



sapia

South African Petroleum
Industry Association

**2021
ANNUAL
REPORT**



www.sapia.org.za

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REPORT BY SAPIA CHAIRPERSON



**Miriam
Kane-Garcia**

A year plagued by the Covid-19 pandemic, 2021 presented challenges to the petroleum industry as with many industries across the globe. Our sector in South Africa, was hugely impacted and deeply saddened by loss of life of our colleagues due to Covid-19.

The vaccine roll-out started in February, enabling vulnerable citizens to receive the first doses in South Africa. While still a choice for people to get vaccinated, the industry is in full support and encourages employees to register for their doses. As the world adjusted to living with Covid-19, the industry continued to supply the market with petroleum products despite the massive decrease in demand. This had a huge impact on the operations of refineries not only in South Africa, but the world over.

Furthermore, in June South Africa faced unrest which started in KwaZulu-Natal, spilling over into Gauteng and threatening other provinces. This affected the delivery of products, leaving many forecourts in the impacted areas dry. As the situation came under control, the industry was able to replenish stocks and restart regular deliveries. SAPIA members are committed to ensuring the supply of product to the region. This includes the supply of jet fuel which remains at risk as we move into 2022.

On the regulatory front, this year saw the publication of the Climate Change Bill as well as the gazetting of the Biofuels Mandatory Blending Regulations. Deliberations on these are continuing. The new regulations regarding Petroleum Products Specifications and Standards were gazetted repealing those published under the Government Notice No. R. 627 of 23 June 2006.

These Petroleum Products Specifications and Standards mandate the use of ultra-low sulphur petrol and diesel products from the 1 September 2023. SAPIA notes the gazetting of these regulations with great concern. Despite assurances by the Department of Mineral Resources and Energy (DMRE), these regulations have been gazetted before consultation with respect to the necessary refinery upgrades being concluded.

SAPIA is of the view that the very short time frame provided for implementation is impossible to meet and will likely render the refinery fleet obsolete within two years, making South Africa wholly dependent on imports for its liquid fuels. This is going to raise considerable questions on the security of supply of products, resulting in a negative trade balance.

A further consequence of the regulations means that tens of thousands of jobs will be placed at serious risk. This includes not only jobs in the refineries themselves but also in the industries associated with the refineries – those that supply services to the plants and those that rely on the production of specialty products from these plants.

SAPIA is presently in the process of consulting with the DMRE to amend these regulations so that a mutually acceptable and possible implementation date is obtained. These consultations will also include obtaining a suitable

financial framework to promote the necessary investments to upgrade the refineries.

The petroleum industry in South Africa remains committed to positively contributing the economy and SAPIA is focused on:

- Transformation: facilitating industry transformation and skills development
- Health, safety, security and environment: promoting health, safety, security and environmental leadership within the industry
- Climate change: providing input into the development of climate change policy and regulations including the monitoring, measuring and reporting of GHG emissions
- Refinery sustainability: promote sustainability of the current refining fleet
- Security of supply: promoting the security of supply of liquid fuels
- Regulated price elements: contributing to policy formulation, implementation and a fair regulatory framework for all.

Read more on our progress through 2021 in this annual report.

Miriam Kane-Garcia
SAPIA Chairperson



INTRODUCTION BY SAPIA EXECUTIVE DIRECTOR



**Avhaphani
Tshifularo**

Welcome to the 2021 SAPIA Annual Report. The oil industry in South Africa, plays a strategic role in enabling and stimulating the country's economy and is pivotal in growth, investment and employment.

The Covid-19 pandemic, has destructed global economies as entire industries halted in an effort by governments around the world to mitigate the spread of the virus. While the petroleum industry was in 2020, classified as an essential service enabling the operations of refineries and retail service stations, the industry is not unscathed. The minimised movement of people with the reinstating of lockdowns saw a dramatic decrease in the demand for fuel, however, it is starting to recover as the economy is opening.

SAPIA represents the collective interests of the South African petroleum industry and plays a strategic role in addressing a range of common issues relating to the refining, distribution and marketing of petroleum products, as well as promoting the industry's environmental and socio-economic progress. SAPIA fulfils this role by proactively engaging with key stakeholders, providing research information, expert advice and communicating the industry's views to government, members of the public and media. Our mission is to work together within the petroleum industry to promote inclusive social and economic growth.

Despite the challenge of the Covid-19 pandemic, there were some key developments during 2021. In this report you will find the SAPIA vision, mission

and strategy; the impact and recovery of the Covid-19 pandemic on the industry, development and changes to legislation and economic regulation, HSSE feedback, safety and security of petroleum products across the supply chain, industry transformation updates and the statistical review of the industry showing the evolution of demand and supply of petroleum products.

I would like to take this opportunity to thank the Department of Mineral Resources and Energy (DMRE) for the ongoing efforts to maintain a mutually beneficial relationship that enables two-way engagement – it is highly valued. I also want to thank the SAPIA team for being relentless in driving our industry's key objectives and the Board of Governors for their commitment to the Association and their governance. Finally, to all our committee members and member company employees – thank you for your contribution to ensuring that together, we can drive the industry agenda for the benefit of our economy and all South Africans.

Avhaphani Tshifularo
SAPIA Executive Director





SAPIA OVERVIEW

ABOUT SAPIA

SAPIA represents the collective interests of the South African petroleum industry. The association plays a strategic role in addressing a range of common issues relating to the refining, distribution and marketing of petroleum products, as well as promoting the industry's environmental and socio-economic progress. SAPIA fulfils this role by proactively engaging with key stakeholders, providing research information, expert advice and communicating the industry's views to government, members of the public and media.



Vision

SAPIA aspires to be a respected, reputable and value adding industry association.

Mission

Working together within the petroleum industry to promote inclusive social and economic growth.

Strategic agenda

There are three strategic focus areas, depicted in the strategy diagram below, which will enable SAPIA to achieve its vision:

Planning for tomorrow means focusing on industry transformation, working towards a fair regulatory framework for all citizens, facilitating security of supply and promoting environmental leadership within the industry.

Enhancing strategic partnerships involves educating stakeholders about the industry's aims and activities, improving communication, ensuring there is transparency within the industry and that SAPIA is open and honest in all of its dealings.

Providing service excellence entails improving efficiency and effectiveness, implementing the balanced scorecard, proactively identifying opportunities and improving decision-making processes.

There are a number of committees comprising of technical and operational experts from the member companies who are responsible for executing the strategy. SAPIA endeavours to appraise the Minister of Energy and the Director General with status updates on the execution of initiatives on a quarterly basis and the closing phase of each initiative includes meeting the milestones and performing post project activities.

SAPIA'S STRATEGY

GOALS

Stakeholders

Vision

SAPIA aspires to be a respected, reputable and value adding industry association.

Mission

Working together within the petroleum industry to promote inclusive social and economic growth.

Understand our stakeholders' needs

Promote transformation, climate change response, refining sustainability and a fair regulatory framework

Provide expert information and assistance to our stakeholders

Facilitate security of supply and environmental leadership

Contribute to policy formulation and implementation

Enhance the reputation of the industry by communicating its contribution to economic and social progress

Government

Become a trusted partner



Understand our stakeholders' needs

Petroleum industry



Provide expert information and assistance

Citizens



Contribute to policy formulation and implementation



Promote effective marketing

PERSPECTIVES OF SUCCESS

Internal process

Learning and growth

Financial

VALUES

Facilitate industry transformation

Promote a fair regulatory framework for all

Promote a sustainable climate change response

Promote refining sustainability

Plan for tomorrow

Promote the security of supply of liquid fuels

Health, safety, security and environmental leadership

Educate and communicate to stakeholders about the industry

Enhance strategic partnerships

Develop focused advocacy programs in line with goals

Improve efficiency and effectiveness

Collaborative decision making

Identify opportunities

Service excellence



Live our core values



Build research capabilities



Train and develop our stakeholders



Understand industry activities and drivers



Resource SAPIA's operational strategies



Manage our budget effectively



Partnership



Integrity



Transparency



Sustainability



Transformation

Priorities for the year

The Board of Governors identified the following focus areas for 2021:

	Transformation	Facilitate industry transformation and skills development
	Health, safety, security and environment	Promote health, safety, security and environmental leadership within the industry
	Climate change	Provide input into the development of climate change policy and regulations including the monitoring, measuring and reporting of GHG emissions
	Refinery sustainability	Promote sustainability of the current refining fleet
	Security of supply	Promote the security of supply of liquid fuels
	Regulated price elements	Contribute to policy formulation, implementation and a fair regulatory framework for all

Membership

INTEGRATED MEMBERS		NON-INTEGRATED MEMBERS	
		Wholesalers – Petrol and Diesel	Wholesalers – Liquefied Petroleum Gas
Astron Energy (Pty) Limited		Africa Oil (Pty) Limited	Easigas (Pty) Limited
BP Southern Africa (Pty) Limited		Elegant Fuel (Pty) Limited	Indigas (Pty) Limited
Engen Petroleum Limited		Gulfstream Energy (Pty) Limited	Petregaz (Pty) Limited
PetroSA Limited		FFS Refiners (Pty) Limited	Totalgaz Southern Africa (Pty) Limited
Sasol Oil (Pty) Limited		Makwande Energy Trading (Pty) Limited	Oryx Oil South Africa (Pty) Limited
Shell Downstream South Africa (Pty) Limited		MBT Petroleum (Pty) Limited	Wasaa Gasses (Pty) Limited
TotalEnergies Marketing South Africa (Pty) Limited		Puma Energy (Pty) Limited	
Vopak South Africa Development (Pty) Limited		Royale Energy Limited	
		SA Bunkering and Trading (Pty) Limited	
		Petrocam Trading (Pty) Limited	

Total of 24 members on 31 December 2021

Organisation structure

SAPIA operates under a Board of Governors comprising members from member companies. A new chairperson and vice-chairperson is elected annually. The association has a small and highly skilled staff complement, led by an executive director. SAPIA staff are independent from the member companies.

The 2021 Board of Governors

Mariam Kane-Garcia, MD and CEO of Total Energies South Africa is the Chairperson of SAPIA for the years 2020 and 2021. She is the second woman and 24th industry leader to chair the association since its establishment in July 1994.

The Board of Governors consists of eight representatives from member companies. The Chairperson and Vice-Chairperson rotate. The Board of Governors convenes at least four times per year and more often should circumstances require it. The primary function of the Board is to identify key issues facing the industry, agree on solutions in respect to each issue and ensure that resources are available to address the matters at hand.



2021 BOARD OF GOVERNORS



SAPIA Chairperson:
Ms Mariam Kane-Garcia

Total
South Africa



SAPIA Vice-Chairperson:
Mr Hloniphizwe Mtolo

Shell Downstream
South Africa

Board of Governors attendance at meetings:

Attendance at meetings	02/03/2021	08/06/2021	02/09/2021	07/12/2021
Ms M Kane-Garcia	Y	Y	Y	Y
Mr H Mtolo	N	N	Y	Y
Mr J Molapo	Y	Y	R	R
Mr B Smit	–	–	Y	N
Mr P Naidoo	N	N	N	N
Mr W Sanchez	Y	Y	N	N
Mr Y Hassan	Y	Y	Y	Y
Ms T Mojapelo	Y	Y	Y	N
Mr P Vilakazi	Y	Y	Y	Y
Ms N Chili	Y	Y	Y	Y

Y = Attended meeting

N = Apology received

– = Not yet appointed

R = Resigned from the Board



Mr Jonathan Molapo
Astron Energy (R)



Mr Pragasen Naidoo
PetroSA



Mr Yusa Hassan
Engen Petroleum



Mr Phinda Vilakazi
Sasol Oil



Ms Taelo Mojapelo
BP Southern Africa

Mr Braam Smit
Astron Energy

Mr Walter Sanchez
Easigas

Ms Nonda Chili
Makwande (NIMs)



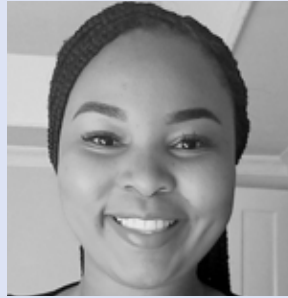
SAPIA STAFF MEMBERS



Executive Director
**Avhaphani
Tshifularo**



Office Manager
**Nkhensani
Machumele**



Administrative Assistant
Bongiwe Phakathi



Head: Advocacy, Stakeholder
and Communication
Cindy-Lee Maneveld



Head: Security of Supply
Siganeke Magafela

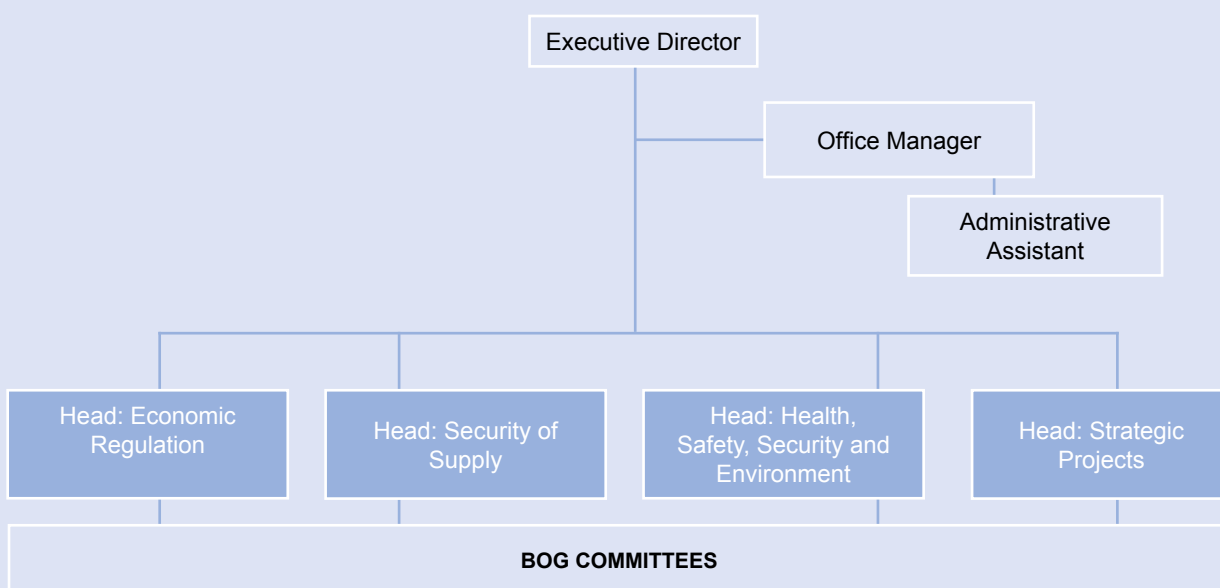


Head: Health, Safety,
Security and Environment
Fatima Shaik



Head: Strategic Projects
Kevin Baart

SAPIA BOARD OF GOVERNORS



SAPIA organisational chart

BOARD OF GOVERNORS COMMITTEES

There are 21 committees which comprise of individuals from member companies and SAPIA staff members. These committees engage on non-competitive issues and are fully aware of competition laws and the risks of anti-competitive behaviour.

