/23	2023/24	2024/25
<b>MTSF PRIORITY 1: CAPABLE, ETHICAL AND DEVELOPMENTAL STATE</b>									
Innovation drives our response to the transition of the Industry	1. Information management framework considered by the REC by 31 March 2023	Information management framework considered by the relevant subcommittee or the Energy Regulator within the stated timeframe	New target	New target	New target	New target	Information management framework	-	
	2. Two reports on the implementation of the approved ICT Strategy considered bi-annually by the ITGC by 30 September and 31 March	Number of reports on the implementation of the approved ICT Strategy considered by the relevant committee or the Energy Regulator within the stated timeframe	New target	New target	New target	2	2	2	2

b) *Indicators, Annual and Quarterly Targets*

OUTPUTS	OUTPUT INDICATORS	ANNUAL TARGETS	QUARTERLY TARGETS			
			Q1	Q2	Q3	Q4
1. Information management framework considered by the REC by 31 March 2023	Information management framework considered by the relevant subcommittee or the Energy Regulator within the stated timeframe	Information management framework	-	-	-	Information management framework
2. Two reports on the implementation of the approved ICT Strategy considered b-annually by the ITGC by 30 September and 31 March	Number of reports on the implementation of the approved ICT Strategy considered by the relevant committee or the Energy Regulator within the stated timeframe	2	-	1	-	1

### 6.2.3.2 Explanation of Planned Performance

The planned output is in support of NERSA's regulatory functions of NERSA, as contained in relevant legislation.

### 6.2.3.3 Programme Resource Considerations

The budget for activities relating to the regulation of the energy industry is based on a ring-fencing methodology that was approved to comply with section 13 of the National Energy Regulator Act, 2004 (Act No. 40 of 2004). The methodology is based on direct employment cost as a basis of common costs apportionment. Direct costs are allocated directly to the respective industry.

The table below indicates the approved staff complement and the approved budget for 2022/23 for Programme 3: Innovation.

DIVISIONS	RELEVANT STRUCTURES	STAFF COMPLEMENT	BUDGET (R)	% ALLOCATION
Corporate Services	Information Resources Management (IRM)	7	643 829	5%
Specialised Support Units (SSU)	Information and Communication Technology (ICT)	10	6 203 212	20%

*Note: The % allocation is based on the staff complement of the Organisation in line with the ring-fencing methodology.*

Please refer to *Part D: Funding for NERSA* for the detailed budget.

### 6.2.3.3 Key Risks

Please refer to Section 6.2.6 below for NERSA’s detailed Strategic Risk Register.

### 6.2.4. PROGRAMME 4: OPERATIONAL EFFICIENCY AND QUALITY MANAGEMENT

The programme purpose is to ensure that NERSA’s integrated operational processes, improved planning and project management remain relevant in supporting core business.

#### 6.2.4.1 Subprogramme: Integrated Operations and Research and Analysis

a) *Outcomes, Outputs, Performance Indicators and Targets*

OUTCOMES	OUTPUTS	OUTPUT INDICATORS	ANNUAL TARGETS						
			AUDITED PERFORMANCE			ESTIMATED PERFORMANCE	MTEF PERIOD		
			2018/19	2019/20	2020/21	2021/22	2022/23	2023/24	2024/25
<b>MTSF PRIORITY 1: CAPABLE, ETHICAL AND DEVELOPMENTAL STATE</b>									
Integrated and value-added services to customers	1. One progress report on the implementation of the Regulatory Reporting Manuals regarding the Standard Chart of Accounts (SCOA) for municipalities considered annually by the REC by 31 March	Number of reports on the implementation of the Regulatory Reporting Manuals regarding the Standard Chart of Accounts (SCOA) for municipalities considered by the relevant committee or the Energy Regulator within the stated timeframe	1	1	1	1	1	1	1

OUTCOMES	OUTPUTS	OUTPUT INDICATORS	ANNUAL TARGETS						
			AUDITED PERFORMANCE			ESTIMATED PERFORMANCE	MTEF PERIOD		
			2018/19	2019/20	2020/21	2021/22	2022/23	2023/24	2024/25
<b>MTSF PRIORITY 1: CAPABLE, ETHICAL AND DEVELOPMENTAL STATE</b>									
Integrated and value-added services to customers	2. One report on the impact of global, regional and local energy trends on NERSA's business considered annually by the REC by 30 June	Number of reports on the impact of global, regional and local energy trends on NERSA's business considered by the relevant subcommittee or the Energy Regulator within the stated timeframe	1	1	1	1	1	1	1
	3. Two reports on the implementation of the Regulatory Reporting Manuals for Non-financial and financial information considered bi-annually by the REC by 30 September and 31 March	Number of reports on the implementation of the Regulatory Reporting Manuals for Non-financial and financial information, considered by the relevant subcommittee or the Energy Regulator within the stated timeframe	2	2	2	2	2	2	2



OUTCOMES	OUTPUTS	OUTPUT INDICATORS	ANNUAL TARGETS						
			AUDITED PERFORMANCE			ESTIMATED PERFORMANCE	MTEF PERIOD		
			2018/19	2019/20	2020/21	2021/22	2022/23	2023/24	2024/25
<b>MTSF PRIORITY 1: CAPABLE, ETHICAL AND DEVELOPMENTAL STATE</b>									
Integrated and value-added services to customers	4. One report on the independent peer review of NERSA's regulatory tools considered by the REC by 31 March 2023	Number of reports on the independent peer review of NERSA's regulatory tools considered by the relevant subcommittee or the Energy Regulator within the stated timeframe.	New target	New target	New target	New target	1	-	-
	5. Revised NERSA operating model considered by the ER by 30 July 2022	Revised operating model considered by the relevant subcommittee or the Energy Regulator within the stated timeframe	New target	New target	New target	New target	Revised operating model	-	-
	6. Financial Sustainability Strategy and Plan considered by the ER by 31 March 2023	Financial Sustainability strategy and Plan considered by the relevant subcommittee or the Energy Regulator within the stated timeframe	New target	New target	New target	New target	Financial Sustainability strategy and Plan	-	-

OUTCOMES	OUTPUTS	OUTPUT INDICATORS	ANNUAL TARGETS						
			AUDITED PERFORMANCE			ESTIMATED PERFORMANCE	MTEF PERIOD		
			2018/19	2019/20	2020/21	2021/22	2022/23	2023/24	2024/25
<b>MTSF PRIORITY 1: CAPABLE, ETHICAL AND DEVELOPMENTAL STATE</b>									
Integrated and value-added services to customers	7. Revised organisational business processes considered by the ER by 30 October 2022	Revised organisational business processes considered by the relevant subcommittee or the Energy Regulator within the stated timeframe	New target	New target	New target	New target	Revised organisational business processes	-	-
	8. Four reports on legislative and policy developments impacting on the Regulator considered quarterly by the REC	Number of reports on legislative and policy developments impacting on the Regulator, considered by the relevant subcommittee or the Energy Regulator within the stated timeframe	4	4	4	4	4	4	4

OUTCOMES	OUTPUTS	OUTPUT INDICATORS	ANNUAL TARGETS						
			AUDITED PERFORMANCE			ESTIMATED PERFORMANCE	MTEF PERIOD		
			2018/19	2019/20	2020/21	2021/22	2022/23	2023/24	2024/25
<b>MTSF PRIORITY 1: CAPABLE, ETHICAL AND DEVELOPMENTAL STATE</b>									
Integrated and value-added services to customers	9. Four reports on the progress made regarding certification with an appropriate international standard on quality management considered quarterly by the REC	Number of reports on the progress made regarding certification with an appropriate international standard on quality management, considered by the relevant subcommittee or the Energy Regulator within the stated timeframe	4	4	4	4	4	4	4
	10. Audit Report that is not qualified	Unqualified audit	Clean audit	Unqualified audit	Unqualified audit	Unqualified audit	Unqualified audit	Unqualified audit	Unqualified audit
	11. Reviewed NERSA Enterprise Development Plan considered by the ER by 31 March 2025	Reviewed NERSA Enterprise Development Plan considered the relevant subcommittee or the Energy Regulator within the stated timeframe	NERSA Enterprise Development Plan considered by the ER by 31 March 2019 and relevant black female-owned enterprises identified	4 quarterly reports on the implementation of the NERSA Enterprise Development Plan considered by the ER	Reviewed NERSA Enterprise Development Plan considered by the ER by 31 March 2021 and new target group identified	2 reports on the implementation of the NERSA Enterprise Development Plan considered by the ER	-	-	Reviewed NERSA Enterprise Development Plan considered by the ER by 31 March 2025

OUTCOMES	OUTPUTS	OUTPUT INDICATORS	ANNUAL TARGETS						
			AUDITED PERFORMANCE			ESTIMATED PERFORMANCE	MTEF PERIOD		
			2018/19	2019/20	2020/21	2021/22	2022/23	2023/24	2024/25
<b>MTSF PRIORITY 1: CAPABLE, ETHICAL AND DEVELOPMENTAL STATE</b>									
Integrated and value-added services to customers	12. ≥86% procurement over R30 000 awarded to suppliers with a B-BBEE status level of 4 or better	% procurement over R30 000 awarded to suppliers with a B-BBEE status level of 4 or better	100% with ≥80% procurement over R30 000 awarded to suppliers with a B-BBEE status level of 4 or better	100%, with ≥82% procurement over R30 000 awarded to suppliers with a B-BBEE status level of 4 or better	100%, with ≥84% procurement over R30 000 awarded to suppliers with a B-BBEE status level of 4 or better	100%, with ≥84% procurement over R30 000 awarded to suppliers with a B-BBEE status level of 4 or better	≥86%	≥88%	≥90%
	13. One report on the implementation of gender mainstreaming initiatives considered annually by the REC by 31 March	Number of reports on the implementation of the gender mainstreaming plan considered by the relevant subcommittee within the stated timeframe	New target	New target	New target	New target	1	1	1

b) *Indicators, Annual and Quarterly Targets*

OUTPUTS	OUTPUT INDICATORS	ANNUAL TARGETS	QUARTERLY TARGETS			
			Q1	Q2	Q3	Q4
1. One progress report on the implementation of the Regulatory Reporting Manuals regarding the Standard Chart of Accounts (SCOA) for the municipalities considered annually by the REC by 31 March	Number of reports on the implementation of the Regulatory Reporting Manuals regarding the Standard Chart of Accounts (SCOA) for the municipalities considered by the relevant committee or the Energy Regulator within the stated timeframe	1	-	-	-	1
2. One report on the impact of global, regional and local energy trends on NERSA's business considered annually by the REC by 30 June	Number of reports on the impact of global, regional and local energy trends on NERSA's business considered by the relevant subcommittee or the Energy Regulator within the stated timeframe	1	1	-	-	-
3. Two reports on the implementation of the Regulatory Reporting Manuals for Non-financial and financial information considered biannually by the REC by 30 September and 31 March	Number or reports on the implementation of the Regulatory Reporting Manuals for Non-financial and financial information, considered by the relevant subcommittee or the Energy Regulator within the stated timeframe	2	-	1	-	1
4. One report on the independent peer review of NERSA's regulatory tools considered by the REC by 31 March 2023	Number of reports on the independent peer review of NERSA's regulatory tools considered by the relevant subcommittee or the Energy Regulator within the stated timeframe.	1	-	-	-	1
5. Revised NERSA operating model considered by the ER by 30 July 2022	Revised operating model considered by the relevant subcommittee or the Energy Regulator within the stated timeframe	1	-	1	-	-

OUTPUTS	OUTPUT INDICATORS	ANNUAL TARGETS	QUARTERLY TARGETS			
			Q1	Q2	Q3	Q4
6. Financial Sustainability Strategy and Plan considered by the ER by 31 March 2023	Financial Sustainability Strategy and Plan considered by the relevant subcommittee or the Energy Regulator within the stated timeframe	Financial Sustainability Strategy and Plan	-	-	-	Financial Sustainability Strategy and Plan
7. Revised organisational business processes considered by the ER by 30 October 2022	Revised organisational business processes considered by the relevant subcommittee or the Energy Regulator within the stated timeframe	Revised organisational business processes	-	-	Revised organisational business processes	-
8. Four reports on legislative and policy developments impacting on the Regulator considered quarterly by the REC	Number of reports on legislative and policy developments impacting on the Regulator, considered by the relevant subcommittee or the Energy Regulator within the stated timeframe	4	1	1	1	1
9. Four reports on the progress made regarding certification with an appropriate international standard on quality management considered quarterly by the REC	Number of reports on the progress made regarding certification with an appropriate international standard on quality management, considered by the relevant subcommittee or the Energy Regulator within the stated timeframe	4	1	1	1	1
10. Audit Report that is not qualified	Unqualified audit	Unqualified audit	-	Unqualified audit	-	-
11. ≥86% procurement over R30 000 awarded to suppliers with a B-BBEE status level of 4 or better	% procurement over R30 000 awarded to suppliers with a B-BBEE status level of 4 or better	≥86%	≥86%	≥86%	≥86%	≥86%
12. One report on the implementation of gender mainstreaming initiatives considered quarterly by the REC	Number of reports on the implementation of the gender mainstreaming plan considered by the relevant subcommittee within the stated timeframe	1	-	-	-	1

### 6.2.4.2 Explanation of Planned Performance

The planned outputs are in support of NERSA's regulatory functions of NERSA, as contained in relevant legislation.

### 6.2.4.3 Programme Resource Considerations

The budget for activities relating to the regulation of the energy industry is based on a ring-fencing methodology that was approved to comply with section 13 of the National Energy Regulator Act, 2004 (Act No. 40 of 2004). The methodology is based on direct employment cost as a basis of common costs apportionment. Direct costs are allocated directly to the respective industry.

The table below indicates the approved staff complement and the approved budget for 2022/23 for Programme 4: Operational Efficiency and Quality Management.

DIVISIONS	RELEVANT STRUCTURES	STAFF COMPLEMENT	BUDGET (R)	% ALLOCATION
Finance and Administration (CFO)	Chief Financial Officer	3	6 525 055	100%
	Financial Management and Governance (FMG)	7	6 525 055	100%
	Supply Chain Management and Facilities	12	22 859 322	100%
Corporate Services (COS)	Executive Manager	3	4 265 160	100%
	Legal Advisory Services (LAS)	6	27 123 394	100%
	Information Resources Management (IRM)	7	12 232 756	95%
Specialised Support Units (SSU)	Internal Audit (IAU)	7	11 189 449	100%
	Strategic Planning and Monitoring (SPM)	4	7 605 407	100%
	Regulator Support (RSU)	11	23 895 148	100%
	CEO's Office Operations (COO)	5	7 335 543	100%
	Regulatory Analysis and Research (RAR)	6	10 321 562	100%
	Information and Communication Technology (ICT)	10	6 203 212	20%

*Note: The % allocation is based on the staff complement of the Organisation in line with the ring-fencing methodology.*

Please refer to Part D: Funding for NERSA for the detailed budget.

#### 6.2.4.4 Key Risks

Please refer to Section 6.2.6 below for NERSA’s detailed Strategic Risk Register.

#### 6.2.5. PROGRAMME 5: PEOPLE AND ORGANISATIONAL CULTURE

The programme purpose is to ensure a conducive work culture and human capacity that is balanced between specialised skills and generic skill requirements as well as system development to deliver the value to customer and stakeholder expectations.

##### 6.2.5.1 Subprogramme: Human Resources and Capacity

a) *Outcomes, Outputs, Performance Indicators and Targets*

OUTCOMES	OUTPUTS	OUTPUT INDICATORS	ANNUAL TARGETS						
			AUDITED PERFORMANCE			ESTIMATED PERFORMANCE	MTEF PERIOD		
			2018/19	2019/20	2020/21	2021/22	2022/23	2023/24	2024/25
<b>MTSF PRIORITY 1: CAPABLE, ETHICAL AND DEVELOPMENTAL STATE</b>									
<b>MTSF PRIORITY 3: EDUCATION, SKILLS AND HEALTH</b>									
Integrated and value-added services to customers	1. One report on Organisational Culture Assessment considered annually by the HRRC by 31 March	Number of reports on Organisational Culture Assessment considered by the relevant committee or the Energy Regulator within the stated timeframe	New Target	New Target	New Target	New Target	1	1	1



OUTCOMES	OUTPUTS	OUTPUT INDICATORS	ANNUAL TARGETS						
			AUDITED PERFORMANCE			ESTIMATED PERFORMANCE	MTEF PERIOD		
			2018/19	2019/20	2020/21	2021/22	2022/23	2023/24	2024/25
<b>MTSF PRIORITY 1: CAPABLE, ETHICAL AND DEVELOPMENTAL STATE</b>									
<b>MTSF PRIORITY 3: EDUCATION, SKILLS AND HEALTH</b>									
Integrated and value-added services to customers	2. Two reports on the implementation of the Employment Equity Plan considered bi-annually by the HRRC by 30 September and 31 March	Number of reports on the implementation of the Employment Equity Plan considered by the relevant committee or the Energy Regulator within the stated timeframe	2	2	2	1	2	2	2
	3. 50% of women in management positions	% of women in management positions	52%	50%	50%	50%	50%	50%	50%
	4. 2% of people with disabilities employed	% of people with disabilities employed	2%	2%	2%	2%	2%	2%	2%
	5. Four reports on the implementation of the Youth Employment Accord considered quarterly by the HRRC	Number of reports on the implementation of the Youth Employment Accord considered by the relevant committee or the Energy Regulator within the stated timeframe	4	4	4	4	4	4	4

OUTCOMES	OUTPUTS	OUTPUT INDICATORS	ANNUAL TARGETS						
			AUDITED PERFORMANCE			ESTIMATED PERFORMANCE	MTEF PERIOD		
			2018/19	2019/20	2020/21	2021/22	2022/23	2023/24	2024/25
<b>MTSF PRIORITY 1: CAPABLE, ETHICAL AND DEVELOPMENTAL STATE</b>									
<b>MTSF PRIORITY 3: EDUCATION, SKILLS AND HEALTH</b>									
Integrated and value-added services to customers	6. One report on the implementation of the bursary programme for qualifying external applicants considered annually by the HRRC by 31 March	Number of reports on the implementation of the bursary programme for qualifying external applicants considered by the relevant committee or the Energy Regulator within the stated timeframe	1	1	1	1	1	1	1
	7. Four reports on the design of a regulatory course at an accredited institution of higher learning considered quarterly by the HRRC.	Number of reports on the design of a regulatory course at an accredited institution of higher learning considered by the relevant committee or the Energy Regulator within the stated timeframe	New target	Planning phase concluded and considered by the HRRC by 31 March 2020	2	1	4	4	4

OUTCOMES	OUTPUTS	OUTPUT INDICATORS	ANNUAL TARGETS						
			AUDITED PERFORMANCE			ESTIMATED PERFORMANCE	MTEF PERIOD		
			2018/19	2019/20	2020/21	2021/22	2022/23	2023/24	2024/25
<b>MTSF PRIORITY 1: CAPABLE, ETHICAL AND DEVELOPMENTAL STATE</b>									
<b>MTSF PRIORITY 3: EDUCATION, SKILLS AND HEALTH</b>									
Integrated and value-added services to customers	8. One report on the leadership development programme considered by the HRRC by 31 March 2023	Number of reports on leadership development programme considered by the relevant committee or the Energy Regulator within the stated timeframe	New target	Planning phase concluded and considered by the HRRC by 31 March 2020	-	-	1	-	1
	9. One report on the development of a technical regulatory training and development programme considered by the HRRC by 31 March 2023	Number of reports on the development of a technical regulatory training and development programme considered by the relevant committee or the Energy Regulator within the stated timeframe	New target	Comprehensive leadership development programme considered by the Energy Regulator by 31 March 2020	1	1	1	-	1

b) *Indicators, Annual and Quarterly Targets*

OUTPUTS	OUTPUT INDICATORS	ANNUAL TARGETS	QUARTERLY TARGETS			
			Q1	Q2	Q3	Q4
1. One report on Organisational Culture Assessment considered annually by the HRRC by 31 March	Number of report on Organisational Culture Assessment considered by the relevant committee or the Energy Regulator within the stated timeframe	Approved organisational culture assessment report	TORs and procurement for OCA	Roll out of OCA and produce report. Report approved by HRRC	Implement recommendations as per OCA	Close out report on OCA to HRRC
2. Two reports on the implementation of the Employment Equity Plan considered bi-annually by the HRRC by 30 September and 31 March	Number of reports on the implementation of the Employment Equity Plan considered by the relevant committee or the Energy Regulator within the stated timeframe	2	-	1	-	1
3. 50% of women in management positions	% of women in management positions	50%	-	-	-	50%
4. 2% of people with disabilities employed	% of people with disabilities employed	2%	-	-	-	2%
5. Four reports on the implementation of the Youth Employment Accord considered quarterly by the HRRC	Number of reports on the implementation of the Youth Employment Accord considered by the relevant committee or the Energy Regulator within the stated timeframe	4	1	1	1	1
6. One report on the implementation of the bursary programme for qualifying external applicants considered annually by the HRRC by 31 March	Number of reports on the implementation of the bursary programme for qualifying external applicants considered by the relevant committee or the Energy Regulator within the stated timeframe	1	-	-	-	1

OUTPUTS	OUTPUT INDICATORS	ANNUAL TARGETS	QUARTERLY TARGETS			
			Q1	Q2	Q3	Q4
7. Four reports on the design of a regulatory course at an accredited institution of higher learning considered quarterly by the HRRC	Number of reports on the design of a regulatory course at an accredited institution of higher learning considered by the relevant committee or the Energy Regulator within the stated timeframe	4	1	1	1	1
8. One report on the leadership development programme considered by the HRRC by 31 March 2023	Number of reports on leadership development programme considered by the relevant committee or the Energy Regulator within the stated timeframe	1	-	-	-	1
9. One report on the development of a technical regulatory training and development programme considered by the HRRC by 31 March 2023	Number of reports on the development of a technical regulatory training and development programme considered by the relevant committee or the Energy Regulator within the stated timeframe	1	-	-	-	1

### 6.2.5.2 Explanation of Planned Performance

The planned outputs are in support of NERSA's regulatory functions of NERSA, as contained in relevant legislation.

