



**SASOL**

# POSITIONING FOR RESILIENCE IN A LOWER-CARBON FUTURE

**SASOL LIMITED**  
Climate Change Report  
30 June 2019

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## Our suite of reports

This report forms part of the suite of annual reports, which also includes our CDP disclosures.

|  |  |  |
|--|--|--|
|  <p><b>IR</b><br/><b>Integrated Report</b><br/>Concise communication about how Sasol's strategy, governance, performance and outlook lead to the creation of value over the short, medium and long term.</p>  |  <p><b>SR</b><br/><b>Sustainability Report</b><br/>Communication about Sasol's Environmental, Social and Governance (ESG) performance.</p>  |  <p><b>CCR</b><br/><b>Climate Change Report</b><br/>Information about Sasol's climate change risk management process, response strategy and summary of work underway to address our climate change risks.</p> |
|  <p><b>AFS</b><br/><b>Annual Financial Statements</b><br/>Contains full analysis of the Group's financial results, with detailed financial statements, as well as the full Remuneration Report together with the report of the Audit Committee.</p> |  <p><b>20-F</b><br/><b>Form 20-F</b><br/>Our Annual Report which is filed with the United States Securities and Exchange Commission (SEC), in line with the requirement of our New York Stock Exchange listing.</p> |  <p><b>CCP</b><br/><b>Climate Change Presentation</b><br/>Supplementary information to support our Climate Change Report.</p>   |

These reports are available on our website, [www.sasol.com](http://www.sasol.com), or on request from Sasol. Contact details are on page 34.

## Our suite of reports comply with the following reporting standards and frameworks

|  | IR | SR | CCR | AFS | 20-F |
|--|----|----|-----|-----|------|
| The International Integrated Reporting <IR> Framework                        | ✓  |    |     | ✓   |      |
| South African Companies Act 71 of 2008, as amended                           | ✓  |    |     | ✓   |      |
| Johannesburg Stock Exchange (JSE) listing requirements                       | ✓  |    |     | ✓   |      |
| King Code of Governance Principles for South Africa (King IV)™               | ✓  |    |     | ✓   |      |
| International Financial Reporting Standards (IFRS)                           | ✓  |    |     | ✓   | ✓    |
| Global Reporting Initiative (GRI)  |    | ✓  |     |     |      |
| Task Force on Climate-related Financial Disclosures (TCFD)                   | ✓  | ✓  | ✓   |     |      |
| United Nations (UN) Sustainable Development Goals (SDGs)                     |    | ✓  |     |     |      |
| United States Securities and Exchange Commission (SEC) rules and regulations |    |    |     |     | ✓    |
| Sarbanes-Oxley Act of 2002   |    |    |     |     | ✓    |

1. A voluntary disclosure guideline which has been interpreted for the Sasol context.

For more detailed information on our climate change management approach, access our CDP on [www.sasol.com](http://www.sasol.com).



## About this report

This is Sasol's first report aligning with the recommendations of the Task Force on Climate-related Financial Disclosures<sup>1</sup> (TCFD). We committed to TCFD in 2018, with this year being our first year of enhanced disclosures. We aim to report more detail in subsequent years as our climate change management approach evolves.

This year our overall climate change strategy and ambition is presented, together with progress made over the past year in responding to the risk of climate change. We are defining a roadmap, with the aim of being resilient in a lower-carbon future. In addition, we outline the path that lies ahead based on scenario analysis. In using scenarios, which are iterative and dynamic, we are able to understand our business's agility in a changing environment. This report should be read in conjunction with our suite of annual reports and a TCFD index is located in the Appendices to help you navigate our suite of reports.

# Message to our stakeholders



Bongani Nqwababa Joint President and CEO

Stephen Cornell Joint President and CEO

## KEY MESSAGE

“Sasol is reducing our greenhouse gas (GHG) emissions and is well aware of the need to develop solutions to the challenge of climate change. The exponential growth in the body of scientific evidence and the related call for action, has demanded all to accelerate their responses. Sasol is not alone in needing to strengthen our response with urgency. In South Africa, our climate change strategy takes into account the multiple interwoven challenges that we face including the issues of inequality, poverty and unemployment, as well as meeting growing energy demands and decarbonising the economy.”