The following SAPIA committees exist to address strategic issues facing the industry:

SAPIA COMMITTEES	CHAMPION	COMPANY
Transformation Committee	Hloniphizwe Mtolo	Shell
Human Resource Development Committee	Avhapfani Tshifularo	SAPIA
Economic Regulation Committee	Jonathan Molapo	Astron Energy
Legal Committee	Avhapfani Tshifularo	SAPIA
Security of Supply Committee	Yusa' Hassan	Engen
Fuels Technical Committee	Kevin Baart	SAPIA
Advisory Committee on Climate Change	Jonathan Molapo	Astron Energy
Health, Safety, Security and Environment (HSSE) Committee	Bernhard Eigenhuis	BP
HSSE sub-committees:		
Health, Safety Environment and Engineering Committee	Ridwaan Nabee	BP
Contaminated Land Committee	Ridwaan Nabee	BP
Oil Spill Working Group	Boitumelo Shokane	TotalEnergies
Road Transport Safety Committee	Nomandlovu Dumse	Astron Energy
Security Committee	Willie Ngubo	Shell
Refinery Managers' Environmental Forum	Dian Naicker	PetroSA
Refinery Managers' Safety Forum	Etienne Buitendach	Engen
Refinery Process Safety Meetings	Ignatius Loff	PetroSA
South African Petrochemical Fire Chiefs Committee	Lenny Naidoo	Engen
Communication Committee	Avhapfani Tshifularo	SAPIA
Liquefied Petroleum Gas Forum	Walter Sanchez	Easigas
Non-Integrated Members Forum	Nonda Chili	Makwande
Refining Sustainability	Phinda Vilakazi	Sasol Oil
Refinery Managers' Forum	Stephen Ncala	PetroSA

FINANCIAL STATEMENT

SAPIA's expenditures are essentially funded by the annual contributions of its members. Personnel costs represent the biggest share of SAPIA's expenditure. Other expenditures cover office accommodation, representation and travel, consultants, lawyers and auditors.

Income (thousand rands)	2011	2012	2013	2014	2015	2016	2018	2019	2020	2021
Membership subscriptions	6 366	6 415	7 748	9 754	12 136	11 798	13 345	14 281	16 376 654	15 771 471
Other income (including interest)	1 426	180	173	508	3 606	424	27	10 787	665 982	307 850
Total income	7 792	6 595	7 921	10 262	15 742	12 222	13 372	25 068	17 042 636	16 079 321

Expenditure (thousand rands)	2011	2012	2013	2014	2015	2016	2018	2019	2020	2021
Personnel/payroll	4 009	4 259	4 326	5 404	8 262	8 220	8 827	9 066	11 541 875	9 290 458
Other expenditure (including interest)	3 321	2 931	2 919	2 752	5 520	4 064	4 590	6123	3 904 304	3 279 303
Total expenditure	7 330	7 190	7 245	8 156	13 782	12 284	13 417	15 189	15 446 179	12 569 761

THE YEAR AT A GLANCE



WORLD ENERGY CONSUMPTION

Energy demand and emissions bounced back to around pre-pandemic levels in 2021, reversing the temporary reduction in 2020 resulting from the Covid-19 pandemic.

Oil prices averaged \$70.91/bbl in 2021, the second highest level since 2015.

Oil consumption increased by 5.3 million barrels per day (b/d) in 2021 but remained 3.7 million b/d below 2019 levels.

A majority of the consumption growth came from gasoline (1.8 million b/d) and diesel/gasoil (1.3 million b/d). Regionally, most of the growth took place in the US (1.5 million b/d), China (1.3 million b/d) and the EU (570,000 b/d).

Global oil production increased by 1.4 million b/d in 2021, with OPEC+ accounting for more than three-quarters of the increase. Among all countries, Libya (840 000 b/d), Iran (540 000 b/d) and Canada (300 000 b/d) saw the largest increases. Nigeria (-200 000 b/d), the UK (-170,000 b/d) and Angola (-150 000 b/d) reported the biggest declines.

Refinery capacity declined for the first time in over 30 years by almost 500 000 b/d last year driven by a sharp reduction in the OECD (1.1 million b/d). As a result, refining capacity in the OECD in 2021 was at its lowest level since 1998.

BP Statistical Review of World Energy 2022 – 71st Edition



PRICING AND ENERGY CONSUMPTION IN SA

95 ULP petrol prices reached a high of R19.54

95 ULP petrol prices reached a high of R19.54 in December and was at a low of R13.94 in January 2021 on the coast

0.005% diesel wholesale prices reached a high of R17.36 and a low of R12.41 on the coast





Continued focus on HSSE legislation development and regulatory input to regulators, members and external stakeholders

HEALTH, SAFETY, SECURITY AND ENVIRONMENT

Participation on the Advisory Council of the Occupational Health and Safety which advises the Minister of Employment and Labour.

Ongoing engagement with Government, Business Associations and other Strategic stakeholders.

Covid-19 Management leadership: Development of industry guidance to ensure business continuity, crisis management, inputs into legislative protocols and directions, best practice sharing, incident tracking, etc. The sector report 5 859 cases and 109 fatalities since the start of the pandemic.

National Tier 2 oil spill capability assessments gap closure and oil spill drills.

Ongoing development of SAPIA minimum guidelines and best practice documents e.g. flange management guideline, behavioural transformation post behavioural based safety, digitisation in safety, etc.

Established the contaminated land committee which focuses on multi-stakeholder contaminated land projects. Development of strategies via NICOLA including speaking at the NICOLA SustRem Conference 2021.

Engagement with institutions of higher learning on curriculum gaps e.g. process safety, incident management (ICS), fire fighting, etc.

Crisis Management with respect to the social unrest experienced in KwaZulu-Natal and Gauteng.

Phase 2 of the Road Safety decal project implemented.

Road Transport Masterclass for entrepreneurs.



CLIMATE CHANGE

Publication of the Climate Change Bill and subsequent deliberations at NEDLAC



SECURITY OF SUPPLY

JET supply to ORTIA remains the highest risk due to the unreliability of TFR and lack of Jet import infrastructure in Durban that is linked to the pipeline. A project team is in place to investigate pipeline connection between TM2 and ORTIA

SAPIA appealed to the Port Regulator of SA

SAPIA appealed to the Port Regulator of SA on TNPA's decision to evict the industry at the DOM PEDRO complex while the alternative storage at Ngqura has not been built and commissioned.



REFINERY SUSTAINABILITY

Amendment to the biofuels mandatory blending regulations gazetted

Gazetting of Clean Fuels 2 regulations



TRANSFORMATION

No progress of the sector codes since SAPIA withdrew from process in 2020.

The industry value add and development programmes have been put on hold due to the impasse of the sector codes

The first of a two part masterclass for aspirant transporters was held with over 100 participants attending

STRATEGIC FOCUS AREAS



TRANSFORMATION



HEALTH,
SAFETY,
SECURITY AND
ENVIRONMENT



CLIMATE
CHANGE



REFINERY
SUSTAINABILITY



SECURITY OF
SUPPLY



PRICING AND
ENERGY
CONSUMPTION
IN SA



WORLD ENERGY
CONSUMPTION'



TRANSFORMATION

OUR FOCUS:

Promote industry transformation and skills development

FOCUS AREAS

New liquid fuels empowerment framework

KEY DEVELOPMENTS DURING THE YEAR

SAPIA withdrew from the sector codes process and no further developments on the gazetting of the draft codes.

Progress in 2021

New Liquid Fuels Empowerment Framework

The process of aligning the Petroleum and Liquid Fuels Charter to the Broad-Based Black Economic Empowerment Act is continuing. The Charter Council comprises the Department of Mineral Resources and Energy, industry associations, trade unions and other interested parties.

The implementation will be with immediate effect as the Department of Trade and Industry does not allow for a transition period. In the absence of Petroleum and Liquid Fuels Sector Codes, entities are continuing to be measured on the generic scorecard of the Broad-Based Black Economic Empowerment Codes of Good Practice which does not fully address the unique characteristics of the industry.

There has been no progress on the sector codes from the DMRE ever since SAPIA withdrew from the Charter Council despite numerous promises from the department's leadership. The transformation of the petroleum sector remains a key pillar of SAPIA's strategy, and the association will continue to lobby for the finalisation and gazetting of the sector codes.

Industry value add development programmes

Because of the impasse on the sector codes, the value add initiatives envisaged were not realised or have been put on hold because most of the initiatives are dependent on the finalisation of the sector codes.

SAPIA conducted a transportation masterclass for the aspirant transporters who want to get into the industry. The masterclass was borne from the numerous inquiries from people coming to the SAPIA office to request information on opportunities in the sector to transport fuel and other products.

Through these interactions we realised that there is a huge knowledge gap about how the industry functions and what is required to successfully run a transport business.

The focus of the masterclass was two folds, to address the lack of knowledge to run a transport business and the overall understanding of HSSE requirements by the different oil companies.

The masterclass was well received and we over 100 aspirant transporters attending the first session which focused on business planning and legal requirements in terms of road traffic act. The second session will be held in 2022.

Future priorities

SAPIA will be focusing on the following areas in 2022:

There will be no change in our priorities in 2022.

- Continue to monitor the process of developing and gazetting sector codes.
- Reconfirming industry value add development and training programmes.



HEALTH, SAFETY, SECURITY AND ENVIRONMENT

OUR FOCUS:

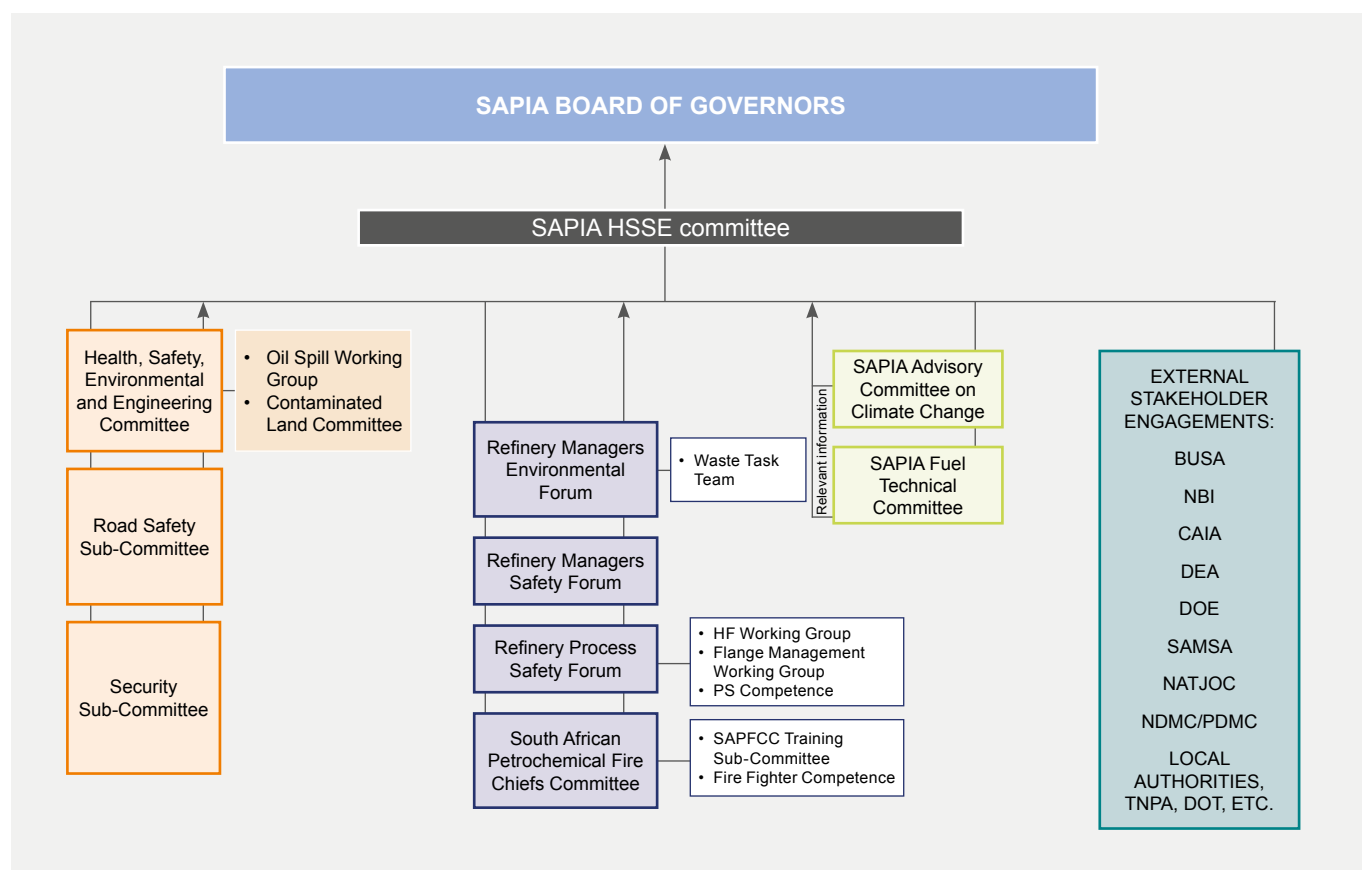
Promote health, safety, security and environmental leadership within the industry