### 6.2.5.3 Programme Resource Considerations

The budget for activities relating to the regulation of the energy industry is based on a ring-fencing methodology that was approved to comply with section 13 of the National Energy Regulator Act, 2004 (Act No. 40 of 2004). The methodology is based on direct employment cost as a basis of common costs apportionment. Direct costs are allocated directly to the respective industry.

The table below indicates the approved staff complement and the approved budget for 2022/23 for Programme 5: People and Organisational Culture.

DIVISIONS	RELEVANT STRUCTURES	STAFF COMPLEMENT	BUDGET (R)	% ALLOCATION
Human Resources	Chief Human Capital Officer	2	3 342 140	100%
	Human Resources – Value Creation	8	20 885 017	100%
	Human Resources – Transactions	3	4 465 127	100%

*Note: The % allocation is based on the staff complement of the Organisation in line with the ring-fencing methodology.*

Please refer to *Part D: Funding for NERSA* for the detailed budget.

### 6.2.5.4. Key Risks

Please refer to Section 6.2.6 below for NERSA's detailed Strategic Risk Register.

## 6.2.6. Strategic Risks

RANKING	RISK CATEGORY	RISK DESCRIPTION	ROOT CAUSES (BACKGROUND)	CURRENT CONTROLS
R1	ICT	Cyber Security	<ol style="list-style-type: none"> <li>1. Emerging global security vulnerabilities (Cyber threats, Ransomware, Hacking),</li> <li>2. Technology not keeping abreast with the fast emerging cyber threats</li> <li>3. Lack of policy enforcement</li> <li>4. Users are not security conscious</li> </ol>	<ol style="list-style-type: none"> <li>1. Updated Firewall system and equipment</li> <li>2. Antivirus</li> <li>3. Ransomware and e-mail protection.</li> <li>4. Data encryption,</li> <li>5. Updated ICT policies and procedures</li> <li>6. Security awareness and training.</li> <li>7. Backup of user's data.</li> <li>8. Disaster Recovery plan and regular backups</li> <li>9. Uninterrupted power supply.</li> <li>10. Access control and security technology of server room</li> </ol>
R2	Regulatory	Regulatory uncertainty	<ol style="list-style-type: none"> <li>1. NERSA decisions challenged in court</li> <li>2. Outdated Regulatory Methodology</li> <li>3. Unresponsive industry legislation</li> <li>4. Inadequacy of NERSA Rules</li> <li>5. Regulatory overlaps</li> <li>6. Fragmentation of Regulations (Non-alignment of regulation activities)</li> </ol>	<ol style="list-style-type: none"> <li>1. NERSA Rules</li> <li>2. MOAs with relevant other Authorities</li> <li>3. Methodology (Tariffs, Pricing)</li> <li>4. Economic Framework (GAS)</li> <li>5. MoAs with TNPA and Ports Regulator - move to regulatory uncertainty</li> </ol>
R3	Socio-economic	Rising energy costs - (High energy prices and tariffs)	<ol style="list-style-type: none"> <li>1. Inefficient operations by licensees</li> <li>2. Geo- political factors</li> </ol>	<ol style="list-style-type: none"> <li>1. Methodology (Tariffs, Pricing)</li> <li>2. Prudency Assessment</li> </ol>

RISK OWNER	RISK RESPONSE STRATEGIES (ACTION PLANS)	ACTION OWNER	TIME SCALE (ALL TARGET DATES ARE REVISED ON QUARTERLY REPORTS)
ACEO	<ol style="list-style-type: none"> <li>1. Motivate for the upgrade of the server room in line with the minimum information security standards and National Building Regulations.</li> <li>2. Conduct vulnerability assessment and implementation of recommendations thereof.</li> <li>3. Conduct system intrusion detection and prevention penetration exercise.</li> <li>4. Continuous cyber security awareness and training.</li> <li>5. Enforcement of ICT Policies and monitoring the compliance thereof -</li> <li>6. Upgrade of firewall, antivirus ransomware protection and encryption software to keep abreast with emergin cyber threats</li> </ol>	CIO	<ol style="list-style-type: none"> <li>1. <b>Commencement Date:</b> 30 June 2021. <b>Completion date;</b> 31 January 2022.</li> <li>2. <b>Commencement Date:</b> 30 June 2021. <b>Completion date;</b> 31 January 2022.</li> <li>3. <b>Completed.</b></li> <li>4. <b>Commencement Date:</b> 31 March 2021. Continous.</li> </ol>
ACEO	<ol style="list-style-type: none"> <li>1. Emphasise compliance with NERSA's Methodologies in decisions</li> <li>2. Review Methodologies to align to current circumstances</li> <li>3. Improve approach to Regulatory Advocacy (continuously align as the market evolve)</li> <li>4. Regular review of Rules to provide regulatory certainty</li> <li>5. Improve MOAs with relevant Authorities</li> </ol>	EMS: ELR/PPR/GAR	<ol style="list-style-type: none"> <li>1. As and when decision made</li> <li>2. 31 March 2022</li> <li>3. 31 March 2022</li> <li>4. 31 March 2022</li> <li>5. 31 March 2022</li> </ol>
ACEO	<ol style="list-style-type: none"> <li>1. Full implementation of Prudency Guidelines</li> <li>1.1 Enforce compliance to ring-fencing of electricity business costs in munics to ensure infrastructure maintenance using the allocated revenue</li> <li>2. Facilitate development of projects to deliver domestic supply of primary fuels and electricity</li> <li>2.2 Assist DMRE in the implementation National Free Basic Electiry Policy of Government</li> </ol>	<ol style="list-style-type: none"> <li>1. EMS: ELR/PPR/GAR</li> <li>1.1 EM: ELR</li> <li>2. EM: ELR</li> <li>2.2. EM: ELR</li> </ol>	<ol style="list-style-type: none"> <li>1. 31 March 2022</li> <li>1.1. 31 March 2022</li> <li>2. As an when required</li> <li>2.2 31 March 2022</li> </ol>



RANKING	RISK CATEGORY	RISK DESCRIPTION	ROOT CAUSES (BACKGROUND)	CURRENT CONTROLS
R4	Service Delivery	Constraints of gas supply	<ol style="list-style-type: none"> <li>1. Lack of adequate gas resources/dependence on Mozambique</li> <li>2. Lack of investment in infrastructure to enable gas supplies to customers</li> <li>3. Lack of large customers and projects to anchor investments in gas supplies and infrastructure to enable such supplies</li> <li>4. Declining gas reserves from Pande and Temane in Mozambique</li> </ol>	<ol style="list-style-type: none"> <li>1. Monitoring Reports on the development of GAS industry</li> <li>2. Bilateral supply agreements with Mozambique (Co-operation with Mozambican regulatory authorities)</li> <li>3. A regulatory environment that facilitates investment in gas supplies and the infrastructure required to enable such supplies</li> <li>4. New projects for LNG imports being considered (licensing)</li> </ol>
R5	Regulatory	Disruption of regulatory regime	<ol style="list-style-type: none"> <li>1. Different regulatory regimes and methodologies between SA and Mozambique</li> <li>2. High tariffs</li> <li>3. Uncoordinated regulations with cross border stakeholders</li> </ol>	Co-operation with Mozambican regulatory authorities
R6	Business Continuity	Business continuity/ disruptions	<ol style="list-style-type: none"> <li>1. Declining industry volumes in supply of energy (Inability of NERSA to fund its operations)</li> <li>2. Lack of response and contingency plans (Inadequate Preparedness, Readiness and Resilience to disastrous events, Pandemics &amp; Epidemics)</li> <li>3. Inadequate IT systems to support NERSA business processes</li> <li>4. Inability of NERSA to operate as a going concern</li> <li>5. Re- structuring of Energy Industry</li> <li>6. Current Country's economic status</li> <li>7. Inflation</li> </ol>	<ol style="list-style-type: none"> <li>1. Business Continuity Plan (Disaster Management Plan/Emergency Management Plan/Pandemic Response Plan)</li> <li>2. IT Disaster Recovery Plan</li> <li>3. ICT Systems control support</li> <li>4. Cashflow Mitigation Reserve</li> <li>5. Going-concern assessment</li> <li>6. Monitoring of supply obligation</li> </ol>

RISK OWNER	RISK RESPONSE STRATEGIES (ACTION PLANS)	ACTION OWNER	TIME SCALE (ALL TARGET DATES ARE REVISED ON QUARTERLY REPORTS)
	<ol style="list-style-type: none"> <li>1. Coordinated engagement with relevant stakeholders including Sasol Gas, DMRE and PASA /Regulatory Advocacy to develop a coordinated policy to incentives investment</li> <li>2. Prioritize licensing of new projects for LNG imports</li> <li>3. Cooperation with authorities in Mozambique for continued gas supply opportunities</li> <li>4. Fast-track current activities for local exploration of natural gas resources</li> <li>5. Develop Gas-to-Power projects to accelerate development of GAS industry</li> </ol>	EM: Piped Gas	31 March 2022
	Harmonisation of regulatory processes between SA and Mozambique	EM: Piped Gas	31 March 2022
ACEO	<ol style="list-style-type: none"> <li>1. Review financing Model of NERSA as Legislated</li> <li>2. Review and implement Business Continuity Plan</li> <li>2.1 Review and implement Business Continuity Management Policy</li> <li>2.2 Conduct Disaster Management Training</li> <li>3. Review IT Disaster Recovery Plan</li> <li>3.1 Fund and implement ICT Strategy</li> <li>3.2 Improve current IT support processes</li> <li>4. Develop Financial sustainability Strategy</li> <li>4.1 Review and monitoring of Going-concern assessment models</li> <li>5. Review current NERSA strategy to make NERSA more relevant and effective</li> </ol>	1. CFO / EMS: ELR/ PPR/GAR	<ol style="list-style-type: none"> <li>1. March 2021</li> <li>2. October - March 2021</li> <li>3. March 2021</li> <li>4. March 2021</li> <li>5. April 2021</li> </ol>

RANKING	RISK CATEGORY	RISK DESCRIPTION	ROOT CAUSES (BACKGROUND)	CURRENT CONTROLS
R7	Stakeholder Management  (Quality of regulatory decisions - threatening reputation and credibility)	Reputational damage	<ol style="list-style-type: none"> <li>1. Increased litigations</li> <li>2. Non-adherence to Methodologies</li> <li>3. Delays in making decisions</li> <li>4. Concurrence of Non- allocation of technologies in the IRP</li> <li>5. Inadequate stakeholder engagement - (Planning processes)</li> </ol>	<ol style="list-style-type: none"> <li>1. Public Hearings Procedure</li> <li>2. Methodologies and Legislative framework</li> <li>3. Stakeholder Engagement Strategy and Plan</li> <li>4. Customer Education</li> <li>5. The media monitoring &amp; customer satisfaction surveys</li> <li>6. Processes to seek legal advise (LAS / External)</li> <li>7. Standard Operating Procedures (SOP)</li> <li>8. Regulatory advocacy</li> <li>9. Reasons for decision</li> </ol>
R8	Service Delivery	Uncompetitive outcomes	<ol style="list-style-type: none"> <li>1. Barriers to entry</li> <li>2. Constraints in gas supply and lack of the infrastructure required to enable such supply</li> <li>3. Regulatory gaps / fragmentation preventing NERSA to sufficiently address barriers to entry.</li> <li>4. Outdated Methodologies</li> <li>5. Legislation overtaken by industry developments</li> <li>5. Inadequate competition in the market</li> </ol>	<ol style="list-style-type: none"> <li>1. Methodologies</li> <li>2. Gas Act, Regulations, Rules</li> <li>3. Assessment of competition in the gas market</li> </ol>
R9	Regulatory	Unresponsive regulatory framework to landscape changes in the sector	<ol style="list-style-type: none"> <li>1. Provision to develop rules, procedures and guidelines on tariffs and licences</li> <li>2. Regulatory Advocacy to influence at DMRE level</li> <li>3. Methodology (Tariffs, Pricing)</li> <li>4. Economic Framework for determination of adequacy of competition in Pipegas Industry</li> </ol>	<ol style="list-style-type: none"> <li>1. Provision to develop rules, procedures and guidelines on tariffs and licenses</li> <li>2. Regulatory Advocacy to influence at DMRE level</li> <li>3. Methodology (Tariffs, Pricing)</li> <li>4. Economic Framework for determination of adequacy of competition in Piped-Gas Industry</li> </ol>

RISK OWNER	RISK RESPONSE STRATEGIES (ACTION PLANS)	ACTION OWNER	TIME SCALE (ALL TARGET DATES ARE REVISED ON QUARTERLY REPORTS)
ACEO	<ol style="list-style-type: none"> <li>1. Ensure accuracy and high quality of RFDs</li> <li>2. Regular review of Regulatory Tools to align with dynamics of the industry (Methodologies/ Rules/ Procedures)               <ol style="list-style-type: none"> <li>2.1. Independent Peer review of NERSA's Regulatory Tools (Methodologies/ Rules/ Procedures)</li> </ol> </li> <li>3. Enhance compliance with Methodologies               <ol style="list-style-type: none"> <li>3.1 Stakeholder Engagement</li> <li>3.2. Streamline the decision making</li> </ol> </li> <li>4. Improve quality of Reasons for Decision               <ol style="list-style-type: none"> <li>4.1 Improve regulatory advocacy                   <ol style="list-style-type: none"> <li>Develop Standard Operation Procedures (ELR/ GAR/ PPR)</li> </ol> </li> </ol> </li> <li>5. Increase Stakeholder engagement (Public Hearing)               <ol style="list-style-type: none"> <li>5.1 Effective implementation of Stakeholder Engagement Strategy and Plan</li> <li>5.2 Conduct Stakeholder Surveys</li> <li>5.3. Improve NERSA's PR systems</li> </ol> </li> </ol>	<ol style="list-style-type: none"> <li>1. LAS</li> <li>2. SM: RAR</li> <li>3. EMS: ELR/PPR/GAR</li> <li>4. EMS: ELR/PPR/GAR</li> <li>5. EM: Corporate Services</li> </ol>	<ol style="list-style-type: none"> <li>2. November 2020 - March 2022</li> <li>5. 31 March 2022</li> </ol>
ACEO	<ol style="list-style-type: none"> <li>1. Advocacy with DMRE – to strengthen NERSA's regulatory powers / address regulatory gaps by amending the Gas and electricity Acts and addressing fragmentation of regulation in the Petroleum Pipelines industry.</li> <li>2. Advocacy with DMRE and other regulatory bodies to develop a coordinated policy to incentivise investment</li> <li>3. Finalisation of MoA between NERSA and other relevant regulatory authorities to set out processes for collaboration on competition matters in the energy sector</li> <li>4. Review Methodologies</li> <li>5. Lower barriers to entry</li> </ol>	EMs: (ELR/PPR/ GAR) & LAS	31 March 2022
ACEO	<ol style="list-style-type: none"> <li>1 &amp; 2. Improve approach to Regulatory Advocacy (continuously align as the market evolve)</li> <li>1.1 Conduct environmental scan and develop draft studies (methodologies, guidelines and rules) in anticipation of industry changes</li> <li>1.2 Review Methodology and Guidelines</li> <li>3. Issue Rules for implementation of IRP</li> </ol>	<ol style="list-style-type: none"> <li>1. &amp; 1.1 &amp; 1.2 EMs: (ELR/PPR/ GAR)</li> <li>3. EM: ELR</li> </ol>	<ol style="list-style-type: none"> <li>1. 31 December 2022</li> <li>1.1. 31 March 2022</li> <li>1.2. 31 March 2022</li> <li>3. 31 March 2022</li> </ol>

## PART D \ FUNDING FOR NERSA

NERSA's approved budget is attached as Annexure A.

## PART E \ TECHNICAL INDICATOR DESCRIPTIONS

### 1. PERFORMANCE INDICATORS

These indicators are divided in the following programmes:

- **Programme 1:** Regulatory Service Delivery
- **Programme 2:** Advocacy And Engagement
- **Programme 3:** Innovation
- **Programme 4:** Operational Efficiency and Quality Management
- **Programme 5:** People and Organisational Culture

## 1.1. PROGRAMME 1: REGULATORY SERVICE DELIVERY

### 1.1.1. Subprogramme: Electricity Industry Regulation

#### 1.1.1.1. Setting and/or approval of tariffs and prices

Indicator title	1. Energy Regulator decision on the Reviewed Electricity Pricing Framework taken by the relevant subcommittee or Energy Regulator within the stated timeframe	2. Energy Regulator decision on Eskom and municipal electricity prices within the stated timeframe
Definition	This is the decision of the Energy Regulator on the Reviewed Electricity Pricing Framework within the stated timeframe, which will improve NERSA's efficiency in making decisions on electricity pricing	This is the decision of the Energy Regulator on Eskom and municipal electricity prices within the stated timeframe, which will improve NERSA's efficiency in making decisions on electricity pricing
Source of data	Current pricing methodology; benchmarks on electricity pricing; reports on Eskom and Municipality pricing	Tariff Applications and D Forms; Tariff analysis schedules
Method of calculation / assessment	Energy Regulator decision	Energy Regulator decision
Means of verification	Framework; Minutes of ELS and ER meetings	Applications; Reasons for Decisions; Minutes of REC and ELS meetings
Assumptions	Framework completed as planned	Complete applications received from licensees
Disaggregation of beneficiaries (where applicable)	Not applicable	Not applicable
Spatial transformation (where applicable)	Not applicable	Not applicable
Calculation Type	Non-cumulative	Non-cumulative
Reporting cycle	Annual	Annual
Desired performance	Regulator decision by 30 June 2022	Regulator decision by 28 February 2023
Indicator Responsibility	EM (ELR) and HOD (EPT)	EM (ELR) and HOD (EPT)

### 1.1.1.2. Licensing and Registration

Indicator title	1. Improved turnaround times for considering applications for licensing of electricity generation facilities	2. Improved turnaround times for considering applications for the registration of electricity generation facilities
Definition	The turn around times for concluding the analysis of and decision-making on applications for licences are improved	The turn around times for concluding the analysis of and decision-making on applications for registrations are improved
Source of data	Licensing processes; applications for licences	Registration processes; applications for registration
Method of calculation / assessment	Number of days from receipt of application to decision by the Energy Regulator	Number of days from receipt of application to decision by the Energy Regulator
Means of verification	Reviewed processes; Minutes of ELS and ER meetings	Reviewed processes; Minutes of ELS and ER meetings
Assumptions	Complete application received	Complete application received
Disaggregation of beneficiaries (where applicable)	Not applicable	Not applicable
Spatial transformation (where applicable)	Not applicable	Not applicable
Calculation Type	Non-cumulative	Non-cumulative
Reporting cycle	Quarterly	Quarterly
Desired performance	120 working days	45 working days
Indicator Responsibility	EM (ELR) and HOD (ELC)	EM (ELR) and HOD (ELC)

### 1.1.1.3. Compliance monitoring and enforcement

Indicator title	1. Percentage variance of planned versus actual compliance audit plans	2. Percentage variance of planned versus actual enforcement plan
Definition	This the percentage of compliance audits completed in line with the annual Compliance Audit Plan and reports on the completed audits	This the percentage of enforcement actions on non-compliance in line with the annual Enforcement Plans
Source of data	Compliance Audit Plan; audit reports	Enforcement Plan; non-compliance findings
Method of calculation / assessment	$(\text{number of planned audits minus the actual number of audits} / \text{actual number of audits}) * 100$	$(\text{number of planned enforcement actions on non-compliance minus the actual number of actions} / \text{actual number of planned actions}) * 100$
Means of verification	Minutes of ELS and ER meetings	Minutes of ELS and ER meetings
Assumptions	Audits conducted as planned	Enforcement actions conducted as planned
Disaggregation of beneficiaries (where applicable)	Not applicable	Not applicable
Spatial transformation (where applicable)	Not applicable	Not applicable
Calculation Type	Non-cumulative	Non-cumulative
Reporting cycle	Annual	Annual
Desired performance	80% of planned audits conducted	80% planned enforcement actions on non-compliance conducted
Indicator Responsibility	EM (ELR) and HOD (ELC)	EM (ELR) and HOD (ELC)



#### 1.1.1.4. Dispute resolution, including mediation, arbitration and handling of complaints

Indicator title	1. % of categorised disputes/complaints, including initiated investigations, closed within the agreed upon turnaround time
Definition	This is the percentage of categorised complaints / disputes closed within the agreed upon turnaround time
Source of data	Document on categorised complaints / disputes; records of disputes / complaints received
Method of calculation / assessment	$(\text{number of closed disputes / complaints within 180 days of receipt} / \text{number of received complaints}) * 100$
Means of verification	Database of all complaints/disputes received and closed
Assumptions	Complete information is received from complainants
Disaggregation of beneficiaries (where applicable)	Not applicable
Spatial transformation (where applicable)	Not applicable
Calculation Type	Non-cumulative
Reporting cycle	Quarterly
Desired performance	90% of disputes/ complaints including initiated investigations closed within the agreed upon turnaround time
Indicator Responsibility	EM (ELR) and HOD (ELC)