The Paris Agreement codified the need for society to act with greater urgency to limit global warming to well below 2°C above pre-industrial levels and to pursue further efforts to limit this increase to 1,5°C. Now, in 2019, governments and industry players have been further challenged to address climate change with the utmost urgency. The next decade is deemed critical for emission reductions to prevent further natural disasters and ecosystem impacts and to safeguard the quality of life for generations to come.

We see opportunity in the transition to a lower-carbon economy and are progressing our climate change response as a top priority. Over the past year, we mobilised the organisation to develop a strategic framework for action, which we are executing on, to deliver on our ambition of transforming Sasol’s operations. This framework encompasses **reducing our emissions** in the short-to-medium term through efficiency gains and by using cleaner energy sources; **transforming our operations** in the medium term through lower-carbon feedstocks and **shifting our portfolio** towards operations and businesses that are compatible with a lower-carbon economy.

On this accelerated path, in addition to existing targets, **our first goal is to reduce by 2030 the absolute GHG emissions from our South African operations by at least 10%, off our 2017 baseline.**

This target – over and above the approximately 13% GHG improvement achieved since 2004 – is challenging for a carbon-intensive petrochemicals business with limited alternative energy sources. However, based on our internal analysis, we believe that it is not only attainable but indeed necessary.

Our emission-reduction roadmap, once completed, will assist in realising our three-pillar framework and targets. It will articulate the specific facility-level mitigation initiatives, along with a quantification of the social and economic consequences of the choices we make and the feasibility of integration of technologies into our facilities. In doing so, we will also review our target for increased ambition in line with the latest available science and the national context. Inevitably, there will be difficult trade-offs for which we as Sasol are accountable.

By committing to releasing this emission-reduction roadmap by November 2020, we acknowledge the urgency required and are cognisant of the enormity of the work we are undertaking.

We do not have all the answers today, but through piloting demonstration projects, leveraging the considerable skills available to us and technology solutions available in industry, we truly believe we are up for the task. Success in this area is necessary because we are one of South Africa's largest corporate employers, biggest taxpayers, as well as a significant contributor to socio-economic development. These considerations underscore the responsibility we have to ensure that our climate change response is meticulously considered and implemented.

The very best minds internally and globally recognised experts are actively working on this. In our new Sustainability and Risk Function, we have dedicated expertise with the specific subject-matter skills and the Sasol experience necessary to coordinate and mobilise the organisation for this fundamental change.

We will augment this report through regular updates as part of our stakeholder engagement approach. Working towards our next major milestone, which will be the announcement of our emission-reduction roadmap, our timeline is to:

- provide a progress update on our roadmap development together with our 2020 interim results announcement;
- proactively engage with our stakeholders on progress made on our emission-reduction roadmap subsequent to the 2020 interim results announcement;
- make available further climate change communication through our annual reports in August 2020; and
- release our emission-reduction roadmap by November 2020.

By having a structured approach, we can help in mitigating the effects of climate change through reducing our emissions as well as bolstering the resilience of our business to serve our customers, employees, communities and many other stakeholders for generations to come.


At the 2019 New York Climate Week, where we participated for the fifth year running, the United Nations Secretary General, António Guterres said: "The climate emergency is a race we are losing, but it is a race we can win if we change our ways now." Innovating in the face of adversity has been a hallmark of Sasol since its inception. We are embracing this change now and look forward to your continued support as we shape a new Sasol.



**Bongani Nqwababa**

Joint Presidents and Chief Executive Officers

28 October 2019



**Stephen Cornell**

## Our 2019 GHG improvements

Total GHG emissions decreased by

**1,27%**

from 2018

(tons of carbon dioxide equivalent)

Direct carbon dioxide Scope 1 emissions decreased by

**1,28%**

from 2018

(tons of carbon dioxide equivalent)

Indirect carbon dioxide Scope 2 emissions decreased by

**1,33%**

from 2018

(tons of carbon dioxide equivalent)

Total GHG intensity decreased by

**4,50%**

from 2018

(tons of carbon dioxide equivalent/  
ton production)

# Overview of our climate change strategy

## Sasol's climate change ambitions:

- **Reduce** our GHG emissions aligned with global climate change agreements.
- **Transform** our business to ensure resilience in a lower-carbon future.
- **Shift** our portfolio to reduced and lower-carbon businesses.