HSSE remains the oil and gas sector's number one priority. Integrated health, safety, security and environment (HSSE) management across the supply chain is essential towards ensuring that employees go home safely to their families and that any impact to the environment and industry assets is eliminated or minimised. Industry efforts extend beyond the fence-line. Learning from local and international best practice, learning from incidents, focusing on long-term behavioural change, complying

with legislation, empowering employees and contractors in the sector and establishing a sustainable HSSE culture are key priorities for SAPIA members. SAPIA continues to work with relevant stakeholders to meet its objectives.

2021 posed two unique challenges. The July public unrest in parts of the country and the Covid-19 pandemic. The Covid-19 pandemic has posed challenges to not only to the sector but to South Africa and the

world. The sector tragically lost 109 staff and contractors. While the sector adapted to new ways working to deliver on its intended priorities, the country continues to face huge economic challenges and social issues which directly and indirectly impact on the work environment.



Risk-based integrated HSSE management across the value chain

FOCUS AREAS	ONGOING CHALLENGES
HSSE Risk Management: Covid-19 pandemic	Covid-19 continues to pose challenges with mutations and new variants. As the end of 2021, over 5 859 cases and 109 deaths were reported within the sector, with the country going into the fourth wave.
	Virtual ways of working while beneficial in many ways continue to pose challenges. Mental wellness, fatigue, etc. have increased, forcing companies to find ways to mitigate these risks.
	New online tools may not be suitable to provide on the ground assurance.
	Employee behaviour outside the workplace impacts on the exposure to Covid-19 when protocols are not observed.
	Disruption to supply chains impacting on delivery of critical equipment for shutdowns, etc.
	Mandatory vaccination policies remain a challenge. Vaccination uptake is not at the expected rates.
HSSE Risk management: Regulatory input	Significant increase in regulatory burden placed on business and developing non-integrated members.
	Additional costs associated with compliance including permits, fees, levies and additional staff, among others.
	Contractor compliance remains a challenge. Limited number of competence specialised contractors requiring additional support from members.
	Covid-19 regulations have placed an additional compliance burden.
HSSE Risk Management: Improving oil spill response capability	The Marine Pollution bill has yet to be promulgated.
	The National Oil Spill Contingency Plan(NOSCP) has been approved. Member oil spill plans will need to meet with specific requirements of the NOSCP.
	SAPIA members are focusing on gap closure following the National Oil Spill Tier 2 assessment. The TNPA, DOT, DFFE and SAMSA are also required to close gaps at a national level. This will be tracked via the IMOrg meetings. There has been little progress to date.
HSSE Risk Management: Contaminated land management	Public disclosure of the contaminated land register remains a potential reputational risk to the sector.
	SAPIA has revised its Hydrocarbon Management Agreement to include all applicable members. Member signatures are awaited. The agreement is a proactive measure to allow SAPIA to facilitate discussions between its members to resolve contamination related matters speedily by reducing/ eliminating impacts to the environment. This agreement does not supercede any legal requirement.
Improving contractor and internal stakeholder capabilities – Best practice guidelines	The sector continues to see the exit of experienced professionals. Inexperienced new entrants require support and guidance based on best practice.
	Simplification of contractor requirements where possible as HSSE compliance at the coalface remains a challenge.
	Legislative frameworks are lacking in some areas to provide adequate guidance. This may also be the case for new technologies.
Security risk management	Poverty, unemployment, crime and the lack of essential services have contributed to additional risks associated with unplanned community protests, impact on truck drivers, truck hi-jackings, illegal road blockades, etc. increasing.
	Increased efforts to mitigate risks across the supply chain is required however in some cases security of supply is impacted.
	Increase risks in sabotage of key supply chain infrastructure such as petroleum pipelines, rail network etc. has a negative impact to business.
Road transport safety risk management	Third party high-risk behaviour and non-compliance pose a major risk to safe operations on South African roads. This now contributes to the main cause of incidents and fatalities in the sector.

Progress in 2021

HSSE Risk Management: Covid-19 pandemic

SAPIA has led the Covid-19-related work for the Sector in the following areas:

- Covid-19 support to the Sector (internal and external). Covid-19 legislative, directions and guideline update.
- Active participation on the essential working groups with the escalation of matters as needed.
- Sharing of Covid-19 best practices and challenges amongst Members.
- Covid-19 case tracking and trend analysis.

HSSE Risk management: Regulatory input

SAPIA has been instrumental in negotiations with key internal and external stakeholders on HSSE legislation for South Africa. These include among others: Covid-19, waste, odour management, climate change, carbon tax, air quality, critical infrastructure, biofuels, medical services, fire services, ergonomics, major hazard installations, marine pollution, occupational health and safety, extended producer responsibility, transportation of dangerous goods, etc. Included in amongst these are good practice guidelines, SANS codes and other guidance.

HSSE Risk Management: Improving oil spill response capability

The industry continues to work with the Department of Environment, Forestry and Fisheries (DEFF) and Department of Transport on the development and

integration of the recommendations from the Global Initiative for West and Central Africa (GI WACAF) to operationalise the requirements of the International Convention on Oil Pollution Preparedness, Response and Co-operation (OPRC).

Progress on key actions since 2016:

- Potential legislative changes over the next two to four years. *New legislation and consolidation of Legislation in progress.*
- OPRC (Oil spill planning, response and capability) will be embedded in legislation via the OPRC bill. This will allow for regional agreements and bi-lateral agreements. *OPRC bill replaced with the Marine oil Pollution (Preparedness, response and cooperation) Bill. Yet to be promulgated.*
- The requirement that members must have tier 2 oil spill response capability. *SAPIA Tier 2 assessment completed. Small working group established to address gaps.*
- Section 52 of the SAMSA Act will be amended and the Department of Transport will be responsible for combating pollution and not the DEA. This is significant. DFFE's role will need to be defined. SAMSA will be responsible for all shipping and offshore incidents and will lead the Incident command during an incident. *DOT responsibility defined in legislation and DOT is taking the lead with respect to this legislation.*
- Draft wording was also worked on for the National Oil Spill Contingency Plan. The current plan was updated in 2007. Reporting processes was also a key focus area. *NOSCP approved.*

- Drafting an operator oil spill guideline framework. *Covered in NOSCP and new legislative framework.*

The industry is still awaiting the gazetting of dispersant policy and the revised marine pollution bill.

Improving contractor and internal stakeholder capabilities – Best practice guidelines

The development of minimum guidelines is key to reducing complexity for contractors or suppliers who service multiple members. The best practice documents also consolidate key learnings and best practices for specific subjects which are beneficial to both internal and external stakeholders. These are available on the SAPIA website.

In 2021 best practice workshops included:

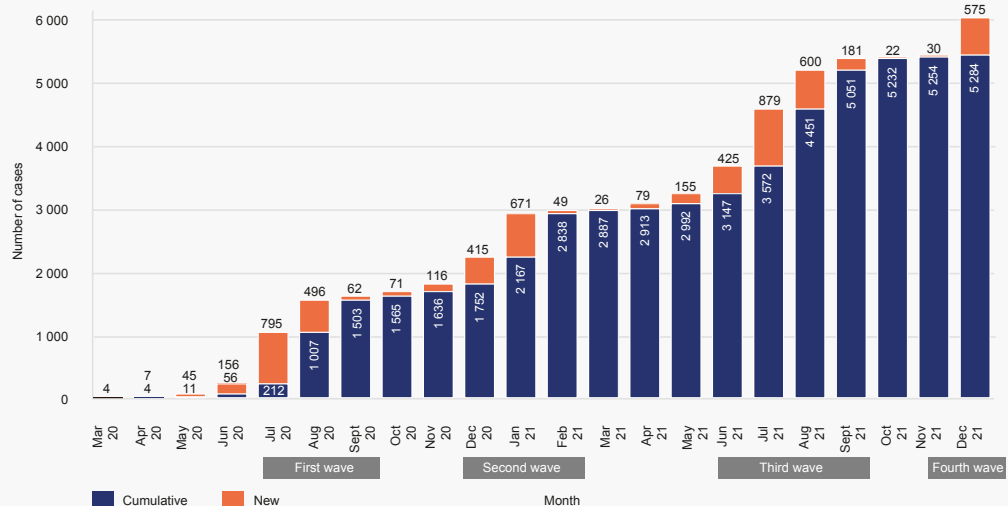
- DFFE task team participation to address waste challenges of new legal requirements. New guidelines developed.
- Odour management guideline review.
- NAEIS category 2 emissions guideline for the Petroleum Sector.
- Behavioural transformation post behavioural based safety e.g. exposure based safety, etc.
- Digitisation in safety.
- Finalisation of the flange management guideline.
- Preparation for process safety insurance audits.
- Hydrofluoric acid focus outside refinery.
- Process safety competence framework development – in progress.
- Fire fighter competence framework – in progress.

SAPIA CUMULATIVE COVID-19 CASES 2020/1 excl. deaths

TOTAL: 5 589
cases

DEATHS: 109
cases

SAPIA cumulative Covid-19 cases 2020/21



- Embedding of learnings process and review of significant incidents sharing and learnings at the RMSF.
- Emergency response
- Worksite controls
- Overfills
- Fatigue management enterprise wide.

HSSE Risk Management: Contaminated land management

The industry is working closely with the SAPIA members, DFFE and other authorities on historical contaminated land. Part 8 of the Waste Management Act under NEMA provides the framework for how these sites are managed. Port facilities are managed through the Transnet National Port Authorities and the DFFE.

There are currently 9 multistakeholder projects being managed by SAPIA. Two projects had reached completion. The decommissioning and remediation of the Port Elizabeth Dom Pedro Terminal will be a significant project that could potentially set a precedent for other areas. The matter currently sits with the Port Regulator.

Security risk management

The industry faces increased security threats due to a number of factors such as fuel price increases, socio-economic conditions, service delivery protests, civil unrest and land grabs, all of which threatens people, environment, reputation and assets. Security threat to critical infrastructure such

as pipelines is a key concern and SAPIA is engaging with applicable stakeholders on this matter. Foreign driver protest continue to pose threats to our drivers and assets.

Road transport safety risk management

The second phase of the short-term decal project is still in progress. These decals carry safety message on fuel trucks. Preparations for the road transport masterclass are in progress. The masterclass roll out will take place in 2021. The masterclass is intended to share road transport business requirement to new entrants.

Future priorities

SAPIA's primary HSSE focus areas remain unchanged as these are broad and all-encompassing across the supply chain. The risk-based decisions are taken at the committee level and endorsed by the strategic HSSE committee and the Board to address various challenges within these focus areas. These focus areas include:

- Reducing HSSE risks in industry operations impacting people, environment, assets and reputation.
- Reducing road transport risks and engaging stakeholders on third party risk management.
- Developing security related industry best practice to proactively assess threats and reduce security risks.

- Making recommendations for improvement in the national oil spill response capability.
- Increasing contractor capability through collaborative industry efforts.





CLIMATE CHANGE

OUR FOCUS:

Provide input into the development of climate change policy and regulations including that pertaining to the monitoring, measuring and reporting of GHG emissions

FOCUS AREAS	KEY DEVELOPMENTS DURING THE YEAR
Input into the development of climate change policy and regulation	Publication of the Climate Change Bill and subsequent deliberations at NEDLAC.