### 1.1.1.5. Setting of rules, guidelines and codes for the regulation of the electricity industry

Indicator title	1. Percentage variance between planned versus actual targeted tools reviewed and development planned
Definition	This the percentage of planned review and/or development of targeted regulatory tools and systems completed in line with an annual plan for the reviews and/or developments to be concluded in the planning period
Source of data	Analysis reports of reviewed tools and systems
Method of calculation / assessment	$(\text{number of planned reviews and/or developments} - \text{actual number of reviews and/or developments}) / \text{actual number of reviews and/or developments} * 100$
Means of verification	Minutes of ELS and ER meetings
Assumptions	Reviews and/or developments concluded as planned
Disaggregation of beneficiaries (where applicable)	Not applicable
Spatial transformation (where applicable)	Not applicable
Calculation Type	Non-cumulative
Reporting cycle	Annually
Desired performance	80% of planned reviews and/or developments concluded conducted
Indicator Responsibility	EM (ELR) and HOD (EIP)

## 1.1.2. Piped-Gas Industry Regulation

### 1.1.2.1. Setting and/or approval of tariffs and prices

Indicator title	1. % of complete maximum price applications considered by the relevant subcommittee or the Energy Regulator within the stated timeframe	1. % of complete applications on distinguishing features considered by the relevant subcommittee or the Energy Regulator within the stated timeframe
Definition	This is the percentage of applications for maximum prices of piped-gas considered by the relevant Subcommittee, within a set timeframe, subject to a finding that there is inadequate competition	This is the percentage of applications on distinguishing features considered by the relevant Subcommittee, within a set timeframe
Source of data	Applications for maximum prices of gas	Applications for distinguishing features
Method of calculation / assessment	(number of applications for maximum prices completed within 120 days / number of applications for maximum prices received)*100	(number of applications on distinguishing features completed within 120 days / number of applications for maximum prices received)*100
Means of verification	Reason for decisions; minutes of ER	Reason for decisions; minutes of ER
Assumptions	Complete applications received from licensees	Complete applications received from licensees
Disaggregation of beneficiaries (where applicable)	Not applicable	Not applicable
Spatial transformation (where applicable)	Not applicable	Not applicable
Calculation Type	Non-cumulative	Non-cumulative
Reporting cycle	Quarterly	Quarterly
Desired performance	100% of complete maximum price applications considered by the ER within 120 working days after date of publication of the preliminary assessment of the maximum price applications	100% of complete applications on distinguishing features considered by the ER within 120 working days after the date of the publication of preliminary assessment of the applications
Indicator Responsibility	EM (GAR) and HOD (GPT)	EM (GAR) and HOD (GPT)

### 1.1.2.1. Setting and/or approval of tariffs and prices

Indicator title	3. % of complete transmission tariff applications considered by the relevant subcommittee or the Energy Regulator within the stated timeframe	4. Number of calculations of the ROMPCO tariff for gas volumes below 120 million Gigajoule considered by the relevant subcommittee or the Energy Regulator within the stated timeframe
Definition	This is the percentage of transmission tariff applications considered by the relevant Subcommittee, within a set timeframe, subject to a finding that there is inadequate competition	This is the number of calculations of the ROMPCO tariff for gas volumes below 120 million Gigajoules considered by the relevant Subcommittee, within a set timeframe
Source of data	Applications for transmission tariff	Schedule One to the Agreement and PPI from StatsSA, Report containing the ROMPCO tariffs for volumes below 120 GJ
Method of calculation / assessment	(number of transmission tariff applications completed within 120 days / number of applications for transmission tariffs received)*100	Actual number of calculations and publication of the ROMPCO tariff for volumes below 120 Gigajoule
Means of verification	Reason for decisions; minutes of ER	Submissions to PGS; minute of the PGS
Assumptions	Complete applications received from licensees	Information received timeously from ROMPCO
Disaggregation of beneficiaries (where applicable)	Not applicable	Not applicable
Spatial transformation	Not applicable	Not applicable
(where applicable)	Not applicable	Not applicable
Calculation Type	Non-cumulative	Cumulative
Reporting cycle	Quarterly	Quarterly
Desired performance	100% of complete transmission tariff applications considered by ER within 120 working days after date of publication of preliminary assessment of tariff applications	Four calculations of the ROMPCO tariff for gas volumes below 120 million Gigajoules considered quarterly by the PGS
Indicator Responsibility	EM (GAR) and HOD (GPT)	EM (GAR) and HOD (GPT)

### 1.1.2.2. Licensing and Registration

Indicator title	1. % of complete licence applications considered by the relevant subcommittee or the Energy Regulator within the stated timeframe	2. % of complete applications for licence amendments/ revocations/ conversions considered by the relevant subcommittee or the Energy Regulator within the stated timeframe
Definition	This is the percentage of the license applications considered by the REC or PGS (depending on the delegation) within a set timeframe	This is the percentage of the applications for license amendment, considered by the relevant subcommittee within a set timeframe
Source of data	License applications	Applications for license amendments
Method of calculation / assessment	(Number of licence applications considered within 60 days after the end of the objection period or period of applicant's response to objections received) / (total number of applications received)*100	(Number of applications for amendments/revocations/ conversions considered within 120 days from receipt of complete application) / (total number of applications received) * 100
Means of verification	Reasons for decision; Minutes of REC / PGS (depending on delegation)	Reasons for decision; Minutes of REC / PGS (depending on delegation)
Assumptions	Complete applications submitted	Complete applications submitted
Disaggregation of beneficiaries (where applicable)	Not applicable	Not applicable
Spatial transformation (where applicable)	Not applicable	Not applicable
Calculation Type	Non-cumulative	Non-cumulative
Reporting cycle	Quarterly	Quarterly
Desired performance	100% of complete license applications considered by the PGS/ REC/ER within 60 working days from date of close of public comment period or period of applicant's response to objections received	100% of complete applications for licence amendments/ revocations/ conversions considered by the PGS/REC within 60 working days from date of close of public comment period or period of applicant's response to objections received
Indicator Responsibility	EM (GAR) and HOD (GLC)	EM (GAR) and HOD (GLC)

### 1.1.2.2. Licensing and Registration

Indicator title	3. % of complete applications for the registration of gas activities considered by the relevant subcommittee or the Energy Regulator within the stated timeframe
Definition	This is the percentage of the registration applications for operations or activities related to the production and importation of gas, considered by the relevant subcommittee within a set timeframe
Source of data	Registration applications
Method of calculation / assessment	(Number of registration applications considered within 120 days from receipt of complete application) / (total number of applications received)*100
Means of verification	Reasons for decision; Minutes of PGS
Assumptions	Complete applications submitted
Disaggregation of beneficiaries (where napplicable)	Not applicable
Spatial transformation (where applicable)	Not applicable
Calculation Type	Non-cumulative
Reporting cycle	Annual
Desired performance	100% of complete applications for the registration of gas activities are processed and considered by the PGS within 60 working days from date of close of public comment period
Indicator Responsibility	EM (GAR) and HOD (GLC)

### 1.1.2.3. Compliance monitoring and enforcement

Indicator title	1. Number of monthly volume balance reports assessed and analysis reports considered by the relevant subcommittee or the Energy Regulator within the stated timeframe	2. Number of audit reports on compliance of the ROMPCO pipeline considered by the relevant subcommittee within the stated timeframe
Definition	This is the number of reports on the assessment and analysis of Sasol's volume balance reports considered by the relevant Subcommittee, within 60 days from date of receipt of information from Sasol, in order for NERSA to have regular, systematic, consistent, and sufficient non-financial information relevant to economic regulation, to enhance the efficiency and transparency of the regulatory process.	This is the number of report on audits conducted on the ROMPCO pipeline according to the compliance framework, non-compliance notices issued (where necessary), considered by the relevant committee by the end of the financial year.
Source of data	Volume balance report assessment reports	Audit reports
Method of calculation / assessment	Number of reports	Number of reports
Means of verification	Submissions to PGS; Minutes of PGS	Submissions to PGS; Minutes of PGS
Assumptions	Information received timeously from Sasol	Approval received to travel to Mozambique to conduct audit
Disaggregation of beneficiaries (where applicable)	Not applicable	Not applicable
Spatial transformation (where applicable)	Not applicable	Not applicable
Calculation Type	Cumulative	Cumulative
Reporting cycle	Quarterly	Annually
Desired performance	Twelve monthly volume balance reports assessed and analysis reports considered quarterly by the PGS	One audit report on the compliance of ROMPCO pipeline considered annually by the PGS by 31 March
Indicator Responsibility	EM (GAR) and HOD (GLC)	EM (GAR) and HOD (GLC)

### 1.1.2.3. Compliance monitoring and enforcement

Indicator title	3. Number of reports on licensees' compliance with licence conditions considered by the relevant Subcommittee within the stated timeframe	4. % of monitoring reports on the implementation of transmission tariffs considered by the relevant subcommittee or the Energy Regulator within the stated timeframe
Definition	This is the number of report on inspections conducted aimed at enforcing monitoring and compliance of licensed entities with licence conditions considered by the relevant committee with stated timeframe	This is the percentage of reports on the monitoring of the implementation of transmission tariffs by ROMPCO, Transnet and Sasol Gas respectively, considered by the relevant committee with stated timeframe
Source of data	Approved plan to annual inspections, Inspection reports	Monitoring reports
Method of calculation / assessment	Number of reports	Number of reports
Means of verification	Submissions to PGS; Minutes of PGS	Submissions to PGS; Minutes of PGS
Assumptions	Inspections competed	Analysis of implementation of transmission tariffs completed
Disaggregation of beneficiaries (where applicable)	Not applicable	Not applicable
Spatial transformation (where applicable)	Not applicable	Not applicable
Calculation Type	Cumulative	Cumulative
Reporting cycle	Quarterly	Quarterly
Desired performance	One report on compliance with licence conditions considered annually by the PGS by 31 March	100% of monitoring reports on the implementation of transmission tariffs considered annually by the PGS by 31 March, after one year following the approval of the transmission tariff
Indicator Responsibility	EM (GAR) and HOD (GLC)	EM (GAR) and HOD (GLC)



### 1.1.2.3. Compliance monitoring and enforcement

Indicator title	5. Number of reports on the implementation of the RRM for the preceding financial year considered by the relevant subcommittee or the Energy Regulator within the stated timeframe	6. % of monitoring reports per licensee on the implementation of Maximum Prices considered by the relevant subcommittee or the Energy Regulator within the stated timeframe
Definition	These are the number of reports on the implementation of the RRM, aimed at achieving uniformity and consistent reporting of information required for tariff setting/approval and performance monitoring, considered by the relevant subcommittee	These are the percentage of reports on the implementation of maximum prices considered by the relevant Subcommittee, aimed at evaluating compliance.
Source of data	Analysis on the implementation of the RRM	Analysis on the implementation of Maximum Prices
Method of calculation / assessment	Number of reports	Number of reports
Means of verification	Submission to PGS/REC; Minutes of PGS/REC	Submission to PGS/REC; Minutes of PGS/REC
Assumptions	Analysis of the implementation of the RRM completed	Analysis of the implementation of t Maximum Prices completed
Disaggregation of beneficiaries (where applicable)	Not applicable	Not applicable
Spatial transformation (where applicable)	Not applicable	Not applicable
Calculation Type	Cumulative	Cumulative
Reporting cycle	Quarterly	Quarterly
Desired performance	Four reports (one for each licensee – SASOL, ROMPCO, Transnet and SLG) on the implementation of the RRM for the preceding financial year considered annually by the PGS/REC by 31 March	100% of monitoring reports per licensee on the implementation of Maximum Prices, after one year following the approval of the maximum price considered annually by the PGS by 31 March
Indicator Responsibility	EM (GAR) and HOD (GLC)	EM (GAR) and HOD (GPT)

#### 1.1.2.4. Dispute resolution, including mediation, arbitration and handling of complaints

Indicator title	1. % of complaint investigations completed and a report on findings considered by the relevant subcommittee or the Energy Regulator within the stated timeframe	2. % of initiated investigations completed and a report on findings considered by the relevant subcommittee or the Energy Regulator within the stated timeframe
Definition	This is the percentage of investigations into complaints and disputes received, completed within a stated timeframes and a report on the findings considered by the relevant Subcommittee	This is the percentage of initiated investigations within a stated timeframes and a report on the findings considered by the relevant Subcommittee
Source of data	Records of complaints received	Records of complaints initiated, RFD, minutes of relevant Subcommittee
Method of calculation / assessment	(Number of complaints received completed within 12 months after receipt) / (total number of applications received)*100	(Number of initiated investigations completed within 12 months after receipt) / (total number of initiated investigations) * 100
Means of verification	RFD, minutes of PGS	RFD, minutes of PGS
Assumptions	Complete information received from complainant	Initiated investigations completed
Disaggregation of beneficiaries (where applicable)	Not applicable	Not applicable
Spatial transformation (where applicable)	Not applicable	Not applicable
Calculation Type	Non-cumulative	Non-cumulative
Reporting cycle	Annual	Annual
Desired performance	60% of complaint investigations completed within 12 months and a report on findings considered by the PGS	60% of initiated investigations and inquiries completed within 12 months and a report on findings considered by the PGS
Indicator Responsibility	EM (GAR) and (HOD (GPT) or HOD (GLC))	EM (GAR) and (HOD (GPT) or HOD (GLC))

### 1.1.2.5. Setting of rules, guidelines and codes for the regulation of the piped-gas industry

Indicator title	1. Number of reports on new developments in the gas industry considered by the relevant subcommittee or the Energy Regulator within the stated timeframe	2. Number of reports on the impact of developments on competition in the gas industry considered by the relevant subcommittee or the Energy Regulator within the stated timeframe
Definition	This is the number of reports relating to the new developments in piped-gas industry	This is the number of reports on the impact of developments on competition in the gas industry
Source of data	Reports considered, minutes of relevant Subcommittee	Reports considered, minutes of relevant Subcommittee
Method of calculation / assessment	Number of reports considered per annum	Number of reports considered per annum
Means of verification	Submissions to PGS; Minutes of PGS	Submissions to PGS; Minutes of PGS
Assumptions	Reports compiled	Reports compiled
Disaggregation of beneficiaries (where applicable)	Not applicable	Not applicable
Spatial transformation (where applicable)	Not applicable	Not applicable
Calculation Type	Cumulative	Cumulative
Reporting cycle	Annual	Annual
Desired performance	Two reports on new developments in the gas industry considered annually by the PGS by 30 September and 31 March	One report on the impact of developments on competition in the gas industry considered by the PGS by 31 March 2023
Indicator Responsibility	EM (GAR), HOD (GLC) and HOD (GPT)	EM (GAR), HOD (GLC) and HOD (GPT)

### 1.1.3. Petroleum Pipelines Industry Regulation

#### 1.1.3.1. Setting and/or approval of tariffs and prices

Indicator title	1. % of complete pipeline, storage and loading facility tariff applications considered by the relevant subcommittee or the Energy Regulator within the stated timeframe
Definition	This is the percentage of all the pipeline, storage and loading facility tariff applications considered by the relevant Subcommittee within 8 months of receipt of complete application
Source of data	Applications for tariffs
Method of calculation / assessment	$((\text{Number of tariff applications considered by the relevant Subcommittee within 8 months of receipt of complete application}) / (\text{Total number of tariff applications received})) * 100$
Means of verification	Reasons for Decision; and Minutes of PPS
Assumptions	Complete applications received
Disaggregation of beneficiaries (where applicable)	Not applicable
Spatial transformation (where applicable)	Not applicable
Calculation Type	Non-cumulative
Reporting cycle	Annually
Desired performance	80% of complete pipeline, storage and loading facility tariff applications considered by the REC/PPS/ER within 6 months from receipt of complete/adequate application
Indicator Responsibility	EM (PPR) and HOD (PPT)

### 1.1.3.2. Licensing and Registration

Indicator title	1. % of complete licence applications considered by the relevant subcommittee or the Energy Regulator within the stated timeframe	2. % of complete applications for licence amendments / revocations considered by the relevant subcommittee or the Energy Regulator within the stated timeframe
Definition	This is the percentage of licence applications that will be decided upon within the timelines as prescribed in Section 19(1) of the Petroleum Pipelines Act	This is the percentage of applications for licence amendments / revocations that will be decided upon within the timelines as prescribed in Section 19(1) of the Petroleum Pipelines Act
Source of data	Licence applications	Licence amendment applications
Method of calculation / assessment	(number of applications decided upon within statutory deadlines / number of received licence applications)*100	(number of applications decided upon within statutory deadlines / number of received licence applications)*100
Means of verification	Reasons for decision (RFD) and Minutes of PPS/REC/ER	Reasons for decision (RFD) and Minutes of PPS/REC/ER
Assumptions	Complete applications	Complete applications
Disaggregation of beneficiaries (where applicable)	Not applicable	Not applicable
Spatial transformation (where applicable)	Not applicable	Not applicable
Calculation Type	Non-cumulative	Non-cumulative
Reporting cycle	Quarterly	Quarterly
Desired performance	100% of complete licence applications considered by the PPS/REC/ER within 60 working days under the conditions as prescribed in Section 19(1) of the Petroleum Pipelines Act	100% of complete applications for licence amendments / revocations considered by the PPS/REC/ER within 60 working days from date of close of public comment period or period of applicant's response to objections received
Indicator Responsibility	EM (PPR) and HOD (PLC)	EM (PPR) and HOD (PLC)

### 1.1.3.2. Licensing and Registration

Indicator title	3. Number of reports on investigations done into suspected unlicensed activities considered by the relevant subcommittee or the Energy Regulator within the stated timeframe	4. Number of reports on the geographic spread of licences issued for petroleum pipelines infrastructure and new entrants considered annually by the relevant subcommittee or the Energy Regulator
Definition	This is the number of reports on investigations done into suspected unlicensed activities considered by the relevant Subcommittee	This is the number of reports on the geographic spread of licences issued for petroleum pipelines infrastructure and new entrants considered by the relevant Subcommittee
Source of data	Data based on suspected unlicensed activities	Reports considered, minutes of relevant Subcommittee Number of reports considered per annum
Method of calculation / assessment	Number of reports	Number of reports
Means of verification	Submissions to REC, minutes of REC	Submissions to PPS, minutes of PPS
Assumptions	Investigations completed	Reports compiled
Disaggregation of beneficiaries (where applicable)	Not applicable	Not applicable
Spatial transformation (where applicable)	Not applicable	Not applicable
Calculation Type	Cumulative	Cumulative
Reporting cycle	Annual	Annual
Desired performance	One report on investigations done into suspected unlicensed activities considered annually by the REC by 31 March	One report on the geographic spread of licences issued for petroleum pipelines infrastructure and new entrants considered annually by the PPS by 31 March
Indicator Responsibility	EM (PPR) and HOD (PLC)	EM (PPR) and HOD (PLC)

### 1.1.3.2. Licensing and Registration

Indicator title	5. Number of reports on the inland security of supply considered by relevant subcommittee or the Energy Regulator within the stated timeframe
Definition	This is the number of reports on the inland security of supply considered by the relevant Subcommittee
Source of data	Reports considered, minutes of relevant Subcommittee
Method of calculation / assessment	Number of reports
Means of verification	Submissions to PPS, minutes of PPS
Assumptions	Reports compiled
Disaggregation of beneficiaries (where applicable)	Not applicable
Spatial transformation (where applicable)	Not applicable
Calculation Type	Cumulative
Reporting cycle	Bi-annual
Desired performance	Two reports on the inland security of supply considered annually by the PPS by 30 September and 31 March
Indicator Responsibility	EM (PPR) and HOD (PLC)

### 1.1.3.3. Compliance monitoring and enforcement

Indicator title	1. Number of reports on trends regarding utilisation of storage facilities and third-party access, considered by the relevant committee or the Energy Regulator within the stated timeframe	2. Number of reports on the implementation of the methodology to determine uncommitted capacity considered by the relevant committee or the Energy Regulator within the stated timeframe
Definition	This is the number of reports on trends regarding the utilisation of storage facilities and 3rd party access, considered by the relevant Subcommittee, aimed at promoting competition in the industry	This is the number of reports on the analysis of the implementation of the methodology to determine uncommitted capacity, considered by the relevant Subcommittee, aimed at promoting 3rd party access
Source of data	Analysis reports	Analysis of the implementation of the methodology to determine uncommitted capacity
Method of calculation / assessment	Number of reports	Number of reports
Means of verification	Submissions to PPS; Minutes of PPS	Submissions to PPS; Minutes of PPS
Assumptions	Analysis of trends completed	Analysis of completed
Disaggregation of beneficiaries (where applicable)	Not applicable	Not applicable
Spatial transformation (where applicable)	Not applicable	Not applicable
Calculation Type	Cumulative	Cumulative
Reporting cycle	Bi-annual	Annual
Desired performance	Two reports on trends regarding utilisation of storage facilities and third-party access considered annually by the PPS by the 30 September and 31 March	One report on the implementation of the methodology to determine uncommitted capacity considered annually by the PPS by 31 March
Indicator Responsibility	EM (PPR) and HOD (PLC)	EM (PPR) and HOD (PLC)