### Three-pillar emission-reduction framework

### Adaptation strategy



#### Reduce our emissions

- Investigating and exploring further short-to-medium term reductions, including switching to low carbon-intensive energy sources (renewable energy) and additional process improvements.



#### Transform our operations

- Evaluating further integration of cleaner alternative feedstocks.
- Investigating new processes to modify our emissions profile.
- Collaboratively finding opportunities to benefit our concentrated carbon dioxide (CO<sub>2</sub>) sources for unlocking broader societal value.



#### Shift our portfolio

- Driving value growth through reduced and lower carbon-intensive businesses.
- Actively reviewing equity in assets not aligned with our long-term strategy.



#### Resilience to physical weather impacts

- Responding to the physical risks associated with climate change.
- Continuing to take steps to understand and respond to current and projected future weather and climate risk for our business and surrounding communities.



#### Our emission-reduction roadmap

- Assess and define interventions to reduce emissions in the short-to-medium term and transform our operations in the medium-to-long term.



#### Enabling initiatives and partnerships

- Use of carbon offsetting to complement our three-pillar framework.
- A global network of research, partnerships and community initiatives to accelerate the change.
- Climate change disclosures to communicate with our stakeholders.

## Our targets:

- **Reduce by 2030 the absolute GHG emissions from our South African operations by at least 10%, off our 2017 baseline.**
- Enhance our climate change disclosures over the next three years.
- Maintain a 302 million tons (Mt) carbon dioxide equivalent (CO<sub>2</sub>e) carbon budget between 2016 and 2020 for our South African operations.
- 30% global energy efficiency improvement by 2030, off our 2005 baseline.

# Interview with our Chief Sustainability and Risk Officer



**Hermann Wenhold** Chief Sustainability and Risk Officer

## Q Why is Sasol publishing a Climate Change Report?

A Sasol is responding to stakeholder queries for more information on our climate change management approach. We are also aligning to the TCFD recommendations for enhanced disclosures.

We know we still have a long way to go in defining and implementing our accelerated response. This report is a first step in providing our consolidated approach to managing climate change and reflects on our journey thus far.

## Q How does Sasol's approach to climate change fit into its broader sustainability strategy?

A We have a range of environmental and societal responsibilities that are reflected in our vision and purpose.

This year we adopted four prioritised United Nations Sustainable Development Goals (UN SDGs) as we share the view that business has a key role to play in achieving these objectives. We also entrenched our sustainability statement, which guides our overall sustainability efforts by focusing our attention on **“advancing chemical and energy solutions that contribute to a thriving planet, society and enterprise”**.

Detailed in our 2019 Sustainability Report **SR** is the motivation and alignment of the UN SDGs as part of Sasol's strategy. Based on the magnitude of our climate change challenge, we focus on SDG 13: Climate Action as an immediate priority.

As well as aiming to be resilient in a lower-carbon future, we strive to grow shared value for our stakeholders, minimise our environmental footprint and ensure safe and enduring operations. Our decisions take these imperatives into account. Within our strategy, we see them as reinforcing rather than mutually exclusive. At the same time, we are already working to take advantage of the new opportunities that the transition presents and to drive

value-based growth in reduced and lower carbon-intensive businesses as compared to our South Africa operations, such as the Lake Charles Chemicals Project (LCCP) in the United States (US).

## Q How will climate change affect Sasol's business, operations and value creation?

A As we contribute and respond to the global transition to a lower-carbon future, business as usual is no longer possible.

Our business, particularly in South Africa, will be impacted in multiple ways. These include potential changing demand for our products, new policy requirements, higher costs from the transition to a lower-carbon future and physical climate change impacts on our operations. We are adapting as the transition takes place. Therefore, we have adopted a structured approach and are already executing on our emission-reduction ambitions. **Our first goal is to reduce by 2030 the absolute GHG emissions from our South African operations by at least 10%, off our 2017 baseline.** Our emission-reduction roadmap will detail how we intend meeting this 2030 target.