Progress in 2021

SAPIA, through the SAPIA Advisory Committee on Climate Change and Business Unity South Africa (BUSA), has engaged throughout the year with both the Department of Forestry, Fisheries and the Environment (DFFE) and National Treasury (NT) on the development of legislation and associated regulations to manage GHG emissions emanating from oil industry activities.

The position of Business Unity of South Africa (BUSA), of which SAPIA is a member, regarding carbon emissions coalesced around the need for South Africa to be a net zero carbon emitter by 2050. SAPIA was supportive of this position.

Greenhouse Gas Reporting Regulations

In 2020, the DFFE requested assistance from SAPIA to develop country specific emission factors (Tier 2) for the consumption of liquid fuels. SAPIA developed a paper which looked at international practice governing sampling for compliance purposes (fuel quality monitoring under EN 14274) seeing this as the closest that one could approach that for sampling for emissions testing. The DFFE then commissioned the University of Pretoria to execute this project which was completed by the end of the year.

It is anticipated that the new emission factors would be incorporated into the relevant legislation, specifically the reporting of GHG emissions and into the Carbon Tax Act.

Climate Change Bill

The Climate Change Bill was originally published for comment during May 2018. The original Bill seeks to remove the GHG reporting and associated provisions from NEMA:AQA and place them under this new legislation. It furthermore seeks to create an integrated climate response programme across all three levels of government – executive, provincial and municipal.

This Bill was then sent to NEDLAC for detailed discussions, which were concluded earlier in 2021 and then sent to the State Law advisor for amendments. By the end of the year, the Bill had still not been sent to Parliament for deliberations. This Bill is seen as very important since it aims to be the legislative instrument to report and manage the future trajectory of GHGs for the country. The absence of such a legislative instrument provides significant uncertainty to all players operating in the South African economy as to how GHGs would be managed going forward especially in the light of South Africa's commitments under the UNFCCC.

Carbon Tax Act

Clarification on the position of the carbon tax as an income tax deductible was confirmed during the year from National Treasury. It was seen as an expense in the generation of income by a company and as such was seen as a deductible in terms of the income tax act.





The Just Transition

The National Business Initiative (NBI) kicked off a major project in 2020 to determine what was required for the country to become a net zero carbon emitter by 2050. This project initially focussed on electricity generation, but then moved to the production of petrochemicals and towards the end of 2021 the focus moved to the transportation sector.

SAPIA Position on Climate Change

SAPIA began the development of a position paper on climate change. SAPIA's view is that the provision of cleaner fuels (those enabling fuels for Euro V tailpipe emission requirements) is important for reducing GHG emissions. This is because the reduction of sulphur and other harmful pollutants in fuel improves tail pipe emissions, even for older vehicles, and so reduces noxious emissions (which include soot and other hydrocarbons) that can contribute to climate change and poor ambient air quality. The provision of these fuels will allow the introduction of new vehicle technologies that will reduce emissions due to improved fuel consumption either from fully internal combustion engine vehicles themselves or hybrids.

Future priorities

SAPIA will be focusing on the following areas during 2022:

- Continued engagement with the DEA on GHG regulations/budgets and with NT on the regulatory environment.
- Finalisation of the position paper on Climate Change
- Comment on the Climate Change Bill and associated regulations.
- Continued engagement with the NBI and other interested parties on the Just Transition



REFINERY SUSTAINABILITY

PROMOTE SUSTAINABILITY OF THE CURRENT REFINING FLEET

OUR FOCUS:

There are a number of issues driven by the market and regulatory action that have the potential to affect the long-term sustainability of the local refining industry. These issues include: the demand for cleaner fuels and the requirements to manufacture these fuels; the impact of the sulphur cap on bunker fuels from 2020; greenhouse gas regulatory management (carbon taxes, carbon budgets); environmental regulatory control (such as minimum emission standards, waste management and water use licences) and electricity supply among others.

FOCUS AREAS	KEY DEVELOPMENTS DURING THE YEAR
Cleaner Fuels II	Gazetting of Clean Fuels 2 regulations at the end of August
Biofuels Mandatory Blending Regulations	Amendment to the biofuels mandatory blending regulations gazetted at the end of August

Developments in 2021

Gazetting of Regulations

At the end of March 2021 the Department of Mineral Resources and Energy (DMRE) gazetted draft regulations for comment concerning the implementation of Clean Fuels 2 (CF2) and amendments to mandatory biofuels blending regulations. The draft CF2 regulations concerned the mandatory implementation of 10 ppm (w/w) sulphur petrol and diesel in five years as well as limiting other components within petrol. These regulations would mandate the implementation of enabling fuels to meet the Euro V tail pipe emissions specification. SAPIA commented fully on both these drafts before the cut-off date at the end of May.

The DMRE then conducted an information exchange session in late July concerning the draft regulations with interested parties. Final regulations were gazetted at the end of August. To SAPIA's amazement the final CF2 regulations mandated implementation by 1 September 2023. This was a date that was neither anticipated nor had been alluded to in any of the prior engagements with the DMRE even that as recently as July.

SAPIA's response was to engage directly with Minister and the Director General on the implementation date for the new regulations. This was through a number of letters and meetings with the Director General and the Deputy Directors General. In addition, and in parallel, a PAIA request was made in terms of the Promotion of Access to Information Act seeking information from the DMRE as to why the implementation had been brought forward. SAPIA then engaged directly with the Minister in November to present to the Minister the reasons as to why the implementation date for CF2 could not be met. The Minister then directed the DMRE and SAPIA to conduct a workshop as soon as possible to express the reason for these concerns as well as provide concrete proposals as to a reasonable implementation date for CF2. The Minister did suggest that the implementation date could be changed. The workshop would be held at the beginning of February 2022.

SAPIA's view was the implementation date of September 2023 would not be possible for a number of reasons which included:

- It did not provide for sufficient time to conduct the necessary configuration studies and basic engineering towards the implementation of CF2 at the manufacturing level
- It did not provide for sufficient time to fully engineer and specify long lead items for plant and equipment
- Insufficient time for the upgrades of the individual refineries themselves
- It did not take into account the necessary lead times for Boards approval – both locally and internationally

Over and above these issues, SAPIA were led to believe that a suitable cost recovery mechanism would also be provided at the time of the gazetting of the regulations. These were not provided and SAPIA remains of the view that the implementation of CF2 cannot be made at the manufacturing level in an environment

of price regulation which does not allow the passing on of these costs to the consumer. Refinery margins are insufficient to justify any investment for CF2 due to the cost and scale of investment. This has been the consistent position since the imposition of the BFP pricing structure for fuels back in 2003.

Refinery Status

The consequence of the Covid-19 pandemic and the push to a Just Energy Transition was also felt in South Africa. The oil majors were considering a reoptimisation of portfolios in line with a reduction in their overall carbon footprint and South Africa was not immune to these developments. Indeed, Shell plc, for example, announced a refocus of their downstream activities towards six core energy and chemicals parks, with SAPREF was not part of these plans.

During early July 2020, the Astron Energy refinery in Cape Town suffered a major incident which meant a shutdown of facilities. This shutdown continued into 2021 as the plant underwent repair and refurbishment. The Enref refinery also suffered an incident in early December 2020 that resulted in the shutdown of the facility. Engen announced in 2021 that the refinery would not restart and instead be converted to an import terminal. Following the announcement of Shell in 2021, the

shareholder of SAPREF announced they would pause operations from the beginning of April 2022 with the view to finding a buyer for the refinery. The PetroSA facility at Mossel Bay remained shutdown during 2021 due to the lack of feedstock to supply the plant. Natref and Secunda continued operations as expected.

Without doubt the energy transition is underway as far as the refining sector is concerned. But the regulated price structure of the market, together with overriding regulatory pressures (CF2 requirements, environmental compliance, transformation, carbon tax amongst others) and deteriorating infrastructure are making it increasingly difficult for local operations to continue. It may be a matter of time before the remaining facilities finally cease operations and South Africa becomes largely reliant on imported petroleum products to power the economy. When this occurs, the government cannot say they had not been forewarned since the industry has been highlighting these issues for a number of years. But when these facilities are finally shut, together with them will leave a major manufacturing base, a large number of highly paid and highly skilled people, various industries serving refining will be severely impacted, the risk to security of supply of petroleum products will increase and the balance of payments will be severely impacted.

TNPA Island View Strategy

The TNPA published an Island View Strategy during 2018 aiming to radically transform the ownership of oil industry assets within the precinct. SAPIA vigorously countered this strategy and it appears that the TNPA has shifted attention towards improving efficiencies in the Durban port, given that it is one of the worst performing reports in the world.

Future priorities

SAPIA will be focusing on the following areas in 2022:

- Continued engagement towards obtaining financial compensation for cleaner fuels production
- Engagement with the DMRE to push out the implementation of Clean Fuels 2 to a mutually agreeable date but at least five years from promulgation
- Continued engagement with the TNPA on the Island View Strategy
- Develop an Industry response to other DMRE initiatives affecting the liquid fuels pool such as biofuels





SECURITY OF SUPPLY

OUR FOCUS:

Facilitate the security of supply of petroleum products

FOCUS AREAS	KEY DEVELOPMENTS DURING THE YEAR
Identifying emerging risks to security of supply of petroleum products	JET supply to ORTIA remains the highest risk due to the unreliability of TFR and lack of Jet import infrastructure in Durban that is linked to the pipeline. A project team is in place to investigate pipeline connection between TM2 and ORTIA.
Tank Farm Relocation to the Port of Ngqura (Coega)	SAPIA has appealed to the Port Regulator of SA, the TNPA decision to evict the industry at the DOM PEDRO complex while the alternative storage at Ngqura have not been built and commissioned.
Finalisation of the East London Leases	The expiry of leases held by oil industry members at East London at the end of 2021: - SAPIA wrote a letter to the TNPA requesting an extension of the leases for five years while the incorporation of the Gately Site into the port boundary is being processed. - TNPA believes that the incorporation process will be completed within 12 months and insists on the extending the leases on a month-on-month basis.
Competition Commission exemption	The competition exemption has been extended to 30 December 2021.
Engage Transnet Pipelines to finalise the Conveyancing	TPL has finally responded to SAPIA's comments and concerns on the 2018 Terms and Conditions. In their latest correspondence, they have largely agreed with the issues raised by the industry, and this is a welcome development.

Progress in 2021

Tank Relocation from Port of PE to Ngqura

TNPA's intended goal is to relocate the liquid bulk tank farm from Port Elizabeth to Coega where a new terminal will be built. This new terminal was planned to be commissioned during 2020 with the industry move by Q1 2021. This move would have been concurrent with the planned decommissioning of the Dom Pedro terminal in Port Elizabeth where the air emissions license was due to expire by 31 December 2021.



During the course of 2021, the TNPA announced that oil companies based in DOM PEDRO must vacate by 30 April 2022 this despite the Coega project delays after Oil Tanking Grindrod Calulo (OTGC) announcement that they will no longer continue with construction of the terminal.

This left the oil companies with no alternate facility to move to as result SAPIA has appealed to the Port Regulator of SA, the TNPA decision to evict the industry at the DOM PEDRO complex while the alternative storage at Ngqura have not been built and commissioned.

The following actions are underway with respect to the appeal:

- An affidavit has been disposed to the Port Regulator on the 27 October 2021
- TNPA is expected to lodge their responding affidavit on the 4 January 2022, this is because of the Port Regulator's not sending the relevant information to TNPA.
- Astron Energy is expediting the AEL exemption from the DFFE
- SAPIA has written to the DMRE to adjust the MDZ to cater for the increased cost in the event of DOM PEDRO closing.

The oil industry appeal to the Port Regulator of South Africa will be heard during 2022.

East London Leases

Various oil industry members hold leases over land owned by Transnet properties on which terminal facilities have been built. These facilities are connected to the East London berth via a pipeline under a separate wayleave agreement. All these leases and the wayleave agreements are managed by TNPA and expire on the 31 December 2021.

The leases are located outside the port boundary whereas the wayleave is mostly within the port limits. On expiry, TNPA will proceed with an open tender process as per Section 56 of the Ports Act to grant leases to either new entrants or existing parties. While this is being concluded, the current agreements will continue a month-to-month basis under the same conditions as the original lease.

Based on Norton Rose Fulbright advise to SAPIA on the best route to approach this matter, SAPIA wrote a letter to the TNPA requesting an extension of the leases for five years while the incorporation of the Gately Site into the port boundary is being processed.

Future priorities

SAPIA will be focusing on the following areas in 2022:

- Conduct a risk refresh to identify new emerging risks impacting security of supply and work on the new exemption application of the industry by the Competition Commission.
- Assist Transnet National Ports Authority to ensure a smooth relocation of the oil industry from the Port of PE to the Port of Ngqura (Coega).
- Engage Transnet Pipelines to ensure the introduction of jet fuel into the MPP including the commissioning of the jet fuel tanks at TM2
- Engage the Transnet National Ports Authority to ensure that East London Leases are finalised
- Engage Transnet Pipelines to finalise the Conveyancing



REGULATED PRICE ELEMENTS

OUR FOCUS:

Contribute to policy formulation, implementation and a fair regulatory framework for all



Progress in 2021

Petroleum products price developments

Most liquid fuels prices are regulated by the Department of Mineral Resources and Energy according to predetermined formulas and accompanying, duties, margins and levies. Those liquid fuels not price regulated by the DMRE include aviation gasoline, jet fuel, marine bunker fuels and heavy fuel oils.