### 1.1.3.3. Compliance monitoring and enforcement

Indicator title	3. Number of reports on the construction of new facilities considered by the relevant committee or the Energy Regulator within the stated timeframe	4. Number of reports on licensees' compliance with statutory reporting requirements considered by the relevant committee or the Energy Regulator within the stated timeframe
Definition	This is the number of reports detailing the compliance of construction licences to licence conditions is developed and considered by the relevant Subcommittee on a quarterly basis	This is a report on the compliance of the licensees on all the statutory reporting requirements considered by the relevant Subcommittee on a quarterly basis
Source of data	Database of identified construction of new facilities	Database on licensees' compliance with statutory reporting requirements
Method of calculation / assessment	Number of reports	Number of reports
Means of verification	Submissions to PPS; Minutes of PPS	Submissions to PPS; Minutes of PPS
Assumptions	Analysis of construction of new facilities completed	Analysis of licensees' compliance with statutory reporting requirements completed
Disaggregation of beneficiaries (where applicable)	Not applicable	Not applicable
Spatial transformation (where applicable)	Not applicable	Not applicable
Calculation Type	Cumulative	Cumulative
Reporting cycle	Quarterly	Quarterly
Desired performance	Four reports on the construction of new facilities considered quarterly by the PPS	Four reports on licensees' compliance with statutory reporting requirements considered quarterly by the PPS
Indicator Responsibility	EM (PPR) and HOD (PLC)	EM (PPR) and HOD (PLC)

#### 1.1.3.4. Dispute resolution, including mediation, arbitration and handling of complaints

Indicator title	% of complaints investigated and report considered by the relevant committee or the Energy Regulator within the stated timeframe of receipt of complete information form relevant parties
Definition	This is the percentage of the complaints investigated and considered by the relevant subcommittee within 60 days of receipt of complete information form relevant parties
Source of data	Records of complaints received
Method of calculation / assessment	$(\text{number of finalised complaints within 60 days of receipt} / \text{number of received complaints}) * 100$
Means of verification	Submissions for PPS; Minutes of PPS
Assumptions	Investigations completed
Disaggregation of beneficiaries (where applicable)	Not applicable
Spatial transformation (where applicable)	Not applicable
Calculation Type	Non-cumulative
Reporting cycle	Annually
Desired performance	100% of complaints investigated and report considered by the PPS within 6 months of receipt of complete information form relevant parties
Indicator Responsibility	EM (PPR) and HOD (PLC)

### 1.1.3.5. Setting of rules, guidelines and codes for the regulation of the petroleum pipelines industry

Indicator title	1. Number of reports on the monitoring of the implementation of the tariff methodology considered by the relevant committee or the Energy Regulator within the stated timeframe	2. Reviewed pipelines tariff methodology considered by the relevant subcommittee or the Energy Regulator within the stated timeframe
Definition	This is the number of reports the monitoring of the implementation of the tariff methodology considered by the relevant committee annually	This is the Energy Regulator decisions on the reviewed pipelines tariff methodology considered by the relevant subcommittee or the Energy Regulator within the stated timeframe
Source of data	Analysis of the implementation of the tariff methodology by licensees	Methodology; review reports
Method of calculation / assessment	Number of reports	Number of reports
Means of verification	Submissions to PPS; Minutes of PPS	Submissions to PPS; Minutes of PPS
Assumptions	Analysis completed	Analysis completed
Disaggregation of beneficiaries (where applicable)	Not applicable	Not applicable
Spatial transformation (where applicable)	Not applicable	Not applicable
Calculation Type	Cumulative	Energy Regulator decision
Reporting cycle	Annual	Annual
Desired performance	One report on the monitoring of the implementation of the revised methodology considered annually by the ER by 31 March	Reviewed pipelines tariff methodology considered by the PPS or ER by 31 March 2024
Indicator Responsibility	EM (PPR) and HOD (PPT)	EM (PPR) and HOD (PLC)

## 1.2. PROGRAMME 2: REGULATORY SERVICE DELIVERY

### 1.2.1. Subprogramme: Regulatory and Policy Advocacy

Indicator title	1. Number of reports on regulatory advocacy aimed at improvement of the regulatory framework provided through legislation, regulation and government policies considered by the relevant subcommittee or the Energy Regulator within stated timeframe	2. Regulatory and Policy advocacy procedure considered by the relevant subcommittee or the Energy Regulator within the stated timeframe
Definition	This is the number of reports on regulatory advocacy engagements with decision-makers on identified legislative and policy matters relating the three regulated industries	This is a procedure on how to improve the approach to regulatory advocacy to improve the regulatory framework for the three regulated industries.
Source of data	Reports on each engagement indicating the reason for and outcome of the engagement	Analysis on current approach to regulatory advocacy; gap analysis
Method of calculation / assessment	Number of reports considered per annum	Decision on procedure
Means of verification	Submissions to PPS and PGS; Minutes of ELS, PPS, PGS	Submissions to ER; Minutes of ER
Assumptions	Reports on each engagement compiled	
Disaggregation of beneficiaries (where applicable)	Not applicable	Not applicable
Spatial transformation (where applicable)	Not applicable	Not applicable
Calculation Type	Cumulative	Non-cumulative
Reporting cycle	Annual	Annula
Desired performance	One report on regulatory advocacy for each of the regulated industries, aimed at improvement of the regulatory framework provided through legislation, regulation and government policies considered annually by the PGS and PPS by 31 March	Regulatory and Policy advocacy procedure considered by the ER by 31 December 2022
Indicator Responsibility	EM (GAR): EM (PPR)	EM (ELR); EM (GAR): EM (PPR)

#### 1.1.3.4. Dispute resolution, including mediation, arbitration and handling of complaints

Indicator title	3. Percentage variance of planned versus actual annual ESI advocacy plan
Definition	This the percentage of regulatory advocacy engagement conducted in line with the annual ESI Advocacy Plan
Source of data	
Method of calculation / assessment	ESI Advocacy Plan; reports on advocacy engagements conducted
Means of verification	(number of planned audits minus the actual number of audits / actual number of audits)*100
Assumptions	Minutes of ELS and ER meetings
Disaggregation of beneficiaries (where applicable)	Audits conducted as planned
Spatial transformation (where applicable)	Not applicable
Calculation Type	Not applicable
Reporting cycle	Non-cumulative
Desired performance	Annual
Indicator Responsibility	65% of planned regulatory advocacy engagement conducted conducted
	EM (ELR) and HOD (ELC)

## 1.2.2. Subprogramme: Customer and Stakeholder Engagement

Indicator title	1. Number of reports on stakeholder workshops / meetings considered by the relevant subcommittee or the Energy Regulator within the stated timeframe	2. Percentage variance of planned versus actual annual ESI Stakeholder engagement plan	3. Number of customer education programmes undertaken by 31 March
Definition	This is the number of reports on regulatory advocacy engagements within the Piped-Gas and Petroleum Pipelines regulated industries	This is the percentage of planned stakeholder engagements conducted as per the adopted annual ESI Stakeholder Engagement Plan	This is the number of customer education programmes conducted where NERSA engages its stakeholders in a number of ways, including education programmes
Source of data	Reports on each engagement indicating the reason for and outcome of the engagement	Annual ESI Stakeholder Engagement Plan	Annual plan for customer education programmes
Method of calculation / assessment	Number of reports considered per annum	(Actual number of stakeholder engagements / planned number of stakeholder engagements)*100	Number of stakeholder engagements and education programmes held
Means of verification	Submissions to PPS, PGS; Minutes of PPS, PGS	Submissions to ELS; minutes of ELS	Submissions to ELS; minutes of ELS
Assumptions	Reports on each engagement compiled	Engagements undertaken as planned	Programmes conducted as planned
Disaggregation of beneficiaries (where applicable)	Not applicable	Not applicable	Not applicable
Spatial transformation (where applicable)	Not applicable	Not applicable	Not applicable
Calculation Type	Cumulative	Non-cumulative	Cumulative
Reporting cycle	Annual	Quarterly	Quarterly
Desired performance	Three reports on stakeholder engagements for each of the regulated industries considered annually by the PGS and PPS by 31 March	65%	Seventy five customer education programmes undertaken annually by 31 March
Indicator Responsibility	EM (GAR): EM (PPR)	EM (ELR) and HOD ELC	EM (ELR) and HOD ELC

## 1.2.2. Subprogramme: Customer and Stakeholder Engagement

Indicator title	4. Number of consolidated reports on the customer education programmes undertaken considered annually by the relevant committee or the Energy Regulator within the stated timeframe	5. Number of reports on partnership creation to position NERSA as a recognised regulator nationally, regionally and internationally considered by the relevant committee or the Energy Regulator within the stated timeframe
Definition	This is the number of consolidated reports on the customer education programmes undertaken annual – indicating the geographic spread of where the programmes were conducted, the number of attendees and key issues raised at the sessions	This is the number of reports on partnership creation, which include engagements with other regulators; participation in regulatory associations, events and conferences; and partnerships with other institutions for capacity building purposes – aimed at positioning NERSA as a recognised regulator nationally, regionally and internationally considered by the relevant subcommittee
Source of data	Reports of each programme conducted	Reports on an overview of international engagements and partnerships activities
Method of calculation / assessment	Number of reports	Number of reports
Means of verification	Submissions to ELS; minutes of ELS	Submissions to REC; Minutes of REC
Assumptions	Individual reports are completed for each programme conducted	Analysis completed
Disaggregation of beneficiaries (where applicable)	Not applicable	Not applicable
Spatial transformation (where applicable)	Not applicable	Not applicable
Calculation Type	Cumulative	Cumulative
Reporting cycle	Annually	Bi-annual
Desired performance	One consolidated report on the customer education programmes undertaken considered annually by the ELS/REC by 31 March	Two reports on partnership creation to position NERSA as a recognised regulator nationally, regionally and internationally considered annually by the REC by 30 September and 31 March
Indicator Responsibility	EM (ELR) and HOD (ELC)	EM (COS) and HOD (ICP)

## 1.2.2. Subprogramme: Customer and Stakeholder Engagement

Indicator title	6. Number of reports on the implementation of the stakeholder management plan considered by the relevant subcommittee or the Energy Regulator within the stated timeframe	7. Reviewed integrated communication and stakeholder engagement strategy considered by the relevant subcommittee or the Energy Regulator within the stated timeframe
Definition	This is the number of reports on the implementation of the stakeholder management plan	This is the outcome of a review of NERSA's integrated communication and stakeholder engagement strategy which was used as the basis to draft a reviewed strategy.
Source of data	Reports on implemented actions	Analysis of efficacy of existing strategy
Method of calculation / assessment	Number of reports	Decision by the REC on the reviewed strategy
Means of verification	Submissions to REC; minutes of REC	Submissions to REC; Minutes of REC
Assumptions	Individual reports are completed for each action completed	Reviewed strategy completed
Disaggregation of beneficiaries (where applicable)	Not applicable	Not applicable
Spatial transformation (where applicable)	Not applicable	Not applicable
Calculation Type	Cumulative	Non-cumulative
Reporting cycle	Annually	Bi-annual
Desired performance	One report on the implementation of the stakeholder management plan considered annually by the REC by 31 March	Reviewed integrated communication and stakeholder engagement strategy considered by the REC by 31 March 2023
Indicator Responsibility	EM (COS) and HOD (CSM)	EM (COS) and HOD (CSM)



## 1.2.2. Subprogramme: Customer and Stakeholder Engagement

Indicator title	8. Number of reports on the analysis of the Customer satisfaction survey considered by the relevant subcommittee within the stated timeframe
Definition	This is the number of reports on the analysis of the Customer satisfaction survey
Source of data	Outcome of customer survey
Method of calculation / assessment	Number of reports
Means of verification	Submissions to REC; minutes of REC
Assumptions	Customer survey completed
Disaggregation of beneficiaries (where applicable)	Not applicable
Spatial transformation (where applicable)	Not applicable
Calculation Type	Cumulative
Reporting cycle	Annually
Desired performance	One report on the analysis of the Customer satisfaction survey considered by the ER by 31 March 2025
Indicator Responsibility	EM (COS) and HOD (CSM)

### 1.3. PROGRAMME 3: INNOVATION

#### 1.3.1. Subprogramme: Integrated and Value-Added Services

Indicator title	1. Information management framework considered by the relevant subcommittee or the Energy Regulator within the stated timeframe	2. Number of reports on the implementation of the approved ICT Strategy considered by the relevant committee or the Energy Regulator within the stated timeframe
Definition	This is the development of an Information management framework to ensure effective and compliant information.	This is the number of reports that is compiled to indicate how the implementation of the ICT strategy is progressing
Source of data	Requirements for effective information management	ICT Strategy; implementation reports
Method of calculation / assessment	Decision by the REC on the framework	Number of reports
Means of verification	Submissions to REC; minutes of REC	Submissions to REC; Minutes of REC
Assumptions	Information management framework completed as planned	Regulator reports are compiled
Disaggregation of beneficiaries (where applicable)	Not applicable	Not applicable
Spatial transformation (where applicable)	Not applicable	Not applicable
Calculation Type	Cumulative	Non-cumulative
Reporting cycle	Annually	Bi-annual
Desired performance	Information management framework considered by the REC by 31 March 2023	Two reports on the implementation of the approved ICT Strategy considered biannually by the ITGC by 30 September and 31 March
Indicator Responsibility	EM (COS) and HOD (CSM)	CIO

## 1.4. PROGRAMME 4: OPERATIONAL EFFICIENCY AND QUALITY MANAGEMENT

Indicator title	1. Number of reports on the implementation of the Regulatory Reporting Manuals regarding the Standard Chart of Accounts (SCOA) for the municipalities considered by the relevant committee or the Energy Regulator within the stated timeframe	2. Number of reports on the impact of global, regional and local energy trends on NERSA's business considered by the relevant committee or the Energy Regulator within the stated timeframe
Definition	This is the number of progress reports on the implementation of the Regulatory Reporting Manuals regarding the Standard Chart of Accounts (SCOA) for the municipalities considered by the relevant subcommittee	This is the number of reports on the impact of global, regional and local energy trends on NERSA's business considered by the relevant subcommittee
Source of data	Analysis of the implementation of the Regulatory Reporting Manuals regarding the Standard Chart of Accounts (SCOA) for the municipalities	International reports; research report
Method of calculation / assessment	Number of reports	Number of reports
Means of verification	Submissions to REC; Minutes of REC	Submissions to REC; Minutes of REC
Assumptions	Analysis completed	Analysis completed
Disaggregation of beneficiaries (where applicable)	Not applicable	Not applicable
Spatial transformation (where applicable)	Not applicable	Not applicable
Calculation Type	Cumulative	Cumulative
Reporting cycle	Annual	Annual
Desired performance	One progress report on the implementation of the Regulatory Reporting Manuals regarding the Standard Chart of Accounts (SCOA) for the municipalities considered annually by the REC by 31 March	One report on the impact of global, regional and local energy trends on NERSA's business considered annually by the REC by 30 June 2022
Indicator Responsibility	SM (RAR)	SM (RAR) and SM (SPM)

## 1.4. PROGRAMME 4: OPERATIONAL EFFICIENCY AND QUALITY MANAGEMENT

Indicator title	3. Number of reports on the implementation of the Regulatory Reporting Manuals for Non-financial and financial information, considered by the relevant committee or the Energy Regulator within the stated timeframe	4. Number of reports on the independent peer review of NERSA's regulatory tools considered by the relevant subcommittee or the Energy Regulator within the stated timeframe.
Definition	This is the number of progress reports on the implementation of the Regulatory Reporting Manuals for Non-financial and financial information, considered by the relevant subcommittee	This is the number of reports on the independent peer review conducted of NERSA's regulatory tools
Source of data	Analysis on the progress made with the implementation of the RRM's for financial and non-financial information	Regulatory tools; peer review reports on each tool
Method of calculation / assessment	Number of reports	Number of reports
Means of verification	Submissions to REC; Minutes of REC	Submissions to REC; Minutes of REC
Assumptions	Analysis completed	Review completed
Disaggregation of beneficiaries (where applicable)	Not applicable	Not applicable
Spatial transformation (where applicable)	Not applicable	Not applicable
Calculation Type	Cumulative	Cumulative
Reporting cycle	Bi-annual	Annual
Desired performance	Two reports on the implementation of the Regulatory Reporting Manuals for Non-financial and financial information considered annually by the REC by 30 September and 31 March	One report on the independent peer review of NERSA's regulatory tools considered by the REC by 31 March 2023
Indicator Responsibility	SM (RAR)	SM (RAR)

## 1.4. PROGRAMME 4: OPERATIONAL EFFICIENCY AND QUALITY MANAGEMENT

Indicator title	5. Revised operating model considered by the relevant subcommittee or the Energy Regulator within the stated timeframe	6. Financial Sustainability strategy and Plan considered by the relevant subcommittee or the Energy Regulator within the stated timeframe
Definition	This is the reviewed of NERSA's current operating model to develop an appropriate operating model based on the current and new demands on NERSA	This is the strategy to ensure NERSA's financial sustainability should its revenue decline due to declining volumes
Source of data	Decision on the revised operating model	Analysis of revenue stream and risks
Method of calculation / assessment	Number of reports	Decision on the strategy
Means of verification	Submissions to REC; Minutes of REC	Submissions to ER; Minutes of ER
Assumptions	Review completed	Strategy completed
Disaggregation of beneficiaries (where applicable)	Not applicable	Not applicable
Spatial transformation (where applicable)	Not applicable	Not applicable
Calculation Type	Non-cumulative	Non-cumulative
Reporting cycle	Annual	Annual
Desired performance	Revised NERSA operating model considered by the ER by 31 March 2023	Financial Sustainability Strategy and Plan considered by the ER by 31 March 2022
Indicator Responsibility	CHCO	CFO and HOD (FMG)

## 1.4. PROGRAMME 4: OPERATIONAL EFFICIENCY AND QUALITY MANAGEMENT

Indicator title	7. Revised organisational business processes considered by the relevant subcommittee or the Energy Regulator within the stated timeframe	8. Number of reports on legislative and policy developments impacting on the Regulator, considered quarterly by the relevant committee or the Energy Regulator within the stated timeframe
Definition	This is the revised business processes after conduction business process reengineering to ensure that NERSA;s operations contributes to organisational excellence.	This is the number of report on NERSA's engagements in regulatory and policy advocacy with its stakeholders considered by the relevant Subcommittee
Source of data	To-be report following business process reengineering.	Progress Report and minutes of the relevant Subcommittee
Method of calculation / assessment	Decision on the revised organisational business processes	Number of progress reports
Means of verification	Submissions to ER; Minutes of ER	Submissions to REC; Minutes of REC
Assumptions	Business process reengineering completed	Analysis completed
Disaggregation of beneficiaries (where applicable)	Not applicable	Not applicable
Spatial transformation (where applicable)	Not applicable	Not applicable
Calculation Type	Non-cumulative	Cumulative
Reporting cycle	Annual	Quarterly
Desired performance	Revised organisational business processes considered by the ER by 30 September 2022	Four reports on legislative and policy developments impacting on the Regulator considered quarterly by the REC
Indicator Responsibility	SM (SPM)	EM (COS) and HOD (LAS)

## 1.4. PROGRAMME 4: OPERATIONAL EFFICIENCY AND QUALITY MANAGEMENT

Indicator title	9. Number of reports on the certification with an appropriate international standard on quality management, considered by the relevant committee or the Energy Regulator within the stated timeframe	10. Unqualified audit
Definition	This is the number of reports on the progress made regarding obtaining certification in respect of an appropriate international standard on quality management to ensure that NERSA has a defined quality management philosophy, which is institutionalised, and levels of excellence to be achieved are defined.	This is the outcome of NERSA's audit on an annual basis by the Auditor-General
Source of data	Progress Reports	Final Management Report from the AG
Method of calculation / assessment	Number of progress reports	Unqualified audit – yes / no
Means of verification	Submissions to REC; Minutes of REC	Audit report
Assumptions	Collaboration of management	Collaboration of Management
Disaggregation of beneficiaries (where applicable)	Not applicable	Not applicable
Spatial transformation (where applicable)	Not applicable	Not applicable
Calculation Type	Cumulative	Non-cumulative
Reporting cycle	Quarterly	Annually
Desired performance	Four reports on the progress made regarding certification with an appropriate international standard on quality management considered quarterly by the REC	Unqualified audit
Indicator Responsibility	SM (SPM)	CFO and HOD (FAD)

## 1.4. PROGRAMME 4: OPERATIONAL EFFICIENCY AND QUALITY MANAGEMENT

Indicator title	11. % procurement over R30 000 awarded to suppliers with a B-BBEE status level of 4 or better	12. Number of reports on the implementation of the gender mainstreaming plan considered by the relevant subcommittee within the stated timeframe
Definition	The determination of spend on procurements from suppliers with a B-BBEE status level of 4 or better	This is the number of reports on the implementation of the gender mainstreaming plan
Source of data	Data base on all procurement and B-BBEE status level of all suppliers	Gender mainstreaming plan
Method of calculation / assessment	(number of suppliers with a B-BBEE status level of 4 or better with procurement value of more than R30 000 / number of all procurement above R30 000)*100	Number of reported considered by the relevant subcommittee within the stated timeframe
Means of verification	Submissions to REC; Minutes of REC	Implementation reports; Minutes of REC
Assumptions	Analysis completed	
Disaggregation of beneficiaries (where applicable)	Not applicable	The plan that will be developed in 2022/23 will provide information
Spatial transformation (where applicable)	Not applicable	Not applicable
Calculation Type	Cumulative	Cumulative
Reporting cycle	Quarterly	Annual
Desired performance	≥86% procurement over R30 000 awarded to suppliers with a B-BBEE status level of 4 or better	One reports on the implementation of gender mainstreaming initiatives considered annually by the REC by 31 March
Indicator Responsibility	CFO and HOD (SCM)	EM: COS