The prices of petrol and diesel comprise the basic fuel price (BFP), government taxes and levies (which include the Fuel Levy and the Road Accident Fund levy), various other levies for NERSA or tracer (as applicable), magisterial district zone pricing (MDZ) and in the case of petrol only allowable secondary distribution, storage, wholesale and retail margins determined via the regulatory accounting system (RAS).

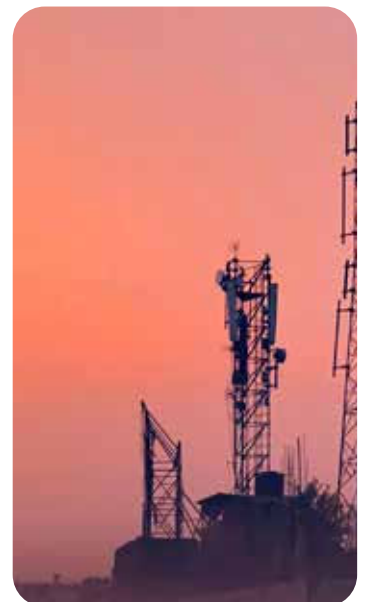
The illuminating paraffin price comprises the BFP for paraffin and various margins for distribution, storage and a wholesale margin. There are no government duties or levies on paraffin (unlike diesel) and there is not VAT levied on the sale of paraffin.

LPG pricing is based off a specific landed cost for LPG at Richard Bay which is the deemed refinery gate price for LPG plus allowable margins for distribution, filling plants, operating costs, depreciation, working capital and a retail margin. VAT is charged on the sum of all these costs.

Regulatory accounting system (RAS)

The regulatory accounting system was fully implemented in 2013 (with a transition period in 2011 from the old MPar system). The RAS system provides a consistent methodology to determine industry margins and guidelines for this have been provided by the Department of Mineral Resources and Energy (DMRE).

In 2016 the Department undertook to finalise the RAS manual which serves as the working rules for the computation of the RAS margins calculations. This manual has been approved but is yet to be published as an official document although the guidelines therein are used in practice.



The RAS margins adjustments are typically made during the December price cycle based on the previous years' submitted information to the DMRE. Price changes for 2021 were effected on 2 December 2020 based on 2019 operational data. Price changes for 2022 became effective on Wednesday 1 December 2021, based on 2020 information supplied to the DMRE.

A notable effect of the RAS price changes on 1 December 2021 was the effect of the Covid-19 pandemic. Overall RAS margins increased by 5.8% mainly due to well above inflationary increases in secondary storage, secondary distribution and wholesale activities which averaged a 12.9% increase on these three activities. The primary reason for this was the requirement to service the existing capital base on lower volumes of petrol – the pandemic saw petrol volumes for 2020 about 14% less than that for 2019. The retail margin, in contrast, only increased by 3.2% over the previous year. The reason why this was significantly different to the other margins is that the retail margin is based off a benchmark service station pumping a specific amount of petrol. This means that this retail margin is 'immune' to actual volumes pumped through the network and increases determined only by the increase (or decrease) of each component in the retail margin which all change at different rates.

Secondary storage element

The secondary storage (SS) portion was increased by 3.5 c/l from 27.2 c/l to 30.7 c/l for petrol (12.8% increase). Diesel is not price regulated to the pump so there is no regulated price for this part of the value chain.

Secondary distribution element

The secondary distribution (SD) portion was increased by 2.16 c/l from 15.8 c/l to 17.94 c/l for petrol (13.7% increase). Diesel is not price regulated at the pump so there would be no regulated margin for this part of the value chain.

Wholesale margin of petrol

The wholesale margin was increased by 5.0 c/l from 40.5 c/l to 45.5 c/l (12.4% increase).

Retail margin on petrol

The retail margin of petrol was increased by 7.2 c/l (3.2 % increase), inclusive of the Motor Industry Bargaining Council (MIBCO) wage agreement which was effected in September 2021.

Wholesale margin of diesel and illuminating paraffin

The wholesale margin of diesel and illuminating paraffin (IP) were adjusted with CPI in December 2021 from 77.66 c/l to 80.22 c/l with the Routers differential for IP remaining constant at 7.4 c/l

Government taxes and levies

The Minister of Finance announced in his February 2021 budget speech that the fuel and road accident fund levies on petrol and diesel will be adjusted effective from 1 April 2021 (actual price change 6 April 2021).

The fuel levy was increased by 15 c/l for both petrol and diesel and the carbon tax levy was increased by 1 c/l on both products to bring the total increases on petrol and diesel to 16 c/l to 393 c/l and 379 c/l respectively. The road accident fund levy was increase by 11 c/l and stands at 218 c/l.

The customs and excise levy remained unchanged at 4 c/l and the IP tracer levy remains unchanged at 0.10 c/l.

Magisterial district pricing zones (MDZ)

The magisterial district price zones, also referred to as primary transport costs, are based on the cost of moving fuels from a supply point to the inland distribution centres by pipeline and road. The tariffs are adjusted annually subject to approval by the Minister of Mineral Resources and Energy.

The magisterial district zone system is based on standard costs for road transport as supplied by the Road Freight Association (RFA) and actual pipeline rates as set by the National Energy Regulator (NERSA) for Transnet Pipelines.

In early 2021, NERSA announced an increase in allowable tariffs of 2.4%. Revised road and pipeline transport tariffs become applicable to fully price regulated fuels from the 1 April of each year. Pipeline tariffs are applicable to all petroleum products conveyed by pipeline, irrespective of whether they are fully price controlled or not. On average the MDZ tariffs for the 2021/2022 period increased by 11%.

Basic Fuel Price

The Basic Fuel Price (BFP) underlying concept is that of the import of a substantial quantity of South African market demand and the mechanisms employed are chosen to provide this estimate. Product that is imported is deemed to originate from major

trading centres that are capable of meeting South Africa's requirements in terms of both product quality and sustained supply considerations.

These working rules for BFP makes provision for the determination of prices for all grades of petrol, diesel and illuminating paraffin to be adjusted on the first Wednesday of each month based on prior month prices. The amounts of the monthly price adjustments determined by these working rules.

From time to time, the Department reviews the constituents and factors in the BFP and in December 2018, the Department published a discussion document to review selected elements of the BFP mechanism. Comments were made to this proposed review but the Department has yet to act on the final outcomes of the review.

LPG pricing – Maximum refinery gate price (MRGP)

The DMRE changed the pricing formula in June 2020 so that LPG would be more reflective of LPG import dynamics considering most LPG consumed in the country is now imported. That is the base price was changed to Saudi CP, plus import costs to Richards Bay on LPG tankers with allowances for wharfage, demurrage, loss, insurance and tankage.

Maximum retail price

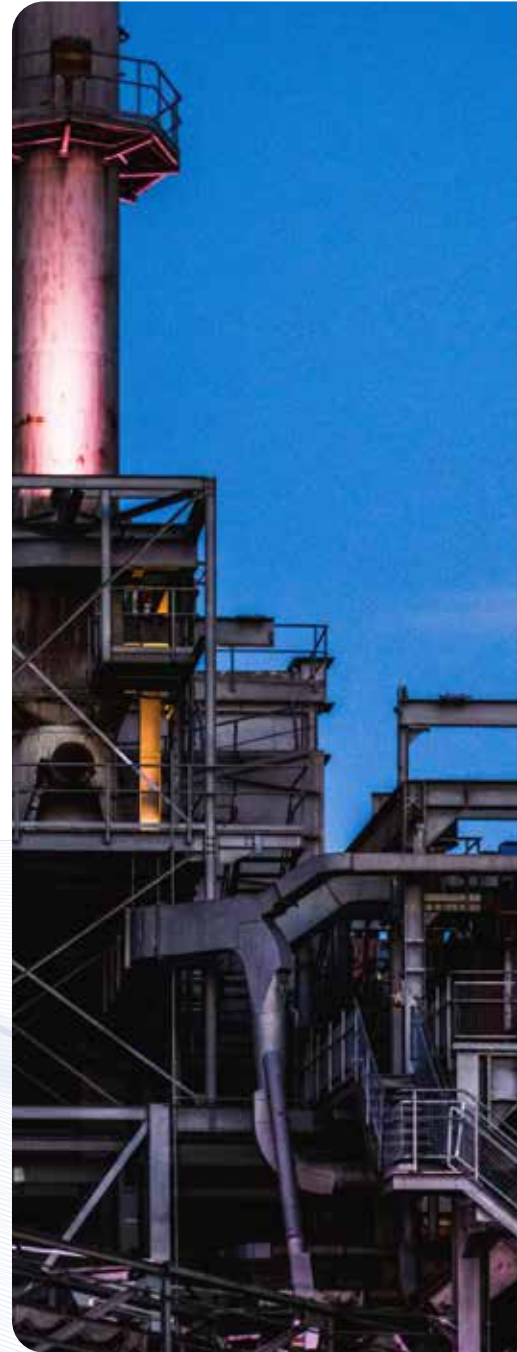
The Maximum retail price (MRP) of LPG supplied to residential customers was implemented in July 2010. In December 2020, the Minister of Mineral Resources and Energy approved an increase in the pricing elements buildup to the MRP of 38.021 c/kg, excluding the 15% allowance on the retail margin.

National Ports Authority tariffs

The National Ports Authority (NPA) applied to the National Ports Regulator (NPR) for an average tariff increase of 19.7% for the period from 1 April 2021 to 31 March 2022. The NPR declined the proposed tariff increase and granted an average tariff increase of 0% by decreasing charges for some goods but increasing those for others. This was similar to the prior year where the NPR refused the tariff increase application by the NPA. Cargo dues remained unchanged for 2021/2022 period at 3.244 c/l.

Levy on the petroleum pipeline industry for 2019/20

In terms of Government Notice No. 1334 of 10 December 2020, the Minister of Mineral Resources and Energy in concurrence with the Minister of Finance approved a levy of 0.39734 c/l applicable from 1 April 2021 to 31 March 2022. The levy was determined based on the estimated volumes of 14.3 billion litres per annum and the 2021/22 annual performance plan and budget requirements for the regulation of the pipeline industry of R56 870.70. This levy has remained unchanged for three years.



STATISTICS

Aggregate financial results of SAPIA members
Value added statements
Petrol wholesale margin
Sources of crude oil for SAPIA members
Crude oil price movements
Brent crude prices
Consumption of petroleum products in South Africa
Petroleum products imports and exports
Demand/refining capacity balance
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Petrol/diesel consumption ratio
Prices in Gauteng
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Fuels taxation history – South Africa
The total annual amounts of fuel taxes collected on petrol, diesel and paraffin
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Aggregate financial results of SAPIA members

Year ended 31 December

	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
Operating profit (R/m)	7 991	11 285	15 053	8 628	10 191	1 448	18 814	19 017	15 003	7 699	5 864	(22 119)	12 851
Interest paid (R/m)	(973)	(1 868)	(1 175)	(1 295)	(1 386)	(1 393)	(1 336)	(880)	(1 227)	(1 279)	(2 066)	(1 205)	(1 758)
Income tax (R/m)	(190)	(1 609)	(2 745)	(2 240)	(2 970)	15	(3 712)	(3 577)	(3 870)	(1 122)	(1 642)	1 913	(2 689)
Net income (R/m)	6 828	7 808	11 134	5 092	5 834	69	13 766	14 560	9 906	5 298	2 156	(21 411)	8 404
Total assets (R/m)	101 051	100 851	108 988	117 240	96 695	114 458	115 110	125 088	171 123	143 654	156 007	140 295	173 341
Capital expenditure (R/m)	5 573	5 091	5 855	6 844	4 950	9 659	6 031	6 502	7 666	4 628	9 623	4 109	2 941
Refinery shutdown	939	574	273	380	638	646	666	342	780	891	1 120	187	288
Other	4 634	4 518	5 582	6 465	4 312	9 014	5 365	6 160	6 886	3 737	8 502	3 922	2 653
After tax return on assets (%)	7	8	10	4	6	0	12	12	6	4	1	(15)	5
Sales volumes (bn litres)	29	22	20	29	29	31	34	33	31	31	31	25	26
Net income after tax (c/l)	24	36	55	18	20	0	40	44	32	17	7	(85)	32

Individual company financial data aggregated by Mr C McClelland CA(SA) (Independent Industry Consultant)

Notes

- * 2012 data reported by 17 SAPIA members
- * 2013 data reported by 18 SAPIA members
- * 2014 data reported by 15 SAPIA members
- * 2015 data reported by 12 SAPIA members
- * 2016 data reported by 9 SAPIA members. PetroSA data is estimated
- * 2017 data reported by 12 SAPIA members
- * 2018 data reported by 9 SAPIA members
- * 2019 data reported by 10 SAPIA members
- * 2020 data reported by 8 SAPIA members

Value added statements

	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
Turnover (R/bn)	195	217	267	285	329	365	300	321	310	405	425	348	420
Net cost of products and services (R/bn)	144	164	187	206	236	280	202	198	186	254	273	223	265
Total value added (R/bn)	51	53	79	79	92	85	98	123	124	151	152	125	155
To pay employees gross salaries, wages and benefits (R/bn)	5	5	4	6	6	6	6	6	7	6	7	7	7
To pay the State tax in the form of													
Income tax (R/bn)	0.2	1	3	2	3	0.02	4.00	4.00	4.00	1.00	2.00	(1.38)	2.97
Duties and levies (R/bn)	40	43	54	63	66	72	83	94	114	145	131	130	134
To pay providers of capital													
Net finance expense (R/bn)	1	2	1	1	1	1	1	1	1	1	2	2	3
Dividends (R/bn)	2	(0.1)	4	2	2	1	3	4	0	0	4	2	1
Retained for future growth													
Depreciation (R/bn)	4	3	3	3	3	3	5	6	5	4	5	5	4
Retained income/other for the year (R/bn)	0.4	(1)	10	2	12	2	(4)	8	(7)	(7)	1	(21)	2
Total value added (R/bn)	51	53	79	79	92	85	98	123	124	150	152	125	155

Individual company financial data aggregated by Mr C McClelland CA(SA) (Independent Industry Consultant)

- * 2012 data reported by 17 SAPIA members
- * 2013 data reported by 18 SAPIA members
- * 2014 data reported by 15 SAPIA members
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- * 2017 data reported by 12 SAPIA members
- * 2018 data reported by 9 SAPIA members
- * 2019 data reported by 10 SAPIA members

Regulatory accounting system margins (Petrol grades)

	2015	2016	2017	2018	2019	2020	2021
Wholesale margin at year end (c/l)	33.20	35.60	34.00	34.80	35.70	40.50	45.50
Retail margins	161.66	176.40	187.20	198.00	206.00	221.60	228.80
Secondary distribution margin at year end (c/l)	13.71	17.30	15.90	14.60	23.00	27.20	30.70
Secondary storage margin at year end (c/l)	18.52	17.90	18.60	20.90	15.20	15.80	17.94
Change over prior year (%)	2015	2016	2017	2018	2019	2020	2021
Wholesale margin at year end	(0.9%)	7.2%	(4.5%)	2.4%	2.6%	13.4%	12.3%
Retail margins	7.0%	9.1%	6.1%	5.8%	4.0%	7.6%	3.2%
Secondary distribution margin at year end	8.8%	26.2%	(8.1%)	(8.2%)	57.5%	18.3%	12.9%
Secondary storage margin at year end	6.4%	(3.3%)	3.9%	12.4%	(27.3%)	3.9%	13.5%

Notes:

* 2011 and 2012 were transition period for regulatory accounting system

** Regulatory accounting system was fully implemented on 4 December 2013

Sources of crude oil for SAPIA members: 2009 to 2021

Country of origin	2009*	2010*	2011*	2012*	2013*	2014*	2015*	2016*	2017*	2018*	2019*	2020	2021
Angola	3 817	3 409	1 948	3 356	2444	2614	3348	4 000	3 420	2 352	1 153		662
Côte d'Ivoire	0	88	0	0		0	0			90		83	
Equatorial Guinea	0	35	38	76	89	378	22	129	144		37		
Ghana	0	0	0	259	746	756	0		125	1149	1 276	1 400	948
Guinea							138		38				0
India									38				48
Nigeria	3 963	3 594	3 755	4 310	4 336	6 658	7 291	6 131	4 083	6 745	7 174	5 065	3 181
North Sea/U.K.	0	0	0	0		0	0	183					
Norway	74	37	0	0		0	0	270		37	145	37	
Oman	141	72	862	0		0	133						
Panama						145	0						
Qatar	0	0	266	242		202	832	682		133			
Russian Federation	839	0	0	0	140	0	0					140	
Saudi Arabia	6 968	4 584	4 793	8 437	9 723	8 120	4 895	7 939	8 170	8 780	6 122	5 490	4 441
South Africa	0	0	0	0		0	0						42
Spain	0	134	0	0		0	0					129	
Sudan													
Switzerland	128	126	76	152	132	0	0						
Togo									297	157	137		
United Arab Emirates	553	1 018	598	538	307	924	1 337	673	107	794	2 011	133	130
United Kingdom	80	0	77	0	24	273	0		0				
United States	0	36	262	0		0	0		139		151	171	103
Unknown												301	
Total	25 040	19 254	17 834	18 940	18 658	21 279	19 233	20 666	16 770	20 238	18 207	12 949	9 554

* South African Revenue Service

All figures are in kilo tons

2020 Crude import figures do not include those into Saldanha from April onwards – these assumed to enter into SFF storage and not for processing.

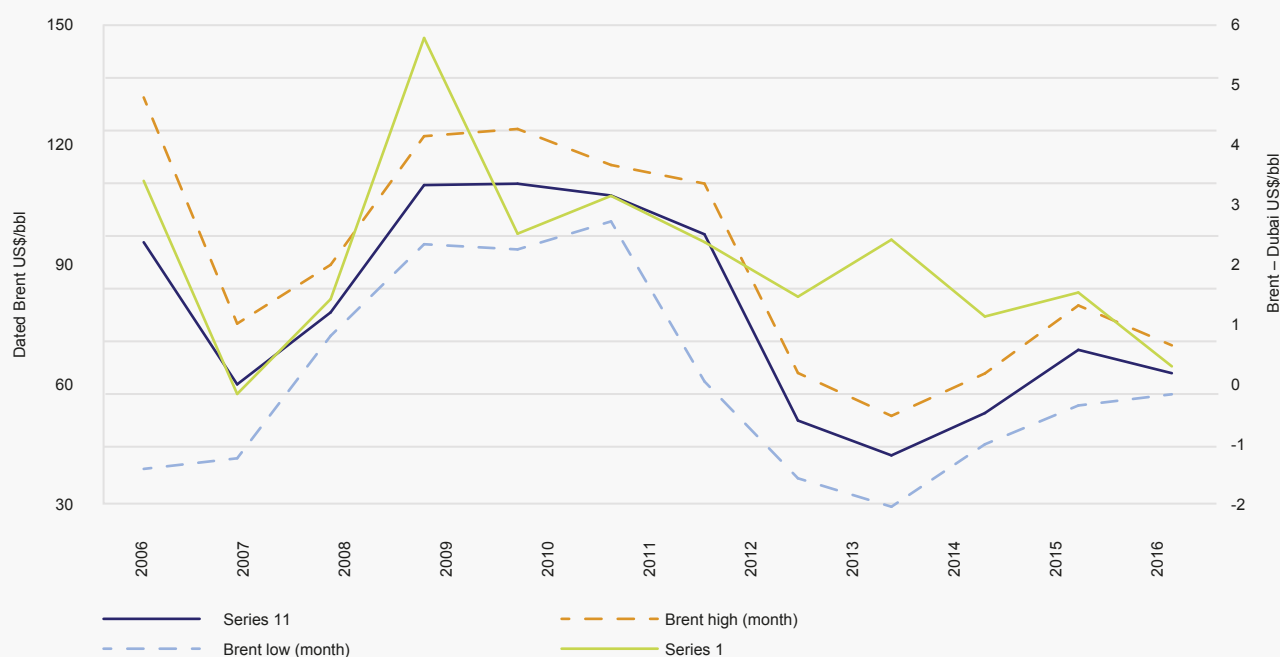
2021 Crude import figures do not include those into Saldanha for the entire year. Crude imports into Saldanha amounted to 2046 k tons.

Crude oil price movements: January 2006 to December 2018

Average monthly prices (US\$/bbl)

	2019		2020			2021		
	Brent	Dubai	Brent	Dubai	Forcados	Brent	Dubai	Forcados
January	59	64	63.6	64.3	64.5	54.8	54.8	54.4
February	64	67	55.4	54.2	56.5	62.2	60.9	60.9
March	66	71	31.8	33.7	33.3	65.6	64.4	64.5
April	71	70	19.0	20.5	21.0	64.7	62.9	63.6
May	71	62	29.0	29.9	28.8	68.7	66.3	66.9
June	64	63	40.1	40.8	40.0	73.0	71.6	72.6
July	64	59	43.4	43.3	43.3	75.0	72.9	73.2
August	59	61	44.8	44.0	44.4	70.8	69.5	68.8
September	63	59	40.8	41.5	40.9	74.6	72.6	73.2
October	60	62	40.2	40.7	40.6	83.7	81.6	82.8
November	63	65	42.7	43.4	43.6	81.4	80.3	80.2
December	67	64	49.9	49.9	49.8	74.1	73.2	73.8
12-month average	64	64	41.7	42.2	42.2	70.7	69.2	69.6

Crude oil price movements



Brent crude prices	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
Average price US \$/bbl	61.5	97.5	111.3	111.6	108.7	99.0	52.0	43.7	54.3	70.9	64.3	41.7	70.7
Average* Rand price/litre	3.28	4.50	5.10	5.78	6.61	6.75	4.16	4.05	4.55	5.90	5.84	4.32	6.57
Average exchange rate	8.47	7.34	7.28	8.23	9.67	10.85	12.73	14.71	13.32	13.24	14.46	16.45	14.78

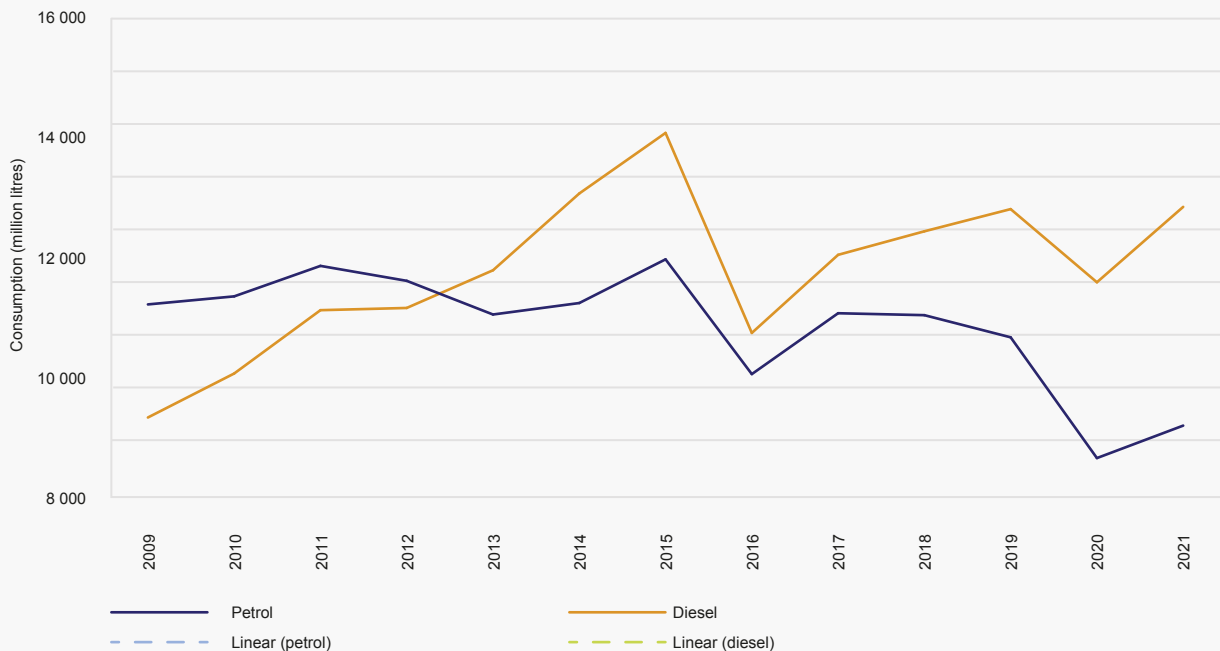
* Based on exchange rate as per CEF BFP rates