## 1.5. PROGRAMME 5: PEOPLE AND ORGANISATIONAL CULTURE

Indicator title	1. Number of reports on Organisational Culture Assessment considered by the relevant committee or the Energy Regulator within the stated timeframe	2. Number of reports on the implementation of the Employment Equity Plan considered by the relevant committee or the Energy Regulator within the stated timeframe	3. % of women in management positions
Definition	This is the number of reports compiled stating the outcome of the annual Organisational Culture Assessment that was conducted	This is the number of progress reports on the implementation of the Employment Equity Plan considered by the relevant subcommittee	Analysis of staff complement to determine percentage of women in management positions.
Source of data	Organisational Culture Assessment Report	Analysis of the implementation of the Employment Equity Plan	Staff statistical information
Method of calculation / assessment	Number of progress reports	Number of progress reports	(number of women in management positions / number of management positions)*100
Means of verification	Submissions to HRRC; Minutes of HRRC	Submissions to HRRC; Minutes of HRRC	Submissions to HRRC; Minutes of HRRC
Assumptions	Assessment concluded	Analysis completed	Analysis completed
Disaggregation of beneficiaries (where applicable)	Not applicable	Not applicable	Not applicable
Spatial transformation (where applicable)	Not applicable	Not applicable	Not applicable
Calculation Type	Cumulative	Cumulative	Non-cumulative
Reporting cycle	Annually	Biannually	Annually
Desired performance	One report on Organisational Culture Assessment considered annually by the HRRC by 31 March	Two reports on the implementation of the Employment Equity Plan considered annually by the HRRC by 30 September and 31 March	50% of women in management positions
Indicator Responsibility	CHCO and HOD (HR)	CHCO and HOD (HR)	CHCO and HOD (HR)

## 1.5. PROGRAMME 5: PEOPLE AND ORGANISATIONAL CULTURE

Indicator title	4. % of people with disabilities employed	5. Number of progress reports on the implementation of the Youth Employment Accord considered by the relevant committee or the Energy Regulator within the stated timeframe
Definition	Analysis of staff complement to determine percentage of people with disabilities employed.	This is a report on that status of the percentage of people with disabilities employed
Source of data	Staff statistical information	Report on that status of the percentage of people with disabilities employed
Method of calculation / assessment	(number of people with disabilities employed / number of all positions)*100	Number of progress reports
Means of verification	Submissions to HRRC; Minutes of HRRC	Submissions to HRRC; Minutes of HRRC
Assumptions	Analysis completed	Analysis completed
Disaggregation of beneficiaries (where applicable)	Not applicable	Not applicable
Spatial transformation (where applicable)	Not applicable	Not applicable
Calculation Type	Non-cumulative	Cumulative
Reporting cycle	Annually	Quarterly
Desired performance	2% of people with disabilities employed	Four reports on the implementation of the Youth Employment Accord considered quarterly by the HRRC
Indicator Responsibility	CHCO and HOD (HR)	CHCO and HOD (HR)

## 1.5. PROGRAMME 5: PEOPLE AND ORGANISATIONAL CULTURE

Indicator title	6. Number of reports on the implementation of the bursary programme for qualifying external applicants considered by the relevant committee or the Energy Regulator within the stated timeframe	7. Number of reports on the design of a regulatory course at an accredited institution of higher learning considered by the relevant committee or the Energy Regulator within the stated timeframe
Definition	This is a report on monitoring the implementation of the bursary programme for qualifying external applicants	This is a report on monitoring the design of a regulatory course at an accredited institution of higher learning
Source of data	Approved bursary programme	Project plan and progress reports
Method of calculation / assessment	Number of progress reports	Number of progress reports
Means of verification	Submissions to HRRC; Minutes of HRRC	Submissions to HRRC; Minutes of HRRC
Assumptions	Analysis completed	Analysis completed
Disaggregation of beneficiaries (where applicable)	Not applicable	Not applicable
Spatial transformation (where applicable)	Not applicable	Not applicable
Calculation Type	Cumulative	Cumulative
Reporting cycle	Quarterly	Bi-annual
Desired performance	One report on the implementation of the bursary programme for qualifying external applicants considered annually by the HRRC by 31 March	Two reports on the design of a regulatory course at an accredited institution of higher learning considered by the HRRC annually by the HRRC by 30 September and 31 March
Indicator Responsibility	CHCO and HOD (HR)	CHCO and HOD (HR)

## 1.5. PROGRAMME 5: PEOPLE AND ORGANISATIONAL CULTURE

Indicator title	8. Number of reports on leadership development programme considered by the relevant committee or the Energy Regulator within the stated timeframe	9. Number of reports on the development of a technical regulatory training and development programme considered by the relevant committee or the Energy Regulator within the stated timeframe
Definition	This is a report on monitoring the implementation of the leadership development programme	This is a report on the progress made with the of a technical regulatory training and development programme
Source of data	Approved leadership development programme	Project plan and progress reports
Method of calculation / assessment	Number of reports	Number of reports
Means of verification	Submissions to HRRC; Minutes of HRRC	Submissions to HRRC; Minutes of HRRC
Assumptions	Collaboration of management	Collaboration of management
Disaggregation of beneficiaries (where applicable)	Not applicable	Not applicable
Spatial transformation (where applicable)	Not applicable	Not applicable
Calculation Type	Cumulative	Cumulative
Reporting cycle	By 31 March 2023	By 31 March 2021
Desired performance	One report on the leadership development programme considered by the HRRC by 31 March 2023	One report on the development of a technical regulatory training and development programme considered by the HRRC by 31 March 2021
Indicator Responsibility	CHCO and HOD (HR)	CHCO and HOD (HR)



# ANNEXURES

# ANNEXURE A \ AMENDMENTS TO THE STRATEGIC PLAN

A new Strategic Plan was developed for the new electoral period. The format of the Strategic Plan for the period 2020/21 – 2024/25 are aligned with the requirements as prescribed in the Revised Framework for Strategic and Annual Performance Plans issued by the Department of Planning, Monitoring and Evaluation in November 2019.

Following the new approach to our planning processes, the following sections 3.1, 3.2, 3.3 and 3.4 of Part C were enhanced.

## PART C \ MEASURING OUR PERFORMANCE

### 1. INSTITUTIONAL PERFORMANCE INFORMATION

NERSA's mandate is to regulate the electricity, piped-gas and petroleum pipelines industries in line with each industry's specific legislation and regulations. Therefore, this part of the Strategic Plan will be divided into sections for each of the regulated industries as well as a section dealing with transversal regulatory and organisational matters.

### 2. IMPACT STATEMENT

In line with Government's priorities, NERSA's overall impact statement is as follows:

Secure, reliable, affordable, sustainable, competitive and transformed energy industry, which contributes to the economic growth of South Africa.

### 3. MEASURING OUR OUTCOMES

The attainment of the above impact statement will be driven by the industry specific and organisational impact statements and accompanying outcomes, as described in the sections below.

### 3.1. ELECTRICITY INDUSTRY REGULATION

IMPACT STATEMENT		A stable and accessible Electricity Industry that supports an improved quality of life and economic activity		
OUTCOME	OUTCOME INDICATOR	BASELINE	FIVE YEAR TARGET	
1. Efficiency in facilitating entry, setting prices and resolving disputes	1.1. Energy Regulator decision on the Reviewed Electricity Pricing Framework taken by the relevant subcommittee or Energy Regulator within the stated timeframe	Approved methodology and rules	Reviewed Electricity Pricing Framework considered by the ER by 30 June 2022	
	1.2. Energy Regulator decision on Eskom and municipal electricity prices within the stated timeframe	Energy Regulator decision on Eskom and municipal electricity prices annual by March	Regulator decision annually by 28 February	
	1.3. Improved turnaround times for considering applications for registration and licencing (possible increase applications)	60 days for registration applications 120 days for licence applications	45 days for registration applications 120 days for licence applications	
	1.4. Percentage variance of planned versus actual compliance audit plans	None	80%	
	1.5. Energy Regulator decision on the reviewed registration and licencing conditions and requirements considered by the relevant subcommittee or Energy Regulator within the stated timeframe	None	Reviewed registration and licencing conditions and requirements considered by the ELS by 31 March 2023	
	1.6. Energy Regulator decision on the Enforcement Guidelines and plan considered by the relevant subcommittee or Energy Regulator within the stated timeframe	None	Enforcement Guidelines and plan considered by the ELS by 31 March 2023	
2. Innovation drives our response to the transition of the Industry	2.1. Percentage variance between planned versus actual targeted tools reviewed and development planned	None	80%	
	2.2. Percentage variance of planned versus actual annual ESI advocacy plan	None	80%	

### 3.1.1. Explanation of Planned Performance over the Five Year Planning Period

a) The rationale for the choice of the outcome indicators relevant to the respective outcomes is aligned with legislative requirements.

- To approve municipal tariffs that ensure the financial viability and sustainability of all licensed municipal distributors while also protecting the poor from rapidly increasing electricity prices;
- To approve Eskom's revenue requirements and prices/tariffs that allows for the sustainability of Eskom and therefore overall viability of the electricity supply industry.
- Ensure certainty for new licensees, in making sure they know all the applicable conditions in order to be connected to the grid.
- Ensure oversight of non-compliance to Grid Code to ensure speedy compliance
- Ensure risk mitigating measures are implemented in time to support security of supply
- Medium to long term infrastructure development planning is implemented according to the set license conditions

b) The following enablers were identified to achieve the five-year targets:

- Revised MYPD methodology;
- Monitoring of licensed distributor's performance;
- Tariff methodology;
- Wheeling methodology;
- Automated assistance to the licensing application and evaluation process;
- Grid Governance Code;
- Restructuring of the electricity supply industry; and
- Increasing resources within NERSA.

c) The identified outcomes should contribute as follows to the achievement of the impact statement:

- Sustainability of the electricity supply industry;
- Protection of the poor from rapidly increasing electricity prices;
- Make available grid code requirement for each technology;
- Audits will highlight areas of need and tariff decisions will provide funds to perform refurbishment;
- An up-to-date data base containing all submitted information in a format that can be easily interrogated;
- Reporting requirements are regularized by inclusion in the Grid Code;
- Encourage entry of new players;
- The licensing of operators ensures orderly development and the license conditions ensure that the licensees comply with proper standards;
- Regulatory certainty through appropriate pricing and tariffs methodologies.



### 3.2. PIPED-GAS INDUSTRY REGULATION

IMPACT STATEMENT		<i>Efficient, safe, effective, sustainable, accessible, competitive and transformed piped-gas industry</i>	
OUTCOME	OUTCOME INDICATOR	BASELINE	FIVE YEAR TARGET
1. A stable and diverse energy sector system and pricing regime which supports access through regulatory services that are delivered on time and to quality standards	1.1. Percentage of complete maximum price applications considered by the relevant committee or the Energy Regulator within the stated timeframe	100% of complete maximum price applications considered by the ER within 120 working days after date of publication of the preliminary assessment of the maximum price applications	100% of complete maximum price applications considered by the ER within 120 working days after date of publication of the preliminary assessment of the maximum price applications
	1.2. Percentage of complete transmission tariff applications considered by the relevant committee or the Energy Regulator within the stated timeframe	100% of complete transmission tariff applications considered by ER within 120 working days after date of publication of preliminary assessment of tariff applications	100% of complete transmission tariff applications considered by the ER within 120 working days after date of publication of preliminary assessment of tariff applications
	1.3. Number of reports on the review of the definition of the piped-gas market considered by the relevant committee or the Energy Regulator within the stated timeframe	No report available	1 report considered annually by the PGS by 31 March
	1.4. Number of reports on the impact of developments on competition in the gas industry considered by the relevant committee or the Energy Regulator within the stated timeframe	No report available	One report on the impact of developments on competition in the gas industry considered annually by the PGS by 31 March <sup>19</sup>
	1.5. Percentage of complete licence applications considered by the relevant committee or the Energy Regulator within the stated timeframe	100% of complete applications considered by the PGS/REC within 60 working days from date of close of public comment period or period of applicant's response to objections received	100% of complete applications considered by the PGS/REC within 60 working days from date of close of public comment period or period of applicant's response to objections received

OUTCOME	OUTCOME INDICATOR	BASELINE	FIVE YEAR TARGET
1. A stable and diverse energy sector system and pricing regime which supports access through regulatory services that are delivered on time and to quality standards	1.6. Percentage of complete registration applications of gas activities considered by the relevant committee or the Energy Regulator within the stated timeframe	100% of complete applications for the registration of gas activities are processed and considered by the PGS within 60 working days from date of close of public comment period	100% of complete applications for the registration of gas activities are processed and considered by the PGS within 60 working days from date of close of public comment period
	1.7. Number of audit reports on compliance of the ROMPCO pipeline according to the compliance frameworks considered annually by the relevant committee or the Energy Regulator within the stated timeframe	1 audit report on the compliance of ROMPCO pipeline considered annually by the PGS by 31 March	1 audit report on the compliance of ROMPCO pipeline considered annually by the PGS by 31 March
	1.8. Number of monthly volume balance reports assessed and analysis reports to monitor the supply of 120m GJ p.a. from Mozambique to South Africa considered by the relevant committee or the Energy Regulator within the stated timeframe	12 monthly volume balance reports considered annually by the PGS by 31 March	12 monthly volume balance reports considered annually by the PGS by 31 March
	1.9. Number of reports on licensees' compliance with licence conditions considered by the relevant committee or the Energy Regulator within the stated timeframe	One annual report considered by PGS by 31 March regarding compliance inspections conducted on licensed facilities	One annual report considered by PGS by 31 March regarding compliance inspections conducted on licensed facilities

### 3.2. PIPED-GAS INDUSTRY REGULATION

OUTCOME	OUTCOME INDICATOR	BASELINE	FIVE YEAR TARGET
2. Energy industry regulatory framework is relevant for the effective regulation for the benefit of the customers and stakeholders	2.1. Number of reports on regulatory mechanisms required for the review of licensing rules considered by the relevant committee or the Energy Regulator within the stated timeframe	No report available	1 report on regulatory mechanisms required for the review of licensing rules considered by the PGS by 31 March 2022
	2.2. Revised tariff methodology considered by the relevant committee or the Energy Regulator within the stated timeframe	Current tariff methodology	Revised tariff methodology considered by the ER by March 2025
	2.3. Refined framework for conducting adequacy of competition in the gas industry considered by the relevant committee or the Energy Regulator within the stated timeframe	Approved framework for the determination of the adequacy of competition in the gas sector	Refined framework for conducting adequacy of competition in the gas industry by 31 March 2021
	2.4. Number of reports on regulatory advocacy aimed at improvement of the regulatory framework provided through legislation, regulation and government policies considered annually by the relevant committee or the Energy Regulator within the stated timeframe	1 report on regulatory advocacy considered annually by the PGS by 31 March	1 report on regulatory advocacy considered annually by the PGS by 31 March

### 3.2.1. Explanation of Planned Performance over the Five Year Planning Period

a) The rationale for the choice of the outcome indicators relevant to the respective outcomes are the following:

- To allow customers to have a choice on the source of supply which will improve customer countervailing power, as well as the quality, cost and efficiency of supply of gas;
- To promote enhanced entry into the gas supply market;
- To improve access to gas supply and services;
- To facilitate the growth of the gas sector in support of industrialization;
- To increase access to and utilisation of gas in the market;
- To promote compliance with licence conditions;
- To regulate maximum prices and tariffs so as to mimic competitive outcomes in the gas market; and
- To facilitate effective regulation of cross border assets.

b) The following enablers to achieve the five-year targets were identified:

- Revised methodology for gas prices and tariffs to attract investment;
- Efficient licensing of gas infrastructure;
- Facilitation of 3rd party access to uncommitted capacity;
- Effective framework for regulation of the gas industry;
- Periodic assessment of adequacy of competition;
- Compliance investigations;
- Effective compliance monitoring and enforcement;
- Adequate supply of gas to meet demand; and
- Effective collaboration with other regulatory bodies such as TNPA and Competition Commission on matters of common interest

c) The identified outcomes will contribute to the achievement of the impact as follows:

- Improved competition, leading to more competitive pricing and wider choice for customers;
- Improved security of supply;
- Effective regulation of licensed activities, maximum prices and tariffs;
- Promote import competition;
- Growth in gas imports and production;
- Switching to gas as an alternative energy source;
- Review of Methodologies and the tariff guidelines; and
- Enforcement of third party access.

d) The following challenges have been identified:

- Current gaps in the Gas Act present a challenge on effective regulation of the gas industry e.g. Nersa has no mandate to regulate distribution tariffs, no third party access to gas distribution infrastructure etc. This increases barriers to entry and expansion at all levels of the gas supply chain, and also leads to other unintended consequences such as inefficient tariffs, and eligible customers migrating from distribution to transmission infrastructure, which may inhibit the orderly development of gas infrastructure.
- Vertically integrated sole/dominant supplier with monopoly position;
- Lack of adequate gas supply - SA does not have its own indigenous gas sources and currently relies on supply from Mozambique. This presents a challenge for security of supply, especially given the noted potential decline of gas supply from Mozambique from 2024;
- No mandatory third party access to gas distribution pipelines;
- Impact of exclusivity on distribution licenses with potential market foreclosure. This may inter alia affect new investments and entry of new players into the market as it would be the prerogative of the incumbent distribution network owner to allow entry into exclusive distribution areas;

- Impact of COVID-19 has weakened enforcement abilities of the Energy Regulator on on-site inspections;
- Weak enforcement model in the current Gas Act;
- Inadequate competition; and
- Dated gas infrastructure in some areas - results in increased maintenance costs with impact on tariffs.

### 3.3. PETROLEUM PIPELINES INDUSTRY REGULATION

IMPACT STATEMENT		<i>Efficient, safe, effective, sustainable, competitive and transformed petroleum pipelines industry</i>		
OUTCOME	OUTCOME INDICATOR	BASELINE	FIVE YEAR TARGET	
1. A stable and diverse energy sector system and pricing regime which supports access through regulatory services that are delivered on time and to quality standards	1.1. Number of reports on the percentage utilisation of pipelines, storage facilities and loading facilities and third party access considered annually by the relevant committee or the Energy Regulator	2 reports on the percentage utilisation of pipelines, storage facilities and loading facilities and third party access considered annually by the PPS by 31 March	1 report on the percentage utilisation of pipelines, storage facilities and loading facilities and third party access considered annually by the PPS by 31 March	
	1.2. Percentage of complete pipeline, storage and loading facility tariff applications considered by the relevant committee or the Energy Regulator within the stated timeframe	75% of complete pipeline, storage and loading facility tariff applications considered by the PPS/ER within 6 months from receipt of application	75% of complete pipeline, storage and loading facility tariff applications considered by the PPS/ER within 6 months from receipt of application	
	1.3. Approved efficiency adjustment factor for inclusion into the tariff methodology	None	Approved efficiency adjustment factor for inclusion into the tariff methodology by 31 March 2024	
	1.4. Percentage of complete license applications considered by the relevant committee or the Energy Regulator within the stated timeframe	100% of complete licence applications considered by the PPS/REC/ER within 60 working days under the conditions as prescribed in Section 19(1) of the Petroleum Pipelines Act	100% of complete licence applications considered by the PPS/REC/ER within 60 working days under the conditions as prescribed in Section 19(1) of the Petroleum Pipelines Act	

OUTCOME	OUTCOME INDICATOR	BASELINE	FIVE YEAR TARGET
1. A stable and diverse energy sector system and pricing regime which supports access through regulatory services that are delivered on time and to quality standards	1.5. Percentage of complete applications for licence amendments / revocations considered by the relevant committee or the Energy Regulator within the stated timeframe	100% of complete applications for licence amendments / revocations considered by the PPS/REC/ER within 60 working days under the conditions as prescribed in Sections 23 or 24 of the Petroleum Pipelines Act	100% of complete applications considered by the PGS/REC within 60 working days from date of close of public comment period or period of applicant's response to objections received
	1.6. Number of reports on the geographic spread of licences issued for petroleum infrastructure and new entrants considered annually by the relevant committee or the Energy Regulator	No report available	1 report on the geographic spread of licences issued for petroleum infrastructure and new entrants considered annually by the PPS by 31 March
2. Energy industry regulatory framework is relevant for the effective regulation for the benefit of the customers and stakeholders	2.1. Reviewed tariff methodology for storage, loading facilities and petroleum pipelines considered by the relevant committee or the Energy Regulator within the stated timeframe	Commenced with the review of the tariff methodology for storage and loading facilities to provide regulatory certainty and facilitate investment in the industry. Approved tariff methodology for petroleum pipelines	Approved reviewed tariff methodology for storage and loading facilities; and petroleum pipelines by 31 March 2025
	2.2. Number of reports on regulatory advocacy aimed at improvement of the regulatory framework provided through legislation, regulation and government policies for the petroleum pipelines industry considered annually by the relevant committee or the Energy Regulator	1 report on regulatory advocacy considered annually by the PPS by 31 March	1 report on regulatory advocacy considered annually by the PPS by 31 March

### 3.3.1. Explanation of Planned Performance over the Five Year Planning Period

a) The rationale for the choice of the outcome indicators relevant to the respective outcomes are the following:

- To promote competition in the construction.
- To facilitate access to affordable petroleum products.

b) The following enablers to achieve the five-year targets were identified:

- Enabling legislation to be amended;
- Revised tariff methodology;
- Benchmark study to be able to assess prudency;
- Efficient processing of applications;
- Review of licensing rules;
- Enforcement of compliance by the Tribunal; and
- Audits for compliance monitoring.

c) The identified outcomes will contribute to the achievement of the impact as follows:

- Lower the barriers to entry;
- More transformed Industry;
- Affordable tariffs;
- Promote import competition;
- Sufficient capacity to meet market demand;
- Revised enabling legislation;
- Reduced regulatory burden;
- Improved third party access; and
- Harmonized regulatory framework.