Consumption of petroleum products in South Africa

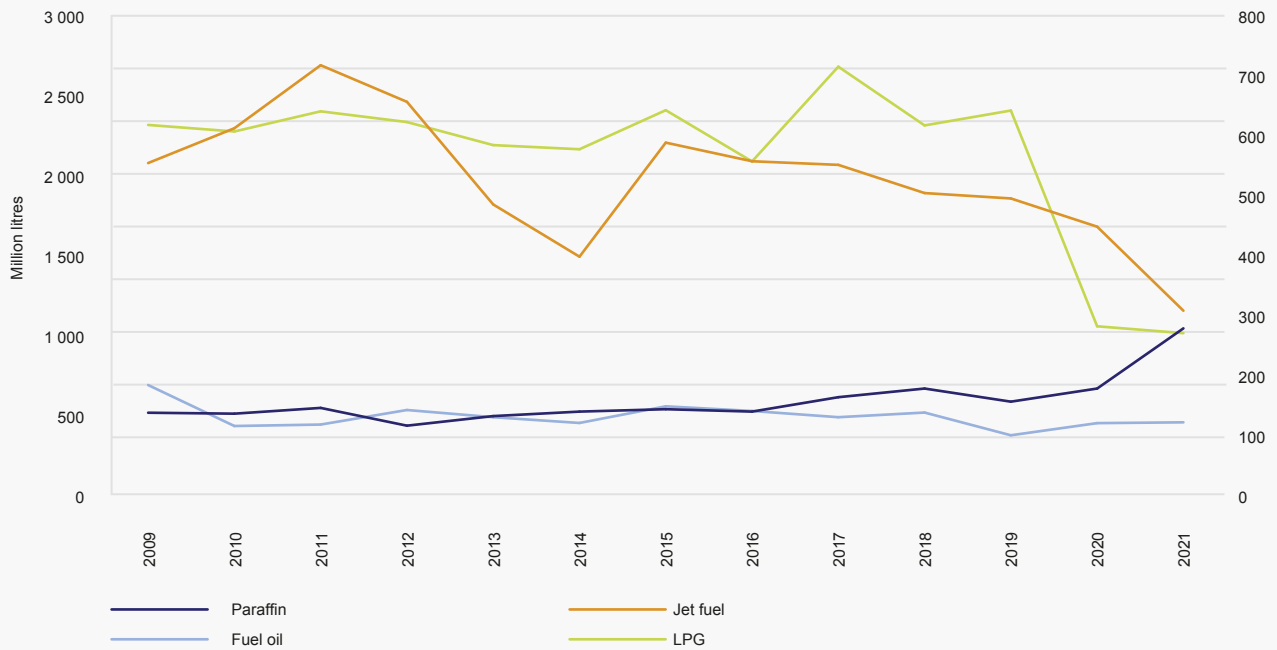
Millions of litres						
Year	Petrol	Diesel	Paraffin	Jet Fuel	Fuel Oil	LPG
2009	11 321	9 437	551	2 349	724	554
2010	11 455	10 170	545	2 308	468	612
2011	11 963	11 225	581	2 434	477	717
2012	11 714	11 262	470	2 367	568	656
2013	11 153	11 890	530	2 223	523	485
2014	11 344	13 169	558	2 197	487	398
2015	12 072	14 178	573	2 441	591	588
2016	10 160	10 846	558	2 121	562	557
2017	11 174	12 147	648	2 713	523	551
2018	11 142	12 539	702	2 346	552	504
2019	10 773	12 909	620	2 439	410	495
2020	8 761	11 690	702	1 091	486	448
2021	9 302	12 946	1 078	1 048	491	308

* Source: Department of Energy

South Africa petrol and diesel consumption



Petroleum products consumption



The ratio of demand between diesel and petrol in 2019 was 1.20, in comparison to 1.13 in 2018. There was a slight increase in consumption of diesel and petrol consumption remained constant. The diesel demand is mainly driven by the economic growth and is inline with the overall GDP rate of 0.2%.

Petroleum products imports and exports

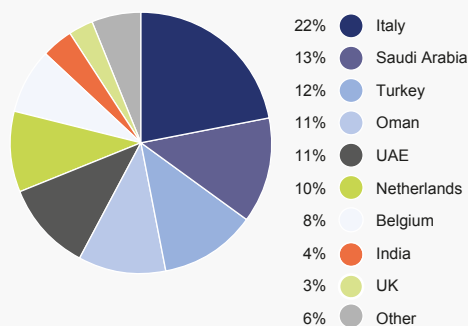
Million litres**								
Year	Imports				Exports			
	Petrol	Diesel	Kerosene	LPG	Petrol	Diesel	Kerosene	LPG
2009	1 979	2 314	107	23	444	853	56	53
2010	2 095	2 575	268	7,55	439	736	69	114
2011	2 420	3 753	251	50	234	538	160	85
2012	1 827	3 247	231	32	444	929	145	76
2013	1 509	4 254	183	74	956	1 620	81	55
2014	1 150	4 997	288	47	989	1 493	155	60
2015	1 870	6 451	275	99	1086	1 625	887	69
2016	1 396	4 424	108	183	1159	1 887	381	71
2017	2 114	6 036	421	182	1082	1 784	395	104
2018	2 195	6 105	395	187	1321	1 838	441	130
2019	1 477	5 858	462	160	1179	1 786	331	110
2020	1 720	6 815	680	268	1155	914	671	108
2021	4 009	9 567	1 001	442	1054	895	147	109

* Source: South African Revenue Service/DMRE

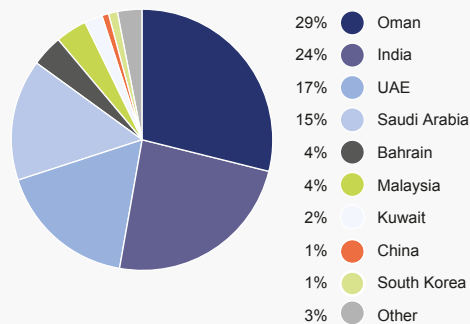
** Figures for LPG are in kilo tonnes

Kerosene includes Illuminating Paraffin, Jet Fuel and Dual Purpose Kerosene

2021 Petrol imports – source



2021 Diesel imports – source



Capacity of South African refineries

Nameplate capacity (bbl/day)

Refineries	2010	2013	2014	2015	2016	2017	2018	2019	2020	2021
Sapref	180 000	180 000	180 000	180 000	180 000	180 000	180 000	180 000	180 000	180 000
Enref	120 000	120 000	120 000	120 000	135 000	135 000	135 000	135 000	135 000	0
Astron Energy	100 000	100 000	100 000	100 000	100 000	100 000	100 000	100 000	100 000	100 000
Natref	108 000	108 000	108 000	108 000	108 000	108 000	108 000	108 000	108 000	108 000
Sasol*	150 000	150 000	150 000	150 000	150 000	150 000	150 000	150 000	150 000	150 000
PetroSA*	45 000	45 000	45 000	45 000	45 000	45 000	45 000	45 000	45 000	0
Total	703 000	703 000	703 000	703 000	718 000	718 000	718 000	718 000	718 000	538 000

* Crude equivalent

2021 – Engen announced the closure of their refinery in Durban. PetroSA facility at Mossel Bay shut down due to lack of feedstock

Prices in Gauteng: 30 June each year

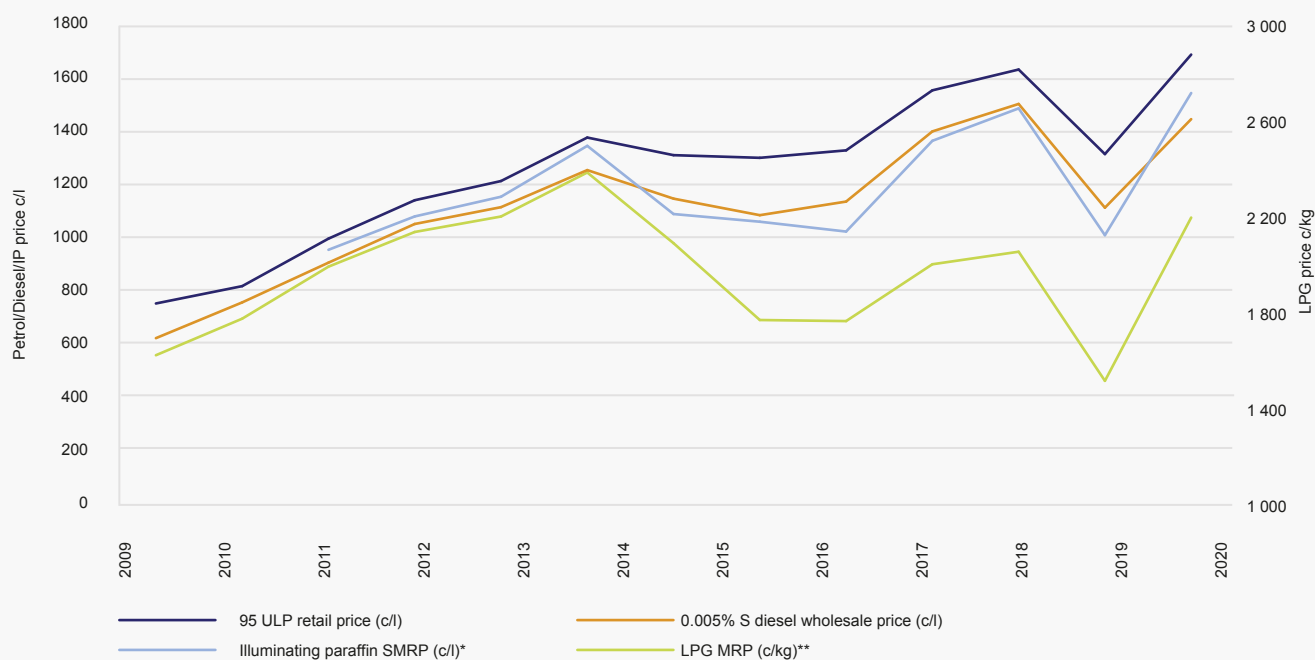
Year	95 octane leaded petrol retail price (c/l)	0.005% sulphur diesel wholesale price (c/l)	Illuminating paraffin single maximum national retail price (c/l)*	Liquefied petroleum gas maximum retail price (c/kg)**
2009	780	650	586	
2010	845	784	723	
2011	1 023	933	918	2 068
2012	1 167	1 078	1 048	2 207
2013	1 239	1 141	1 106	2 289
2014	1 402	1 280	1 271	2 501
2015	1 336	1 173	1 006	2 217
2016	1 326	1 111	718	2 185
2017	1 354	1 162	714	2 144
2018	1 579	1 425	927	2 522
2019	1 657	1 528	974	2 657
2020	1 340	1 139	490	2 129
2021	1 713	1 471	1 102	2 721

* The single maximum national retail price (SMRP) for IP was introduced in 2003

** Maximum retail price (MRP) of LPG was introduced in July 2010

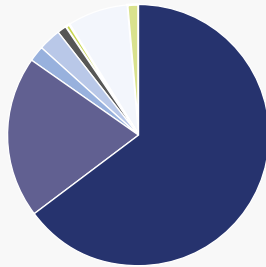
Source: Department of Mineral Resources and Energy June Price Schedule

Petroleum product prices



Petrol, diesel and LPG price breakdown

93 Octane petrol:
Gauteng retail
price 2 007 c/l in
December 2020

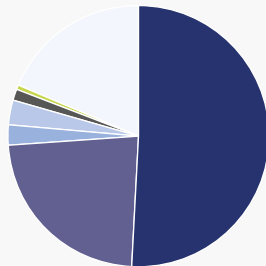


65.8%	Contribution to the basic price	2007.000 c/l
20.2%	Government duties and levies	615.330 c/l
2.1%	Zone differential	64.900 c/l
2.8%	Wholesale margin	45.500 c/l
1.0%	Secondary storage	30.700 c/l
0.6%	Secondary distribution	17.940 c/l
7.5%	Retail margin*	228.800 c/l
0%	Pump rounding	0.500 c/l
1.4%	Slate levy	41.660 c/l

Source: Media release by Department of Minerals and Energy

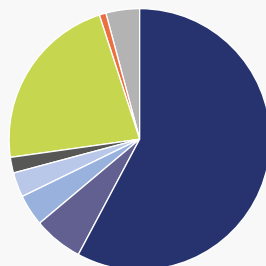
* Includes MIBCO agreement for Fourcourts attendants which was only effective 1 Jan 2020

Diesel (0.05% S):
Gauteng
wholesale price
1 792.480 c/l in
December 2020



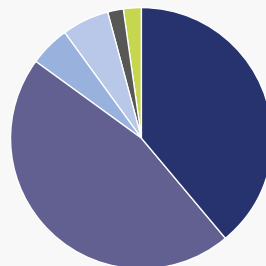
50.9%	Contribution to the basic price	1 792.480 c/l
23.2%	Government duties and levies	601.430 c/l
2.5%	Zone differential	64.900 c/l
3.1%	Wholesale margin	80.220 c/l
1.2%	Secondary storage	30.700 c/l
0.7%	Secondary distribution	17.940 c/l
18.4%	Slate levy	0.000 c/l

95 Octane petrol:
Gauteng retail
price 1 446 c/l in
December 2020



58%	Contribution to the basic price	479.170 c/l
6%	Government duties and levies	588.330 c/l
4%	Zone differential	63.700 c/l
3%	Wholesale margin	40.500 c/l
2%	Secondary storage	27.200 c/l
22%	Secondary distribution	15.800 c/l
0%	Retail margin	221.600 c/l
1%	Pump rounding	-0.300 c/l
4%	DSML	10.000 c/l
0%	Slate levy	41.660 c/l

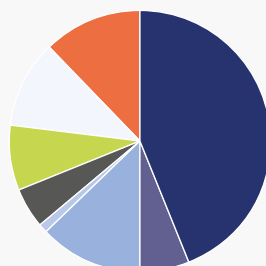
Diesel (0.005% S):
Gauteng wholesale
price 1 247.82 c/l in
December 2020



39%	Contribution to the basic price	489.030 c/l
46%	Government duties and levies	574.430 c/l
5%	Zone differential	63.700 c/l
6%	Industry margin	77.660 c/l
2%	Service differential	27.200 c/l
2%	Service differential	15.800 c/l
0%	Slate levy	0.000 c/l

**Maximum retail price
of Liquefied Petroleum
Gas price breakdown**

LPG: Gauteng max retail price
3 570 c/kg in December 2020



44%	Maximum refinery gate price	1578.424 c/kg
6%	Primary transport costs	225.582 c/kg
13%	Operating expenses	464.757 c/kg
1%	Working capital	35.228 c/kg
5%	Depreciation	173.648 c/kg
8%	Gross margin: Cylinder-filling plant	221.883 c/kg
11%	Retail margin (15%)	404.928 c/kg
12%	Value Added Tax (15%)	465.668 c/kg

Source: Media release by
Department of Minerals and Energy

Fuels taxation history – South Africa (rates as at 31 December each year)

Petrol

Year	Customs and Excise Duty	Fuel Levy	Road Accident Fund Levy	Petroleum Products Levy	Demand Side Management Levy*	Total Imposts
2006	4.0	116.0	36.5	0	10.0	166.5
2007	4.0	121.0	41.5	0.19	10.0	176.7
2008	4.0	127.0	46.5	0.15	10.0	189.2
2009	4.0	150.0	64.0	0.15	10.0	231.15
2010	4.0	167.5	72.0	0.15	10.0	256.65
2011	4.0	177.5	80.0	0.15	10.0	274.65
2012	4.0	197.5	88.0	0.15	10.0	302.65
2013	4.0	212.5	96.0	0.15	10.0	325.65
2014	4.0	224.5	104.0	0.15	10.0	342.65
2015	4.0	255.0	154.0	0.15	10.0	423.15
2016	4.0	285.0	154.0	0.33	10.0	453.33
2017	4.0	315.0	163.0	0.33	10.0	492.33
2018	4.0	337.0	193.0	0.33	10.0	544.33
2019	4.0	361.0	198.0	0.33	10.0	573.33
2020	4.0	363.0	207.0	0.33	10.0	584.3
2021	4.0	393.0	218.0	0.33	10.0	625.3

* DSML only on 95 ULP in zones 07A, 07C, 08A, 08C, 09A, 10A, 09C, 10C, 11A, 11C, 12C, 13A, 13C, 14C, 15C, 15A, 16C, 17A, 17C and 19A

Gauteng retail price (95 Octane) c/l – December 2020 1 446
Taxes and levies as a % of this retail price 40.41%

Diesel

Year	Customs and Excise Duty	Fuel Levy	Road Accident Fund Levy	Petroleum Products Levy	IP Tracer Dye Levy	Total Imposts
2006	4.0	100.0	36.5		–	140.5
2007	4.0	105.0	41.5	0.19	–	150.7
2008	4.0	127.0	46.5	0.15	–	179.2
2009	4.0	135.0	64.0	0.15	–	206.2
2010	4.0	152.5	72.0	0.15	–	231.7
2011	4.0	162.5	80.0	0.15	–	249.7
2012	4.0	182.5	88.0	0.15	–	277.7
2013	4.0	197.5	96.0	0.15	–	300.7
2014	4.0	209.5	104.0	0.15	–	317.7
2015	4.0	240.0	154.0	0.15	–	398.2
2016	4.0	270.0	154.0	0.33	–	428.3
2017	4.0	300.0	163.0	0.33	–	467.3
2018	4.0	322.0	193.0	0.33	–	519.3
2019	4.0	347.0	198.0	0.33	0.1	549.4
2020	4.0	363.0	207.0	0.33	0.1	574.4
2021	4.0	379.0	218.0	0.33	0.1	601.4

Gauteng wholesale price (0.005% S) c/l – December 2020 1 247.82
Taxes and levies as a % of the wholesale price 46.03%

The total annual amounts of fuel taxes collected on petrol diesel and paraffin (calculated on 2021 sales volumes at June 2021 rates)

		Petrol	Diesel
Sales volumes (million litres)		9 302	12 946
95 unleaded petrol in the DSML area (million litres)		3 743	
Customs and Excise duty (c/l)		4.00	4.00
Fuel levy (c/l)		393.00	379.00
Road accident fund levy (c/l)		218.00	218.00
Equalisation fund levy (c/l)		0.00	0.00
Value Added Tax (VAT)		0.00	0.00
Demand side management levy (DSML) (c/l)		10.00	0.00
IP marker levy (c/l)		0.00	0.10
Petroleum products levy (c/l)		0.33	0.33
		Total Million Rands	
Customs/Excise duty	372	518	890
Fuel levy	36 555	49 065	85 620
Road accident fund levy	20 277	28 222	48 499
Equalisation fund levy	0	0	0
Value Added Tax (VAT)	0	0	0
Demand side management levy (DSML) ¹	374		374
IP marker levy ²	0	13	13
Petroleum products levy ³	31	43	73
Total	57 610	77 860	135 470

Source: DMRE/CEF

¹ Only applicable to 95 octane unleaded petrol sold in the inland zones

² Levy added to diesel to cover costs of marker added to illuminating paraffin recovered by the oil industry

³ The levy is used to cover the cost of the National Energy Regulator for regulating the petroleum pipelines industry

Health, safety and environment performance indicators covering distribution activities outside the refinery gate

Performance indicators	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
(Not including refineries)												
Safety: staff and contractors												
Fatalities	27	8	10	9	14	10	3	5	0	1	0	2
Lost time injuries	51	44	43	26	25	16	23	27	33	9	14	13
Hours worked (million)	24.6	26.6	30.0	28.9	31	34.9	65.4	71.5	70.1	53.2	26.6	25.4
Total recordable rate (TRR), fatalities, lost time injuries and medical treatment cases per 200 000 hours worked	0.4	0.5	0.4	0.4	0.6	0.2	0.3	0.4	0.3	0.4	0.2	0.2
Environment												
Fires	33	16	13	29	21	32	31	31	18	13	9	9
Health												
Occupational illnesses	2	1	2	1	1	1	1	1	3	0	0	6
Security												
Hijackings	17	5	6	9	9	9	0	6	2	5	8	10
Cash-in-transit robberies	31	18	27	11	17	24	26	54	26	12	15	12
Retail robberies	430	156	222	214	274	410	381	787	431	363	401	377

Crude refineries' resource consumption and waste/emissions

		2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
Water usage: litres	Total	11 234 343	11 181 656	10 644 383	8 588 691	7 774 810	6 490 410	7 467 484	10 116 875	6 645 051	3 952 137
	Municipal	6 507 540	6 651 098	6 284 621	5 944 116	6 544 507	6 490 410	6 895 681	7 792 703	6 023 085	3 952 137
Electricity consumption: Gwh		850	863	932	895	950	1 176	967	933	754	605
SO ₂ emissions: tons		21 210	21 677	22 054	21 206	20 166	17 308	16 385	19 348	13 936	10 312
PM emissions: tons		891	983	962	1 517	866	945	1 108	576	425	258
CO ₂ emissions: tons		3 164 964	3 144 239	3 447 894	2 653 748	3 643 580	3 445 407	3 509 640	3 524 088	2 674 936	2 307 580
Waste: Tons	Total	16 952	39 177	24 190	37 130	40 345	42 785	49 017	43 227	44 655	37 892
	Hazardous	11 487	26 170	18 606	27 317	32 239	36 105	41 492	34 266	40 130	32 500
	Non-hazardous	5 465	13 007	5 583	9 813	8 106	6 680	7 525	8 961	4 525	5 392

Crude and coal/gas to liquids refineries' health and safety indicators

Indicator	2015	2016	2017	2018	2019	2020	2021
Fatalities	3	1	2	0	2	3	2
Lost time injuries (LTI)	29	47	44	55	23	33	19
Exposure hours	54 175 090	53 412 875	49 819 482	52 602 045	53 046 089	54 522 263	37 222 328
Occupational illnesses	45	25	6	36	62	53	29
Total recordable rate (TRR) (fatalities LTI and medical treatment cases per 200 000 hours worked)	1.52	0.99	1.5	1.29	1.5	1.13	1.15

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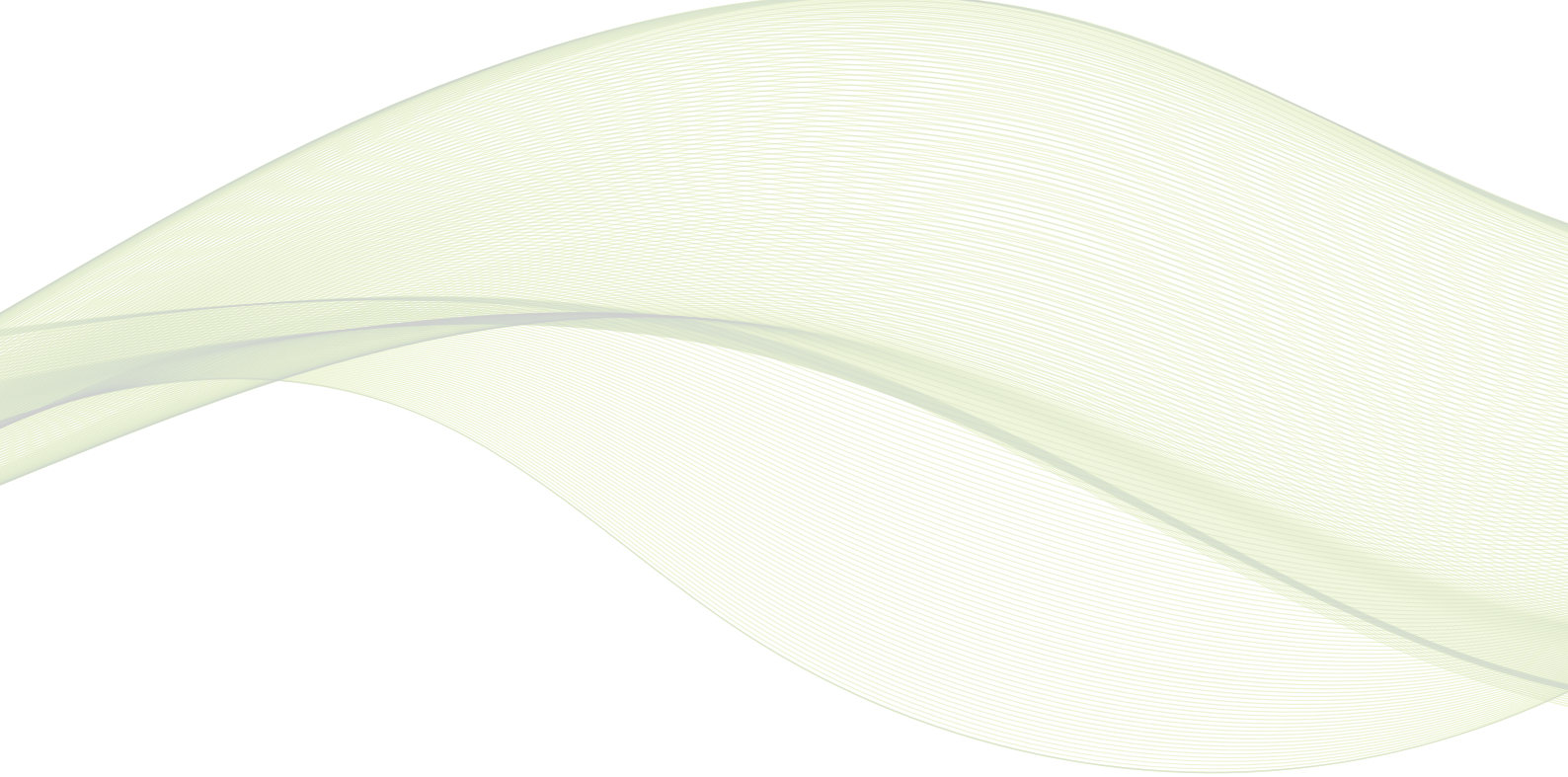
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ABBREVIATIONS

ACSA	Airports Company of South Africa	NERSA	National Energy Regulator of South Africa
B-BBEE	Broad-based black economic empowerment	NICOLA	Network for Industrially Contaminated Land in Africa
Bbl/day	Barrels per day	NOSCP	National Oil Spill Contingency Plan
BEE	Black economic empowerment	NPA	National Ports Authority
BUSA	Business Unity South Africa	NPR	National Ports Regulator
CHIETA	Chemical Industry Education and Training Authority	NPEA	National Petroleum Employers Association
CO ₂ e	Carbon dioxide equivalent	NSDS	National Skills Development Strategy
CSI	Corporate social investment	NSDS III	National Skills Development Strategy III
DOE	Department of Energy	OPEC	Organisation of the Petroleum Exporting Countries
HDSAs	Historically disadvantaged South Africans	OPRC	Oil Pollution Preparedness, Response and Co-operation
HRD	Human resource development	PPA	Petroleum Products Amendment Act
IEA	International Energy Agency	PPC	Parliamentary Portfolio Committee
IeC	Integrated Energy Centre	PPP	Public-private partnership
IK	Illuminating kerosene	RAF	Road Accident Fund
INDC	Intended nationally determined contribution	RAS	Regulatory accounting system
IP	Illuminating paraffin	RON	Research octane number
Kb/day	Thousand barrels per day	SAMSA	South African Maritime Safety Authority
LFC	Liquid Fuels Charter	SAPIA	South African Petroleum Industry Association
LOE	Leadership in Oil and Energy Certificate Programme	SBM	Single buoy mooring
LPG	Liquefied petroleum gas	SETA	Sector Education and Training Authority
MMT	Methylcyclopentadienyl manganese tricarbonyl	SETs	Sectoral emission targets
MIBCO	Motor Industry Bargaining Council	SSP	Sector Skills Plan
MDZ	Magisterial district zones	TFR	Transnet Freight Rail
MPP	Multi-product pipeline	TOR	Terms of reference
MTT	Ministerial task team	TPL	Transnet Pipelines
NEMA	National Environmental Management Act	WACC	Weighted average cost of capital
NEMA: AQA	National Environmental Management: Air Quality Act		



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