### 3.4. TRANSVERSAL REGULATORY AND ORGANISATIONAL

IMPACT STATEMENT		<i>NERSA established and perceived as an efficient, effective and credible regulator</i>	
OUTCOME	OUTCOME INDICATOR	BASELINE	FIVE YEAR TARGET
1. Innovation drives our response to the transition of the Industry	1.1. Regulatory and Policy advocacy procedure considered by the relevant subcommittee or the Energy Regulator within the stated timeframe	None	Regulatory and Policy advocacy procedure considered by the ER by 31 December 2022
	1.2. Number of reports on the independent peer review of NERSA's regulatory tools considered by the relevant subcommittee or the Energy Regulator within the stated timeframe.	None	One report on the independent peer review of NERSA's regulatory tools considered by the REC by 31 March 2023



### 3.4. TRANSVERSAL REGULATORY AND ORGANISATIONAL

OUTCOME	OUTCOME INDICATOR	BASELINE	FIVE YEAR TARGET
2. Integrated and value-added services to customers and stakeholders	2.1. Revised organisational business processes considered by the relevant subcommittee or the Energy Regulator within the stated timeframe	None	Revised organisational business processes considered by the ER by 30 September 2022
	2.2. Percentage of regulatory processes is based on appropriate Research within stated timeframe	None	100% of regulatory processes is based on appropriate research by 31 March 2025
	2.3. Percentage of business processes are automated and efficient within the stated timeframe	Majority of business processes are manual	70% of processes are automated and efficient by 31 March 2025
	2.4. Number of reports on partnership creation to position NERSA as a recognised regulator nationally, regionally and internationally considered annually by the relevant committee or the Energy Regulator by 30 September and 31 March	2 reports on partnership creation to position NERSA as a recognised regulator nationally, regionally and internationally considered annually by the REC by 31 March	2 reports on partnership creation to position NERSA as a recognised regulator nationally, regionally and internationally considered annually by the REC by 31 March
	2.5. Number of reports on the implementation of the Learnership and Internship Programmes considered annually by the relevant committee or the Energy Regulator by 31 March	1 report on the implementation of the Learnership and Internship Programmes considered annually by the HRRC by 31 March	1 report on the implementation of the Learnership and Internship Programmes considered annually by the HRRC by 31 March
	2.6. Good governance demonstrated in audit outcomes	Unqualified audit	Unqualified with no findings in the management report
	2.7. Percentage of business processes are automated and efficient within the stated timeframe	Majority of business processes are manual	70% of processes are automated and efficient by 31 March 2025

OUTCOME	OUTCOME INDICATOR	BASELINE	FIVE YEAR TARGET
3. Innovation drives our response to the transition of the Industry	3.1. Improved efficacy of the NERSA based on an organisational knowledge management approach	Knowledge management framework, Strategy and implementation plan 2010	<p>Reviewed Knowledge management framework and Strategy with an implementation plan considered by the ER by 31 March 2022</p> <p>Report on the improved of the efficacy of the regulator based considered by the REC by 31 March 2024</p> <p>Reviewed Knowledge management framework and Strategy with an implementation plan considered by the ER by 31 March 2025</p>

### 3.4.1. Explanation of Planned Performance over the Five Year Planning Period

- a) The rationale for the choice of the outcome indicators relevant to the respective outcomes is to focus on the key requirement for the effective operations of the Energy Regulator.
- b) The following enablers to achieve the five-year targets were identified:
- Improved data analysis
  - Trends analysis (market study)
  - Speedy processing of applications
  - GIS
  - Reviewed PPA
  - Online application system
- c) The identified outcomes will contribute to the achievement of the impact as follows:
- Proactively improving critical business and regulatory processes

## ANNEXURE B \ REVISIED CONSOLIDATED BUDGET 2022/23

### ANNUAL BUDGET FOR THE YEAR 2022/23: CONSOLIDATED

#### INCOME AND EXPENDITURE BUDGET 2022/23 AND FORECAST FOR THE PERIOD 2023/24 AND 2024/25

DESCRIPTION	BUDGET	ACTUAL	% Variance (A /B)	APPROVED BUDGET	CONSOLIDATED BUDGET	% Variance (C/E)	FORECAST	FORECAST
	2020/21	2020/21		2021/22	2022/23		2023/24	2024/25
<b>TOTAL INCOME</b>	<b>362 470 476</b>	<b>318 978 947</b>	<b>(12,0%)</b>	<b>334 559 068</b>	<b>337 019 635</b>	<b>0,7%</b>	<b>358 921 925</b>	<b>364 713 705</b>
License fees from Electricity Industry	207 909 620	184 286 295	(11,4%)	190 915 910	200 427 830	5,0%	216 288 822	228 640 894
Levies from Piped-Gas Industry	77 964 905	74 302 738	(4,7%)	72 907 903	71 971 726	(1,3%)	77 103 742	81 654 185
Levies from Petroleum Pipeline Industry	70 638 400	51 659 351	(26,9%)	56 870 706	58 408 397	2,7%	60 222 170	49 874 639
Interest received	5 865 542	8 472 445	44,4%	13 786 164	6 050 378	(56,1%)	5 142 822	4 371 398
Rental Income	72 009	55 605	(22,8%)	58 385	61 304	5,0%	64 369	72 588
Registration fees	20 000	27 600	38,0%	20 000	100 000	0,0%	100 000	100 000
Other Income	-	174 913	0,0%	-	-	0,0%		
<b>TOTAL OPERATING EXPENDITURE</b>	<b>373 685 240</b>	<b>318 446 933</b>	<b>14,8%</b>	<b>384 481 426</b>	<b>396 817 216</b>	<b>3,2%</b>	<b>408 728 090</b>	<b>429 113 401</b>
National/International/Initiatives	340 000	-	100,0%	120 000	120 000	0,0%	125 400	131 545
Publications and Communications	2 895 000	1 909 265	34,0%	3 075 000	2 560 000	(16,7%)	2 675 200	2 806 285
Sponsorships	250 000	-	100,0%	100 000	100 000	0,0%	104 500	109 621
Advertising	5 875 000	6 226 582	(6,0%)	6 867 000	6 605 000	(3,8%)	6 902 225	7 240 434
Stakeholder Meetings	490 000	224 174	54,3%	690 000	690 000	0,0%	721 050	756 381
Tribunals and Hearings	2 070 000	1 224 130	40,9%	2 270 000	985 000	(56,6%)	1 029 325	1 079 762
Advertising, Promotion and Communication	<b>11 920 000</b>	<b>9 584 151</b>	<b>19,6%</b>	<b>13 122 000</b>	<b>11 060 000</b>	<b>(15,7%)</b>	<b>11 557 700</b>	<b>12 124 027</b>

# ANNUAL BUDGET FOR THE YEAR 2022/23: CONSOLIDATED

## INCOME AND EXPENDITURE BUDGET 2022/23 AND FORECAST FOR THE PERIOD 2023/24 AND 2024/25

DESCRIPTION	BUDGET	ACTUAL	% Variance (A / B)	APPROVED BUDGET	CONSOLIDATED BUDGET	% Variance (C/E)	FORECAST	FORECAST
	2020/21	2020/21		2021/22	2022/23		2023/24	2024/25
Gross Salaries	206 892 240	196 358 148	5,1%	210 491 823	229 812 514	9,2%	242 452 202	256 756 882
Learnership Allowance	1 264 982	739 541	41,5%	1 557 770	1 639 241	5,2%	1 713 007	1 796 945
Internship Allowance	1 494 981	390 829	73,9%	1 557 770	1 639 241	5,2%	1 713 007	1 796 945
Leave Pay: Staff	1 817 905	4 811 923	(164,7%)	1 926 984	811 277	(57,9%)	847 784	889 325
Leave pay: Regulator Members	459 725	223 343	51,4%	459 725	140 087	(69,5%)	146 391	153 564
Performance Bonus: FTRM	1 315 537	460 006	65,0%	1 233 903	1 255 181	1,7%	1 311 664	1 375 935
Performance Bonus: Staff	38 460 959	32 159 156	16,4%	38 940 989	36 770 002	(5,6%)	38 424 652	40 307 460
Remuneration: FTRM	9 396 684	8 557 841	8,9%	8 813 588	8 965 576	1,7%	9 369 027	9 828 109
Publication Incentives	150 000	30 000	80,0%	75 000	75 000	0,0%	78 375	82 215
Remuneration: PTRM and External Members	3 170 539	2 533 606	20,1%	2 494 010	2 599 507	4,2%	2 716 484	2 849 592
Salaries Temporary Staff	1 300 000	3 192 085	(145,5%)	1 300 000	2 900 000	123,1%	3 030 500	3 178 995
<b>Employment cost</b>	<b>265 723 552</b>	<b>249 456 479</b>	<b>6,1%</b>	<b>268 851 562</b>	<b>286 607 626</b>	<b>6,6%</b>	<b>301 803 094</b>	<b>319 015 968</b>
Maintenance	1 150 000	919 692	20,0%	1 150 000	1 150 000	0,0%	1 201 750	1 260 636
Motor Vehicle Expenses	240 000	132 007	45,0%	240 000	180 000	(25,0%)	188 100	197 317
Building Operating Expenses	5 720 424	5 029 569	0,0%	5 600 000	5 800 000	3,6%	6 061 000	6 357 989
Municipal Charges	3 000 000	2 252 642	24,9%	2 500 000	2 500 000	0,0%	2 612 500	2 740 513
Insurance	730 000	757 060	(3,7%)	750 000	1 059 104	41,2%	1 106 764	1 160 995
<b>Facilities Maintenance</b>	<b>10 840 424</b>	<b>9 090 970</b>	<b>16,1%</b>	<b>10 240 000</b>	<b>10 689 104</b>	<b>4,4%</b>	<b>11 170 114</b>	<b>11 717 449</b>

# ANNUAL BUDGET FOR THE YEAR 2022/23: CONSOLIDATED

## INCOME AND EXPENDITURE BUDGET 2022/23 AND FORECAST FOR THE PERIOD 2023/24 AND 2024/25

DESCRIPTION	BUDGET	ACTUAL	% Variance (A / B)	APPROVED BUDGET	CONSOLIDATED BUDGET	% Variance (C/E)	FORECAST	FORECAST
	2020/21	2020/21		2021/22	2022/23		2023/24	2024/25
Office operational expenses-Lease Payments	940 000	912 168	3,0%	912 168	1 003 385	10,0%	1 048 537	1 099 915
Postage & Courier Services	101 901	26 287	74,2%	81 000	32 401	(60,0%)	33 859	35 518
Personal Protective Equipment	175 000	161 069	8,0%	175 000	175 000	0,0%	182 875	191 836
Information Technology Operations	2 040 000	2 055 705	(0,8%)	5 519 456	8 250 000	49,5%	8 621 250	9 043 691
Software License Fees	6 200 000	6 747 910	(8,8%)	6 218 006	7 675 245	23,4%	8 020 631	8 413 642
Stationery and Printing	581 500	196 331	66,2%	1 360 000	762 250	(44,0%)	796 551	835 582
Organizational Membership Subscriptions	1 544 168	1 611 299	(4,3%)	1 677 747	1 659 244	(1,1%)	1 733 910	1 818 872
Professional Membership Subscriptions	124 310	87 664	29,5%	134 100	146 985	9,6%	153 599	161 126
Telephone and fax	810 000	499 299	38,4%	877 408	767 408	(12,5%)	801 941	841 236
<b>Office Administration</b>	<b>12 516 879</b>	<b>12 297 732</b>	<b>1,8%</b>	<b>16 954 885</b>	<b>20 471 918</b>	<b>20,7%</b>	<b>21 393 154</b>	<b>22 441 419</b>
Consultants' Fees	11 012 000	4 978 757	54,8%	16 560 000	22 183 138	34,0%	17 181 380	17 181 380
External Auditors	2 748 085	1 812 584	34,0%	2 912 971	2 520 308	(13,5%)	2 633 722	2 762 774
Recruitment costs	1 300 000	1 318 949	(1,5%)	800 000	800 000	0,0%	800 000	800 000
Legal fees	19 200 000	21 220 314	(10,5%)	15 000 000	18 000 000	20,0%	18 000 000	18 000 000
Co-sourced internal audit function	2 000 000	1 976 582	1,2%	2 200 000	2 200 000	0,0%	2 200 000	2 200 000
<b>Professional fees</b>	<b>36 260 085</b>	<b>31 307 185</b>	<b>13,7%</b>	<b>37 472 971</b>	<b>45 703 446</b>	<b>22,0%</b>	<b>40 815 101</b>	<b>40 944 154</b>

# ANNUAL BUDGET FOR THE YEAR 2022/23: CONSOLIDATED

## INCOME AND EXPENDITURE BUDGET 2022/23 AND FORECAST FOR THE PERIOD 2023/24 AND 2024/25

DESCRIPTION	BUDGET	ACTUAL	% Variance (A /B)	APPROVED BUDGET	CONSOLIDATED BUDGET	% Variance (C/E)	FORECAST	FORECAST
	2020/21	2020/21		2021/22	2022/23		2023/24	2024/25
Learnership programme	1 100 000	574 477	47,8%	1 200 000	1 250 760	4,2%	1 307 044	1 371 089
Study fees	1 715 482	1 449 691	15,5%	1 570 000	1 392 000	(11,3%)	1 454 640	1 525 917
External Bursaries	525 000	319 141	39,2%	525 000	525 000	0,0%	548 625	575 508
Train. & Dev. Full Time Regulator Members	544 339	70 000	87,1%	539 236	134 484	(53,6%)	140 535	147 422
Train. & Dev. Part Time Regulator Members	157 519	-	100,0%	157 519	157 519		164 607	172 673
Train. & Dev. Staff	7 241 226	1 127 172	84,4%	7 367 208	3 447 188		3 602 311	3 778 824
Travel Costs Regulator Members	3 708 566	8 499	99,8%	3 708 566	500 000	(57,0%)	522 500	548 103
Travel Costs Staff	15 684 668	512 913	96,7%	15 684 667	7 842 334		8 195 239	8 596 805
<b>Travel, Accommodation and Training</b>	<b>30 676 800</b>	<b>4 061 892</b>	<b>86,8%</b>	<b>30 752 196</b>	<b>15 249 284</b>	<b>(50,4%)</b>	<b>15 935 502</b>	<b>16 716 341</b>
Bank charges and Forex	100 000	52 476	47,5%	92 812	65 000	(30,0%)	67 925	71 253
Catering	2 047 500	56 883	97,2%	1 845 000	200 000	(89,2%)	209 000	219 241
Employees Wellness	600 000	181 215	69,8%	800 000	800 000	0,0%	836 000	876 964
Health and Safety	500 000	452 665	9,5%	1 350 000	900 000	(33,3%)	940 500	986 585
Knowledge Centre	2 500 000	1 905 285	23,8%	3 000 000	5 070 838	69,0%	4 000 000	4 000 000
<b>Other Expenses</b>	<b>5 747 500</b>	<b>2 648 524</b>	<b>53,9%</b>	<b>7 087 812</b>	<b>7 035 838</b>	<b>(0,7%)</b>	<b>6 053 425</b>	<b>6 154 043</b>
<b>NET SURPLUS/ (DEFICIT) before Depreciation</b>	<b>(11 214 764)</b>	<b>532 014</b>	<b>0,0%</b>	<b>(49 922 358)</b>	<b>(59 797 581)</b>	<b>(11339,8%)</b>	<b>(49 806 165)</b>	<b>(64 399 696)</b>

# ANNUAL BUDGET FOR THE YEAR 2022/23: CONSOLIDATED

## INCOME AND EXPENDITURE BUDGET 2022/23 AND FORECAST FOR THE PERIOD 2023/24 AND 2024/25

DESCRIPTION	BUDGET	ACTUAL	% Variance (A / B)	APPROVED BUDGET	CONSOLIDATED BUDGET	% Variance (C/E)	FORECAST	FORECAST
	2020/21	2020/21		2021/22	2022/23		2023/24	2024/25
Depreciation Building		1 964 367	0,0%	-	-	0,0%	-	-
Depreciation Hardware		2 124 821	0,0%	-	-	0,0%	-	-
Depreciation Motor Vehicles		19 825	0,0%	-	-	0,0%	-	-
Depreciation Office Equipment		1 191 844	0,0%	-	-	0,0%	-	-
Depreciation Software		540 325	0,0%	-	-	0,0%	-	-
<b>Depreciation</b>	<b>-</b>	<b>5 841 183</b>	<b>0,0%</b>	<b>-</b>	<b>-</b>	<b>0,0%</b>	<b>-</b>	<b>-</b>
<b>NET SURPLUS/ (DEFICIT) for the period</b>	<b>(11 214 764)</b>	<b>(5 309 169)</b>	<b>0,0%</b>	<b>(49 922 358)</b>	<b>(59 797 581)</b>	<b>(19,8%)</b>	<b>(49 806 165)</b>	<b>(64 399 696)</b>
<b>TOTAL CAPITAL EXPENDITURE</b>	<b>13 500 000</b>	<b>9 252 409</b>	<b>3 1,5%</b>	<b>13 999 500</b>	<b>13 632 353</b>	<b>(2,6%)</b>	<b>10 000 000</b>	<b>10 000 000</b>
Motor vehicles	-	-	0,0%	777 500	1 000 000	28,6%		
Computer software	800 000	778 877	2,6%	6 222 000	6 000 000	(3,6%)	5 000 000	5 000 000
Office furniture and equipment	6 700 000	8 306 472	(24,0%)	1 500 000	2 083 000	38,9%	1 000 000	1 000 000
Building improvements	3 500 000	-	100,0%	3 500 000	1 549 353	(55,7%)	1 000 000	1 000 000
Computer hardware	2 500 000	167 060	93,3%	2 000 000	3 000 000	50,0%	3 000 000	3 000 000
<b>Funding Requirement (Opex excl Dep + Capex)</b>	<b>387 185 240</b>	<b>327 699 342</b>	<b>(15,4%)</b>	<b>398 480 926</b>	<b>410 449 569</b>	<b>3,0%</b>	<b>418 728 090</b>	<b>439 113 401</b>
<b>Cash Flow Mitigating Reserve</b>	<b>61 155 065</b>	<b>56 337 890</b>	<b>7,9%</b>	<b>62 259 273</b>	<b>66 806 283</b>	<b>7,3%</b>	<b>70 016 116</b>	<b>73 960 026</b>

# ANNUAL BUDGET FOR THE YEAR 2022/23: ELECTRICITY REGULATION

## INCOME AND EXPENDITURE BUDGET FOR 2022/23

DESCRIPTION	A	B		C	1	D	2
	ELECTRICITY REGULATION BUDGET	ELECTRICITY REGULATION ACTUAL	% Variance (A/B)	ELECTRICITY REGULATION APPROVED BUDGET	% Variance (A/C)	ELECTRICITY REGULATION PROPOSED BUDGET	% Variance (E/C)
	2020/21	2020/21		2021/22		2022/23	
<b>TOTAL INCOME</b>	<b>211 373 399</b>	<b>189 253 006</b>	<b>(10,5%)</b>	<b>198 965 747</b>	<b>(5,9%)</b>	<b>204 072 606</b>	<b>2,6%</b>
License fees for Electricity Industry	207 909 620	184 286 295	(11,4%)	190 915 910	(8,2%)	200 427 830	5,0%
Interest received	3 402 014	4 913 157	44,4%	7 995 974	135,0%	3 509 219	(56,1%)
Rental Income	41 765	32 251	(22,8%)	33 863	(18,9%)	35 556	5,0%
Registration fee	20 000	27 600		20 000	0,0%	100 000	0,0%
Other Income		- 6 297		-	0,0%		-
<b>TOTAL OPERATING EXPENDITURE</b>	<b>97 238 459</b>	<b>82 477 296</b>	<b>15,2%</b>	<b>101 004 330</b>	<b>3,9%</b>	<b>103 378 755</b>	<b>2,4%</b>
National/International/Initiatives	-	-	0,0%	-	0,0%	-	0,0%
Publications and Communications	75 000	-	100,0%	75 000	0,0%	40 000	(46,7%)
Sponsorships	-	-	0,0%	-	0,0%	-	0,0%
Advertising	2 200 000	2 385 640	(8,4%)	2 200 000	0,0%	2 300 000	4,5%
Stakeholder Meetings	490 000	-	100,0%	490 000	0,0%	490 000	0,0%
Tribunals and Hearings	1 900 000	834 717	56,1%	2 080 000	9,5%	780 000	(62,5%)
Advertising, Promotion and Communication	4 665 000	3 220 357	31,0%	4 845 000	3,9%	3 610 000	(25,5%)



# ANNUAL BUDGET FOR THE YEAR 2022/23: ELECTRICITY REGULATION

## INCOME AND EXPENDITURE BUDGET FOR 2022/23

DESCRIPTION	A	B		C	1	D	2
	ELECTRICITY REGULATION BUDGET	ELECTRICITY REGULATION ACTUAL	% Variance (A/B)	ELECTRICITY REGULATION APPROVED BUDGET	% Variance (A/C)	ELECTRICITY REGULATION PROPOSED BUDGET	% Variance (E/C)
	2020/21	2020/21		2021/22		2022/23	
Gross Salaries	65 310 654	63 586 220	2,6%	68 024 261	4,2%	74 788 189	9,9%
Learnership Allowance	-	-	0,0%	-	0,0%	-	0,0%
Internship Allowance	-	-	0,0%	-	0,0%	-	0,0%
Leave Pay: Staff	496 194	1 834 256	(269,7%)	525 966	6,0%	-	(100,0%)
Leave pay: Regulator Members	-	-	0,0%	-	0,0%	-	0,0%
Performance Bonus: FTRM	-	-	0,0%	-	0,0%	-	0,0%
Performance Bonus: Staff	12 082 472	11 184 442	7,4%	12 584 488	4,2%	11 966 110	(4,9%)
Remuneration: FTRM	-	-	0,0%	-	0,0%	-	0,0%
Publication Incentives	-	30 000	0,0%	-	0,0%	-	0,0%
Remuneration: PTRM and External Members	-	-	0,0%	-	0,0%	-	0,0%
Salaries Temporary Staff	-	932 373	0,0%	-	0,0%	-	0,0%
<b>Employment cost</b>	<b>77 889 320</b>	<b>77 567 291</b>	<b>0,4%</b>	<b>81 134 715</b>	<b>4,2%</b>	<b>86 754 299</b>	<b>6,9%</b>
Maintenance	-	-	0,0%	-	0,0%	-	0,0%

# ANNUAL BUDGET FOR THE YEAR 2022/23: ELECTRICITY REGULATION

## INCOME AND EXPENDITURE BUDGET FOR 2022/23

DESCRIPTION	A	B		C	1	D	2
	ELECTRICITY REGULATION BUDGET	ELECTRICITY REGULATION ACTUAL	% Variance (A/B)	ELECTRICITY REGULATION APPROVED BUDGET	% Variance (A/C)	ELECTRICITY REGULATION PROPOSED BUDGET	% Variance (E/C)
	2020/21	2020/21		2021/22		2022/23	
Office Rental	-	-	0,0%	-	0,0%	-	0,0%
Motor Vehicle Expenses	-	-	0,0%	-	0,0%	-	0,0%
Facility Management Operating expenses	-	-	0,0%	-	0,0%	-	0,0%
Municipal Charges	-	-	0,0%	-	0,0%	-	0,0%
Insurance	-	-	0,0%	-	0,0%	-	0,0%
<b>Facilities Maintenance</b>	-	-	<b>0,0%</b>	-	<b>0,0%</b>	-	<b>0,0%</b>
Office Operational Expenses	-	-	0,0%	-	0,0%	-	0,0%
PPE Tools	75 000	-	100,0%	75 000	0,0%	75 000	0,0%
Office operational expenses-Lease Payments	-	-	0,0%	-	0,0%	-	0,0%
Postage & Courier Services	12 000	11 712	2,4%	10 000	(16,7%)	12 500	25,0%
Information Technology Operations	-	-	0,0%	-	0,0%	-	0,0%
Software License Fees	600 000	1 214 364	(102,4%)	800 000	33,3%	1 200 000	50,0%
Stationery and Printing	62 500	-	100,0%	44 500	(28,8%)	35 000	(21,3%)
Organizational Membership Subscriptions	-	-	0,0%	-	0,0%	-	0,0%
Professional Membership Subscriptions	24 500	14 830	39,5%	25 000	2,0%	18 000	(28,0%)
Telephone and fax	-	-	0,0%	-	0,0%	-	0,0%
<b>Office Administration</b>	<b>774 000</b>	<b>1 240 906</b>	<b>(60,3%)</b>	<b>954 500</b>	<b>23,3%</b>	<b>1 340 500</b>	<b>40,4%</b>
Consultants' Fees	3 700 000	73 830	98,0%	4 000 000	8,1%	6 600 000	65,0%

# ANNUAL BUDGET FOR THE YEAR 2022/23: ELECTRICITY REGULATION

## INCOME AND EXPENDITURE BUDGET FOR 2022/23

DESCRIPTION	A	B		C	1	D	2
	ELECTRICITY REGULATION BUDGET	ELECTRICITY REGULATION ACTUAL	% Variance (A/B)	ELECTRICITY REGULATION APPROVED BUDGET	% Variance (A/C)	ELECTRICITY REGULATION PROPOSED BUDGET	% Variance (E/C)
	2020/21	2020/21		2021/22		2022/23	
External Auditors	-	-	0,0%	-	0,0%	-	0,0%
Recruitment	-	-	0,0%	-	0,0%	-	0,0%
Legal fees	-	-	0,0%	-	0,0%	-	0,0%
Internal Audit	-	-	0,0%	-	0,0%	-	0,0%
<b>Professional fees</b>	<b>3 700 000</b>	<b>73 830</b>	<b>98,0%</b>	<b>4 000 000</b>	<b>8,1%</b>	<b>6 600 000</b>	<b>65,0%</b>
Learnership programme	-	-	0,0%	-	0,0%	-	0,0%
Study fees	300 000	231 496	22,8%	125 000	(58,3%)	265 000	112,0%
External Bursaries	-	-	0,0%	-	0,0%	-	0,0%
Train. & Dev. Full Time Regulator Members	-	-	0,0%	-	0,0%	-	0,0%
Train. & Dev. Part Time Regulator Members	-	-	0,0%	-	0,0%	-	0,0%
Train. & Dev. Staff	2 285 873	-	100,0%	2 380 849	4,2%	1 121 823	(52,9%)
Travel Costs Regulator Members	-	-	0,0%	-	0,0%	-	0,0%
Travel Costs Staff	7 214 266	86 533	98,8%	7 214 266	0,0%	3 607 133	(50,0%)
<b>Travel, Accommodation and Training</b>	<b>9 800 139</b>	<b>318 029</b>	<b>96,8%</b>	<b>9 720 115</b>	<b>(0,8%)</b>	<b>4 993 956</b>	<b>(48,6%)</b>
Bank Charges	-	-	0,0%	-	0,0%	-	0,0%

# ANNUAL BUDGET FOR THE YEAR 2022/23: ELECTRICITY REGULATION

## INCOME AND EXPENDITURE BUDGET FOR 2022/23

DESCRIPTION	A	B		C	1	D	2
	ELECTRICITY REGULATION BUDGET	ELECTRICITY REGULATION ACTUAL	% Variance (A/B)	ELECTRICITY REGULATION APPROVED BUDGET	% Variance (A/C)	ELECTRICITY REGULATION PROPOSED BUDGET	% Variance (E/C)
	2020/21	2020/21		2021/22		2022/23	
Catering & Entertain	410 000	56 883	86,1%	350 000	(14,6%)	80 000	(77,1%)
Employees Wellness	-	-	0,0%	-	0,0%	-	0,0%
Health and Safety	-	-	0,0%	-	0,0%	-	0,0%
Loss on Disposal of assets	-	-	0,0%	-	0,0%	-	0,0%
Knowledge Centre	-	-	0,0%	-	0,0%	-	0,0%
<b>Other Expenses</b>	<b>410 000</b>	<b>56 883</b>	<b>86,1%</b>	<b>350 000</b>	<b>(14,6%)</b>	<b>80 000</b>	<b>(77,1%)</b>
<b>NET SURPLUS/ (DEFICIT) before Depreciation</b>	<b>114 134 940</b>	<b>106 775 710</b>	<b>6,4%</b>	<b>97 961 417</b>	<b>(14,2%)</b>	<b>100 693 851</b>	<b>2,8%</b>
Support Service	119 413 909	107 818 287	9,7%	123 465 164	3,4%	128 488 872	4,1%
Depreciation	-	3 387 900	0,0%	-	0,0%	-	-
<b>NET SURPLUS/ (DEFICIT) for the period</b>	<b>(5 278 969)</b>	<b>(4 430 478)</b>	<b>16,1%</b>	<b>(25 503 747)</b>	<b>0,0%</b>	<b>(27 795 021)</b>	<b>9,0%</b>
<b>TOTAL CAPITAL EXPENDITURE</b>	<b>7 830 000</b>	<b>5 366 397</b>	<b>31,5%</b>	<b>8 119 710</b>	<b>3,7%</b>	<b>7 906 765</b>	<b>(2,6%)</b>
Motor vehicles	-	-	0,0%	450 950	0,0%	580 000	28,6%
Computer software	464 000	451 749	2,6%	3 608 760	677,8%	3 480 000	(3,6%)
Office furniture and equipment	3 886 000	4 817 753	(24,0%)	870 000	(77,6%)	1 208 140	38,9%
Building improvements	2 030 000	-	100,0%	2 030 000	0,0%	898 625	(55,7%)
Computer hardware	1 450 000	96 895	93,3%	1 160 000	(20,0%)	1 740 000	50,0%

# ANNUAL BUDGET FOR THE YEAR 2022/23: PETROLEUM PIPELINES REGULATION

## INCOME AND EXPENDITURE BUDGET FOR 2022/23

DESCRIPTION	A	B		C	1	D	2
	PETROLEUM PIPELINES REGULATION BUDGET	PETROLEUM PIPELINES REGULATION ACTUAL	% Variance (A/B)	PETROLEUM PIPELINES REGULATION APPROVED BUDGET	% Variance (A/C)	PETROLEUM PIPELINES REGULATION PROPOSED BUDGET	% Variance (E/C)
	2020/21	2020/21		2021/22		2022/23	
<b>TOTAL INCOME</b>	<b>71 885 286</b>	<b>53 483 703</b>	<b>(25,6%)</b>	<b>59 778 062</b>	<b>(16,8%)</b>	<b>59 691 850</b>	<b>(0,1%)</b>
Levies from Petroleum Pipeline Industry	70 638 400	51 659 351	(26,9%)	56 870 706	(19,5%)	58 408 397	2,7%
Interest received	1 231 764	1 780 194	44,5%	2 895 095	135,0%	1 270 579	(56,1%)
Rental Income	15 122	11 677	(22,8%)	12 261	(18,9%)	12 874	5,0%
Other Income	-	32 480	0,0%	-	0,0%	-	84,9%
<b>TOTAL OPERATING EXPENDITURE</b>	<b>31 397 187</b>	<b>24 954 861</b>	<b>20,5%</b>	<b>32 216 827</b>	<b>2,6%</b>	<b>32 989 843</b>	<b>2,4%</b>
National/International/Initiatives	-	-	0,0%	-	0,0%	-	0,0%
Publications and Communications	-	-	0,0%	-	0,0%	-	0,0%
Sponsorships	-	-	0,0%	-	0,0%	-	0,0%
Advertising	1 150 000	1 006 607	12,5%	1 790 000	55,7%	1 290 000	(27,9%)
Stakeholder Meetings	-	8 400	0,0%	200 000	0,0%	200 000	0,0%
Tribunals and Hearings	90 000	-	100,0%	90 000	0,0%	90 000	0,0%
Advertising, Promotion and Communication	1 240 000	1 015 007	18,1%	2 080 000	67,7%	1 580 000	(24,0%)

# ANNUAL BUDGET FOR THE YEAR 2022/23: PETROLEUM PIPELINES REGULATION

## INCOME AND EXPENDITURE BUDGET FOR 2022/23

DESCRIPTION	A	B		C	1	D	2
	PETROLEUM PIPELINES REGULATION BUDGET	PETROLEUM PIPELINES REGULATION ACTUAL	% Variance (A/B)	PETROLEUM PIPELINES REGULATION APPROVED BUDGET	% Variance (A/C)	PETROLEUM PIPELINES REGULATION PROPOSED BUDGET	% Variance (E/C)
	2020/21	2020/21		2021/22		2022/23	
Gross Salaries	21 184 183	19 226 837	9,2%	21 376 660	0,9%	23 392 489	9,4%
Learnership Allowance	-	-	0,0%	-	0,0%	-	0,0%
Internship Allowance	-	-	0,0%	-	0,0%	-	0,0%
Leave Pay: Staff	103 270	274 633	(165,9%)	109 465	6,0%	-	(100,0%)
Leave pay: Regulator Members	-	-	0,0%	-	0,0%	-	0,0%
Performance Bonus: FTRM	-	-	0,0%	-	0,0%	-	0,0%
Performance Bonus: Staff	4 104 967	2 659 209	35,2%	3 954 681	(3,7%)	3 742 798	(5,4%)
Remuneration: FTRM	-	-	0,0%	-	0,0%	-	0,0%
Publication Incentives	-	-	0,0%	-	0,0%	-	0,0%
Remuneration: PTRM and External Members	-	-	0,0%	-	0,0%	-	0,0%
Salaries Temporary Staff	-	-	0,0%	-	0,0%	-	0,0%
<b>Employment cost</b>	<b>25 392 420</b>	<b>22 160 679</b>	<b>12,7%</b>	<b>25 440 806</b>	<b>0,2%</b>	<b>27 135 287</b>	<b>6,7%</b>

# ANNUAL BUDGET FOR THE YEAR 2022/23: PETROLEUM PIPELINES REGULATION

## INCOME AND EXPENDITURE BUDGET FOR 2022/23

DESCRIPTION	A	B		C	1	D	2
	PETROLEUM PIPELINES REGULATION BUDGET	PETROLEUM PIPELINES REGULATION ACTUAL	% Variance (A/B)	PETROLEUM PIPELINES REGULATION APPROVED BUDGET	% Variance (A/C)	PETROLEUM PIPELINES REGULATION PROPOSED BUDGET	% Variance (E/C)
	2020/21	2020/21		2021/22		2022/23	
Maintenance	-	-	0,0%	-	0,0%	-	0,0%
Office Rental	-	-	0,0%	-	0,0%	-	0,0%
Motor Vehicle Expenses	-	-	0,0%	-	0,0%	-	0,0%
Facility Management Operating expenses	-	-	0,0%	-	0,0%	-	0,0%
Municipal Charges	-	-	0,0%	-	0,0%	-	0,0%
Insurance	-	-	0,0%	-	0,0%	-	0,0%
<b>Facilities Maintenance</b>	<b>-</b>	<b>-</b>	<b>0,0%</b>	<b>-</b>	<b>0,0%</b>	<b>-</b>	<b>0,0%</b>
Office Operational Expenses	-	-	0,0%	-	0,0%	-	0,0%
PPE Tools	50 000	-	100,0%	50 000	0,0%	50 000	0,0%
Office operational expenses-Lease Payments	-	-	0,0%	-	0,0%	-	0,0%
Postage & Courier Services	500	-	100,0%	500	0,0%	-	(100,0%)
Information Technology Operations	-	-	0,0%	-	0,0%	-	0,0%
Software License Fees	-	-	0,0%	-	0,0%	-	0,0%
Stationery and Printing	60 000	-	100,0%	32 500	(45,8%)	23 750	(26,9%)
Organizational Membership Subscriptions	-	-	0,0%	-	0,0%	-	0,0%
Professional Membership Subscriptions	-	-	0,0%	-	0,0%	-	0,0%
Telephone and fax	-	-	0,0%	-	0,0%	-	0,0%
<b>Office Administration</b>	<b>110 500</b>	<b>-</b>	<b>100,0%</b>	<b>83 000</b>	<b>(24,9%)</b>	<b>73 750</b>	<b>(11,1%)</b>

# ANNUAL BUDGET FOR THE YEAR 2022/23: PETROLEUM PIPELINES REGULATION

## INCOME AND EXPENDITURE BUDGET FOR 2022/23

DESCRIPTION	A	B		C	1	D	2
	PETROLEUM PIPELINES REGULATION BUDGET	PETROLEUM PIPELINES REGULATION ACTUAL	% Variance (A/B)	PETROLEUM PIPELINES REGULATION APPROVED BUDGET	% Variance (A/C)	PETROLEUM PIPELINES REGULATION PROPOSED BUDGET	% Variance (E/C)
	2020/21	2020/21		2021/22		2022/23	
Consultants' Fees	1 300 000	1 230 295	5,4%	1 500 000	15,4%	2 500 000	66,7%
External Auditors	-	-	0,0%	-	0,0%	-	0,0%
Recruitment	-	-	0,0%	-	0,0%	-	0,0%
Legal fees	-	-	0,0%	-	0,0%	-	0,0%
Internal Audit	-	-	0,0%	-	0,0%	-	0,0%
<b>Professional fees</b>	<b>1 300 000</b>	<b>1 230 295</b>	<b>5,4%</b>	<b>1 500 000</b>	<b>15,4%</b>	<b>2 500 000</b>	<b>66,7%</b>
Learnership programme	-	-	0,0%	-	0,0%	-	0,0%
Study fees	422 982	314 702	25,6%	175 000	(58,6%)	270 000	54,3%
External Bursaries	-	-	0,0%	-	0,0%	-	0,0%
Train. & Dev. Full Time Regulator Members	-	-	0,0%	-	0,0%	-	0,0%
Train. & Dev. Part Time Regulator Members	-	-	0,0%	-	0,0%	-	0,0%
Train. & Dev. Staff	741 447	215 100	71,0%	748 183	0,9%	350 887	(53,1%)
Travel Costs Regulator Members	-	-	0,0%	-	0,0%	-	0,0%
Travel Costs Staff	2 159 838	19 077	99,1%	2 159 838	0,0%	1 079 919	(50,0%)
<b>Travel, Accommodation and Training</b>	<b>3 324 267</b>	<b>548 879</b>	<b>83,5%</b>	<b>3 083 021</b>	<b>(7,3%)</b>	<b>1 700 806</b>	<b>(44,8%)</b>



# ANNUAL BUDGET FOR THE YEAR 2022/23: PETROLEUM PIPELINES REGULATION

## INCOME AND EXPENDITURE BUDGET FOR 2022/23

DESCRIPTION	A	B		C	1	D	2
	PETROLEUM PIPELINES REGULATION BUDGET	PETROLEUM PIPELINES REGULATION ACTUAL	% Variance (A/B)	PETROLEUM PIPELINES REGULATION APPROVED BUDGET	% Variance (A/C)	PETROLEUM PIPELINES REGULATION PROPOSED BUDGET	% Variance (E/C)
	2020/21	2020/21		2021/22		2022/23	
Bank Charges	-	-	0,0%	-	0,0%	-	0,0%
Catering & Entertain	30 000	-	100,0%	30 000	0,0%	-	(100,0%)
Employees Wellness	-	-	0,0%	-	0,0%	-	0,0%
Health and Safety	-	-	0,0%	-	0,0%	-	0,0%
Loss on Disposal of assets	-	-	0,0%	-	0,0%	-	0,0%
Knowledge Centre	-	-	0,0%	-	0,0%	-	0,0%
Other Expenses	30 000	-	100,0%	30 000	0,0%	-	(100,0%)
<b>NET SURPLUS/ (DEFICIT) before Depreciation</b>	<b>40 488 099</b>	<b>28 528 842</b>	<b>29,5%</b>	<b>27 561 235</b>	<b>(31,9%)</b>	<b>26 702 007</b>	<b>(3,1%)</b>
Support Service	43 236 071	34 706 297	19,7%	44 702 904	3,4%	46 521 833	4,1%
Depreciation	-	1 226 636	0,0%	-	0,0%	-	-
<b>NET SURPLUS/ (DEFICIT) for the period</b>	<b>(2 747 972)</b>	<b>(7 404 092)</b>	<b>(169,4%)</b>	<b>(17 141 669)</b>	<b>0,0%</b>	<b>(19 819 826)</b>	<b>15,6%</b>

# ANNUAL BUDGET FOR THE YEAR 2022/23: PETROLEUM PIPELINES REGULATION

## INCOME AND EXPENDITURE BUDGET FOR 2022/23

DESCRIPTION	A	B		C	1	D	2
	PETROLEUM PIPELINES REGULATION BUDGET	PETROLEUM PIPELINES REGULATION ACTUAL	% Variance (A/B)	PETROLEUM PIPELINES REGULATION APPROVED BUDGET	% Variance (A/C)	PETROLEUM PIPELINES REGULATION PROPOSED BUDGET	% Variance (E/C)
	2020/21	2020/21		2021/22		2022/23	
<b>TOTAL CAPITAL EXPENDITURE</b>	<b>2 835 000</b>	<b>1 943 006</b>	<b>31,5%</b>	<b>2 939 895</b>	<b>3,7%</b>	<b>2 862 794</b>	<b>(2,6%)</b>
Motor vehicles	-	-	0,0%	163 275	0,0%	210 000	28,6%
Computer software	168 000	163 564	2,6%	1 306 620	677,8%	1 260 000	(3,6%)
Office furniture and equipment	1 407 000	1 744 359	(24,0%)	315 000	(77,6%)	437 430	38,9%
Building improvements	735 000	-	100,0%	735 000	0,0%	325 364	(55,7%)
Computer hardware	525 000	35 083	93,3%	420 000	(20,0%)	630 000	50,0%

# ANNUAL BUDGET FOR THE YEAR 2022/23: PIPED-GAS REGULATION

## INCOME AND EXPENDITURE BUDGET FOR 2022/23

DESCRIPTION	A	B		C	1	D	2
	PIPED GAS REGULATION BUDGET	PIPED GAS REGULATION ACTUAL	% Variance (A/B)	PIPED GAS REGULATION APPROVED BUDGET	% Variance (A/C)	PIPED GAS REGULATION PROPOSED BUDGET	% Variance (E/C)
	2020/21	2020/21		2021/22		2022/23	
<b>TOTAL INCOME</b>	<b>79 211 791</b>	<b>76 242 239</b>	<b>(3,7%)</b>	<b>75 815 259</b>	<b>(4,3%)</b>	<b>73 255 179</b>	<b>(3,4%)</b>
Levies from Piped-Gas Industry	77 964 905	74 302 738	(4,7%)	72 907 903	(6,5%)	71 971 726	(1,3%)
Interest received	1 231 764	1 779 094	44,4%	2 895 095	135,0%	1 270 579	(56,1%)
Rental Income	15 122	11 677	(22,8%)	12 261	(18,9%)	12 874	5,0%
Other Income	-	148 730	0,0%	-	0,0%	-	0,0%
<b>TOTAL OPERATING EXPENDITURE</b>	<b>39 163 545</b>	<b>32 093 068</b>	<b>18,1%</b>	<b>38 389 296</b>	<b>(2,0%)</b>	<b>38 916 080</b>	<b>1,4%</b>
National/International/Initiatives	-	-	0,0%	-	0,0%	-	0,0%
Publications and Communications	-	-	0,0%	-	0,0%	-	0,0%
Sponsorships	-	-	0,0%	-	0,0%	-	0,0%
Advertising	1 750 000	1 274 355	27,2%	2 050 000	17,1%	1 950 000	(4,9%)
Stakeholder Meetings	-	-	0,0%	-	0,0%	-	0,0%
Tribunals and Hearings	80 000	-	100,0%	100 000	25,0%	100 000	0,0%
Advertising, Promotion and Communication	1 830 000	1 274 355	30,4%	2 150 000	17,5%	2 050 000	(4,7%)

# ANNUAL BUDGET FOR THE YEAR 2022/23: PIPED-GAS REGULATION

## INCOME AND EXPENDITURE BUDGET FOR 2022/23

DESCRIPTION	A	B		C	1	D	2
	PIPED GAS REGULATION BUDGET	PIPED GAS REGULATION ACTUAL	% Variance (A/B)	PIPED GAS REGULATION APPROVED BUDGET	% Variance (A/C)	PIPED GAS REGULATION PROPOSED BUDGET	% Variance (E/C)
	2020/21	2020/21		2021/22		2022/23	
Gross Salaries	27 449 996	25 467 847	7,2%	27 435 906	(0,1%)	29 392 990	7,1%
Learnership Allowance	-	-	0,0%	-	0,0%	-	0,0%
Internship Allowance	-	-	0,0%	-	0,0%	-	0,0%
Leave Pay: Staff	303 166	698 715	(130,5%)	321 358	6,0%	-	(100,0%)
Leave pay: Regulator Members	-	-	0,0%	-	0,0%	-	0,0%
Performance Bonus: FTRM	-	-	0,0%	-	0,0%	-	0,0%
Performance Bonus: Staff	5 078 249	4 333 186	14,7%	5 075 643	(0,1%)	4 702 878	(7,3%)
Remuneration: FTRM	-	-	0,0%	-	0,0%	-	0,0%
Publication Incentives	-	-	0,0%	-	0,0%	-	0,0%
Remuneration - PTRM and External Members	-	-	0,0%	-	0,0%	-	0,0%
Salaries Temporary Staff	-	-	0,0%	-	0,0%	-	0,0%
<b>Employment cost</b>	<b>32 831 411</b>	<b>30 499 748</b>	<b>7,1%</b>	<b>32 832 907</b>	<b>0,0%</b>	<b>34 095 869</b>	<b>3,8%</b>
Maintenance	-	-	0,0%	-	0,0%	-	0,0%
Office Rental	-	-	0,0%	-	0,0%	-	0,0%
Motor Vehicle Expenses	-	-	0,0%	-	0,0%	-	0,0%
Facility Management Operating expenses	-	-	0,0%	-	0,0%	-	0,0%
Municipal Charges	-	-	0,0%	-	0,0%	-	0,0%
Insurance	-	-	0,0%	-	0,0%	-	0,0%
<b>Facilities Maintenance</b>	<b>-</b>	<b>-</b>	<b>0,0%</b>	<b>-</b>	<b>0,0%</b>	<b>-</b>	<b>0,0%</b>

# ANNUAL BUDGET FOR THE YEAR 2022/23: PIPED-GAS REGULATION

## INCOME AND EXPENDITURE BUDGET FOR 2022/23

DESCRIPTION	A	B		C	1	D	2
	PIPED GAS REGULATION BUDGET	PIPED GAS REGULATION ACTUAL	% Variance (A/B)	PIPED GAS REGULATION APPROVED BUDGET	% Variance (A/C)	PIPED GAS REGULATION PROPOSED BUDGET	% Variance (E/C)
	2020/21	2020/21		2021/22		2022/23	
Office Operational Expenses	-	-	0,0%	-	0,0%	-	0,0%
PPE Tools	50 000	161 069	(222,1%)	50 000	0,0%	50 000	0,0%
Office operational expenses-Lease Payments	-	-	0,0%	-	0,0%	-	0,0%
Postage & Courier Services	2 250	-	100,0%	1 500	(33,3%)	750	(50,0%)
Information Technology Operations	-	-	0,0%	-	0,0%	-	0,0%
Software License Fees	-	-	0,0%	-	0,0%	-	0,0%
Stationery and Printing	34 500	-	100,0%	47 000	36,2%	31 500	(33,0%)
Organizational Membership Subscriptions	-	-	0,0%	-	0,0%	-	0,0%
Professional Membership Subscriptions	21 500	22 429	(4,3%)	24 500	14,0%	25 500	4,1%
Telephone and fax	-	-	0,0%	-	0,0%	-	0,0%
<b>Office Administration</b>	<b>108 250</b>	<b>183 498</b>	<b>(69,5%)</b>	<b>123 000</b>	<b>13,6%</b>	<b>107 750</b>	<b>(12,4%)</b>
Consultants' Fees	1 000 000	-	100,0%	-	(100,0%)	1 000 000	0,0%
External Auditors	-	-	0,0%	-	0,0%	-	0,0%
Recruitment	-	-	0,0%	-	0,0%	-	0,0%
Legal fees	-	-	0,0%	-	0,0%	-	0,0%
Internal Audit	-	-	0,0%	-	0,0%	-	0,0%
<b>Professional fees</b>	<b>1 000 000</b>	<b>-</b>	<b>100,0%</b>	<b>-</b>	<b>(100,0%)</b>	<b>1 000 000</b>	<b>0,0%</b>

# ANNUAL BUDGET FOR THE YEAR 2022/23: PIPED-GAS REGULATION

## INCOME AND EXPENDITURE BUDGET FOR 2022/23

DESCRIPTION	A	B		C	1	D	2
	PIPED GAS REGULATION BUDGET	PIPED GAS REGULATION ACTUAL	% Variance (A/B)	PIPED GAS REGULATION APPROVED BUDGET	% Variance (A/C)	PIPED GAS REGULATION PROPOSED BUDGET	% Variance (E/C)
	2020/21	2020/21		2021/22		2022/23	
Learnership programme	-	-	0,0%	-	0,0%	-	0,0%
Study fees	365 000	49 560	86,4%	280 000	(23,3%)	225 000	(19,6%)
External Bursaries	-	-	0,0%	-	0,0%	-	0,0%
Train. & Dev. Full Time Regulator Members	-	-	0,0%	-	0,0%	-	0,0%
Train. & Dev. Part Time Regulator Members	-	-	0,0%	-	0,0%	-	0,0%
Train. & Dev. Staff	960 751	37 398	96,1%	960 256	(0,1%)	440 895	(54,1%)
Travel Costs Regulator Members	-	-	0,0%	-	0,0%	-	0,0%
Travel Costs Staff	1 993 133	48 509	97,6%	1 993 133	0,0%	996 567	(50,0%)
<b>Travel, Accommodation and Training</b>	<b>3 318 884</b>	<b>135 467</b>	<b>95,9%</b>	<b>3 233 389</b>	<b>(2,6%)</b>	<b>1 662 461</b>	<b>(48,6%)</b>
Bank Charges	-	-	0,0%	-	0,0%	-	0,0%
Catering & Entertain	75 000	-	100,0%	50 000	(33,3%)	-	(100,0%)
Employees Wellness	-	-	0,0%	-	0,0%	-	0,0%
Health and Safety	-	-	0,0%	-	0,0%	-	0,0%
Loss on Disposal of assets	-	-	0,0%	-	0,0%	-	0,0%
Knowledge Centre	-	-	0,0%	-	0,0%	-	0,0%
<b>Other Expenses</b>	<b>75 000</b>	<b>-</b>	<b>100,0%</b>	<b>50 000</b>	<b>(33,3%)</b>	<b>-</b>	<b>(100,0%)</b>

# ANNUAL BUDGET FOR THE YEAR 2022/23: PIPED-GAS REGULATION

## INCOME AND EXPENDITURE BUDGET FOR 2022/23

DESCRIPTION	A	B		C	1	D	2
	PIPED GAS REGULATION BUDGET	PIPED GAS REGULATION ACTUAL	% Variance (A/B)	PIPED GAS REGULATION APPROVED BUDGET	% Variance (A/C)	PIPED GAS REGULATION PROPOSED BUDGET	% Variance (E/C)
	2020/21	2020/21		2021/22		2022/23	
NET SURPLUS/ (DEFICIT) before Depreciation	40 048 246	44 149 171	(10,2%)	37 425 963	(6,5%)	34 339 099	(8,2%)
Support Service	43 236 069	36 397 123	15,8%	44 702 904	3,4%	46 521 833	4,1%
Depreciation	-	1 226 647	0,0%	-	0,0%	-	-
<b>NET SURPLUS/ (DEFICIT) for the period</b>	<b>(3 187 823)</b>	<b>6 525 400</b>	<b>304,7%</b>	<b>(7 276 941)</b>	<b>0,0%</b>	<b>(12 182 734)</b>	<b>67,4%</b>
<b>TOTAL CAPITAL EXPENDITURE</b>	<b>2 835 000</b>	<b>1 943 006</b>	<b>31,5%</b>	<b>2 939 895</b>	<b>3,7%</b>	<b>2 862 794</b>	<b>(2,6%)</b>
Motor vehicles	-	-	0,0%	163 275	0,0%	210 000	28,6%
Computer software	168 000	163 564	2,6%	1 306 620	677,8%	1 260 000	(3,6%)
Office furniture and equipment	1 407 000	1 744 359	(24,0%)	315 000	(77,6%)	437 430	38,9%
Building improvements	735 000	-	100,0%	735 000	0,0%	325 364	(55,7%)
Computer hardware	525 000	35 083	93,3%	420 000	(20,0%)	630 000	50,0%

# ANNUAL BUDGET FOR THE YEAR 2022/23: SUPPORT SERVICE

## EXPENDITURE BUDGET FOR 2022/23

DESCRIPTION	A	B		C	1	D	2
	SUPPORT SERVICE BUDGET	SUPPORT SERVICE ACTUAL	% Variance (A/B)	SUPPORT SERVICE APPROVED BUDGET	% Variance (A/C)	SUPPORT SERVICE BUDGET	% Variance (E/C)
	2020/21	2020/21		2021/22		2022/23	
<b>TOTAL OPERATING EXPENDITURE</b>	<b>205 886 049</b>	<b>178 921 708</b>	<b>13,1%</b>	<b>212 870 973</b>	<b>3,4%</b>	<b>221 532 538</b>	<b>4,1%</b>
National/International/Initiatives	340 000	-	100,0%	120 000	(64,7%)	120 000	0,0%
Publications and Communications	2 820 000	1 909 265	32,3%	3 000 000	6,4%	2 520 000	(16,0%)
Sponsorships	250 000	-	100,0%	100 000	(60,0%)	100 000	0,0%
Advertising	775 000	1 559 979	(101,3%)	827 000	6,7%	1 065 000	28,8%
Stakeholder Meetings	-	215 774	0,0%	-	0,0%	-	0,0%
Tribunals and Hearings	-	389 413	0,0%	-	0,0%	15 000	0,0%
Advertising, Promotion and Communication	4 185 000	4 074 431	2,6%	4 047 000	(3,3%)	3 820 000	(5,6%)



# ANNUAL BUDGET FOR THE YEAR 2022/23: SUPPORT SERVICE

## EXPENDITURE BUDGET FOR 2022/23

DESCRIPTION	A	B		C	1	D	2
	SUPPORT SERVICE BUDGET	SUPPORT SERVICE ACTUAL	% Variance (A/B)	SUPPORT SERVICE APPROVED BUDGET	% Variance (A/C)	SUPPORT SERVICE BUDGET	% Variance (E/C)
	2020/21	2020/21		2021/22		2022/23	
Gross Salaries	92 947 407	88 077 244	5,2%	93 654 996	0,8%	102 238 846	9,2%
Learnership Allowance	1 264 982	739 541	41,5%	1 557 770	23,1%	1 639 241	5,2%
Internship Allowance	1 494 981	390 829	73,9%	1 557 770	4,2%	1 639 241	5,2%
Leave Pay: Staff	915 275	2 004 319	(119,0%)	970 195	6,0%	811 277	(16,4%)
Leave pay: Regulator Members	459 725	223 343	51,4%	459 725	0,0%	140 087	(69,5%)
Performance Bonus: FTRM	1 315 537	460 006	65,0%	1 233 903	(6,2%)	1 255 181	1,7%
Performance Bonus: Staff	17 195 271	13 982 319	18,7%	17 326 177	0,8%	16 358 215	(5,6%)
Remuneration: FTRM	9 396 684	8 557 841	8,9%	8 813 588	(6,2%)	8 965 576	1,7%
Publication Incentives	150 000	-	100,0%	75 000	(50,0%)	75 000	0,0%
Remuneration - PTRM and Ext. Members	3 170 539	2 533 606	20,1%	2 494 010	(21,3%)	2 599 507	4,2%
Salaries Temporary Staff	1 300 000	2 259 713	(73,8%)	1 300 000	0,0%	2 900 000	123,1%
<b>Employment cost</b>	<b>129 610 401</b>	<b>119 228 761</b>	<b>8,0%</b>	<b>129 443 134</b>	<b>(0,1%)</b>	<b>138 622 171</b>	<b>7,1%</b>
Maintenance	1 150 000	919 692	20,0%	1 150 000	0,0%	1 150 000	0,0%
Motor Vehicle Expenses	240 000	132 007	45,0%	240 000	0,0%	180 000	(25,0%)
Facility Management Operating expenses	5 720 424	5 029 569	12,1%	5 600 000	(2,1%)	5 800 000	3,6%
Municipal Charges	3 000 000	2 252 642	24,9%	2 500 000	(16,7%)	2 500 000	0,0%
Insurance	730 000	757 060	(3,7%)	750 000	2,7%	1 059 104	41,2%
<b>Facilities Maintenance</b>	<b>10 840 424</b>	<b>9 090 970</b>	<b>16,1%</b>	<b>10 240 000</b>	<b>(5,5%)</b>	<b>10 689 104</b>	<b>4,4%</b>

# ANNUAL BUDGET FOR THE YEAR 2022/23: SUPPORT SERVICE

## EXPENDITURE BUDGET FOR 2022/23

DESCRIPTION	A	B		C	1	D	2
	SUPPORT SERVICE BUDGET	SUPPORT SERVICE ACTUAL	% Variance (A/B)	SUPPORT SERVICE APPROVED BUDGET	% Variance (A/C)	SUPPORT SERVICE BUDGET	% Variance (E/C)
	2020/21	2020/21		2021/22		2022/23	
Office operational expenses-Lease Payments	940 000	912 168	3,0%	912 168	(3,0%)	1 003 385	10,0%
Postage & Courier Services	87 151	14 575	83,3%	69 000	(20,8%)	19 151	(72,2%)
Information Technology Operations	2 040 000	2 055 705	(0,8%)	5 519 456	170,6%	8 250 000	49,5%
Software License Fees	5 600 000	5 533 546	1,2%	5 418 006	(3,2%)	6 475 245	19,5%
Stationery and Printing	424 500	196 331	53,8%	1 236 000	191,2%	672 000	(45,6%)
Organizational Membership Subscriptions	1 544 168	1 611 299	(4,3%)	1 677 747	8,7%	1 659 244	(1,1%)
Professional Membership Subscriptions	78 310	50 405	35,6%	84 600	8,0%	103 485	22,3%
Telephone and fax	810 000	499 299	38,4%	877 408	8,3%	767 408	(12,5%)
<b>Office Administration</b>	<b>11 524 129</b>	<b>10 873 328</b>	<b>5,6%</b>	<b>15 794 385</b>	<b>37,1%</b>	<b>18 949 918</b>	<b>20,0%</b>
Consultants' Fees	5 012 000	3 674 632	26,7%	11 060 000	120,7%	12 083 138	9,3%
External Auditors	2 748 085	1 812 584	34,0%	2 912 971	6,0%	2 520 308	(13,5%)
Recruitment	1 300 000	1 318 949	(1,5%)	800 000	(38,5%)	800 000	0,0%
Legal fees	19 200 000	21 220 314	(10,5%)	15 000 000	(21,9%)	18 000 000	20,0%
Internal Audit	2 000 000	1 976 582	1,2%	2 200 000	10,0%	2 200 000	0,0%
<b>Professional fees</b>	<b>30 260 085</b>	<b>30 003 060</b>	<b>0,8%</b>	<b>31 972 971</b>	<b>5,7%</b>	<b>35 603 446</b>	<b>11,4%</b>

# ANNUAL BUDGET FOR THE YEAR 2022/23: SUPPORT SERVICE

## EXPENDITURE BUDGET FOR 2022/23

DESCRIPTION	A	B		C	1	D	2
	SUPPORT SERVICE BUDGET	SUPPORT SERVICE ACTUAL	% Variance (A/B)	SUPPORT SERVICE APPROVED BUDGET	% Variance (A/C)	SUPPORT SERVICE BUDGET	% Variance (E/C)
	2020/21	2020/21		2021/22		2022/23	
Learnership programme	1 100 000	574 477	47,8%	1 200 000	9,1%	1 250 760	4,2%
Study fees	627 500	853 932	(36,1%)	990 000	57,8%	632 000	(36,2%)
External Busarries	525 000	319 141	39,2%	525 000	0,0%	525 000	0,0%
Train. & Dev. Full Time Regulator Members	544 339	70 000	87,1%	539 236	(0,9%)	134 484	(75,1%)
Train. & Dev. Part Time Regulator Members	157 519	-	100,0%	157 519	0,0%	157 519	0,0%
Train. & Dev. Staff	3 253 155	874 673,95	73,1%	3 277 920,00	0,8%	1 533 583	(53,2%)
Travel Costs Regulator Members	3 708 566	8 499	99,8%	3 708 566	0,0%	500 000	(86,5%)
Travel Costs Staff	4 317 431	358 794	91,7%	4 317 430	(0,0%)	2 158 715	(50,0%)
<b>Travel, Accommodation and Training</b>	<b>14 233 510</b>	<b>3 059 517</b>	<b>78,5%</b>	<b>14 715 671</b>	<b>3,4%</b>	<b>6 892 060</b>	<b>(53,2%)</b>
Bank Charges	100 000	52 476	47,5%	92 812	(7,2%)	65 000	(30,0%)
Catering & Entertain	1 532 500	-	100,0%	1 415 000	(7,7%)	120 000	(91,5%)
Employees Wellness	600 000	181 215	69,8%	800 000	33,3%	800 000	0,0%
Health and Safety	500 000	452 665	9,5%	1 350 000	170,0%	900 000	(33,3%)
Knowledge Centre	2 500 000	1 905 285	23,8%	3 000 000	20,0%	5 070 838	69,0%
<b>Other Expenses</b>	<b>5 232 500</b>	<b>2 591 641</b>	<b>50,5%</b>	<b>6 657 812</b>	<b>27,2%</b>	<b>6 955 838</b>	<b>4,5%</b>

# ANNUAL BUDGET FOR THE YEAR 2022/23: SUPPORT SERVICE

## EXPENDITURE BUDGET FOR 2022/23

DESCRIPTION	A	B		C	1	D	2
	SUPPORT SERVICE BUDGET	SUPPORT SERVICE ACTUAL	% Variance (A/B)	SUPPORT SERVICE APPROVED BUDGET	% Variance (A/C)	SUPPORT SERVICE BUDGET	% Variance (E/C)
	2020/21	2020/21		2021/22		2022/23	
Depreciation - Office Equipment	-	1 191 844	0,0%	-	0,0%	-	0,0%
Depreciation - Software	-	540 325	0,0%	-	0,0%	-	0,0%
Depreciation - Motor Vehicles	-	19 825	0,0%	-	0,0%	-	0,0%
Depreciation - Hardware	-	2 124 821	0,0%	-	0,0%	-	0,0%
Depreciation - Building	-	1 964 367	0,0%	-	0,0%	-	0,0%
<b>Depreciation</b>	-	<b>5 841 183</b>	<b>0,0%</b>	-	<b>0,0%</b>	-	<b>0,0%</b>
<b>TOTAL CAPITAL EXPENDITURE</b>	<b>9 252 409</b>	<b>29 986 996</b>	<b>(224,1%)</b>	<b>13 999 500</b>	<b>51,3%</b>	<b>13 632 353</b>	<b>(2,6%)</b>
Motor vehicles	-	-	0,0%	777 500	0,0%	1 000 000	100,0%
Computer software	778 878	778 878	0,0%	6 222 000	698,8%	6 000 000	(3,6%)
Office furniture and equipment	8 306 471	3 413 373	58,9%	1 500 000	(81,9%)	2 083 000	38,9%
Building improvements	-	21 074 895	0,0%	3 500 000	0,0%	1 549 353	(55,7%)
Computer hardware	167 060	4 719 850	(2725,2%)	2 000 000	1097,2%	3 000 000	50,0%







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