## Q How can a company currently dominated by coal-to-liquids (CTL) thrive in a lower-carbon future?

A For us to thrive, a fundamental change is required. This is why we are implementing a three-pillar emission-reduction framework focusing on **reducing** emissions, **transforming** our operations and **shifting** our portfolio, with the aim of positioning our business for a carbon-constrained future.

By reducing emissions through alternative feedstocks and technologies such as renewable energy, we believe our products, produced in an increasingly sustainable manner, will serve an important market need, while addressing climate requirements.

## Q How is Sasol's response to climate change affected by its position in South Africa?

A We are committed to addressing climate change across all our operations. Our resilience is strengthened by having a diverse portfolio in many parts of the world, with lower GHG emission profiles than our South African operations.

In South Africa, our large GHG profile necessitates a key role for us in supporting the country's transition to a lower-carbon economy, both as a business and social imperative. Specifically, the transformation of our operations in Secunda can be instrumental for South Africa's transition, in line with its Paris Agreement commitment. We will continue to play our role in the country's socio-economic development, including working with our stakeholders to ensure our climate change response supports a “just transition”<sup>2</sup>.



**Hermann Wenhold**  
Chief Sustainability and Risk Officer  
28 October 2019

2. A framework that has been developed by the trade union movement to encompass a range of social interventions needed to secure workers' jobs and livelihoods when economies are shifting to sustainable production, including avoiding climate change, protecting biodiversity and ending war, among other challenges.

# Executive summary

## Our climate change journey

Since 2005, we **improved our energy efficiency by 21,7% in South Africa and 19,5% globally. Our target aims for a 30% global improvement in energy efficiency by 2030.** We also reduced GHG emissions from our existing operations by approximately 10 Mt since 2004. Sasol fully accepts the scientific basis relating to anthropogenic climate change and we recognise that much more needs to be done to support the aims of the Paris Agreement. We are therefore committed to making transformational changes to our business.

## The challenge we face

Sustainability is a strategic imperative for Sasol and our sustainability statement and focus areas guide our efforts. In **"advancing chemical and energy solutions that contribute to a thriving planet, society and enterprise"**, we support the UN SDGs. Sasol has prioritised four UN SDGs that are closely linked to our key sustainability focus areas and to the national development priorities of the countries in which we operate. For further information on our contribution to the UN SDGs refer to the Sustainability **SR** and Integrated **IR** Report.



Addressing climate change is a complex challenge for us given our coal-based carbon-intensive feedstock and the limited alternative energy sources in South Africa, especially available to our Secunda Operations. As we transition to a lower-carbon future, we will do so in a manner that recognises our significant socio-economic contribution in Secunda and broader society. This reality necessitates a balanced and carefully considered management approach, which takes into account our stakeholders and ensures that we continue to support economic growth and development in the areas in which we operate.

Our commitment to addressing climate change across our operations translates into consideration of investment strategies, technology and commercial options aligned with our agreed sustainability objectives.

## Our response

Our response is based on a robust risk assessment process, grounded in scenario analysis and our recently strengthened climate-related governance structure at Board and executive levels. Based on these foundations, we have adopted a three-pillar framework to drive our mitigation efforts and guide our capital allocation.

By using known technologies, making changes to our feedstock and research and development, we are positioning ourselves to influence and leverage technological developments as they become available and feasible to implement. Based on this framework, **we committed to reduce by 2030 the absolute GHG emissions from our South African operations by at least 10%, off our 2017 baseline.**

## The road ahead

We are developing an emission-reduction roadmap to support achievement of our absolute reduction and energy efficiency targets and to ensure that we are being transparent on our progress. Our portfolio and strategy is currently being reviewed against more stringent climate change scenarios, which could result in fundamental changes for Sasol.

We will communicate progress on these activities at the 2019 Annual General Meeting (AGM) and our emission-reduction roadmap will be released by November 2020, including our updated scenario analysis and a review of our 2030 target.

# The changing climate policy landscape

The Paris Agreement is the framework under which national governments define their ambitions through national targets to reduce GHG emissions.

The Intergovernmental Panel on Climate Change (IPCC) provided a view of how global warming is likely to affect us if unmitigated. The scientific evidence for warming of the global climate system is unequivocal. Measurable variations in the environment are being seen due to changes in GHG levels. These variations are evident from global rises in temperature, shrinking ice sheets, warming oceans, glacial retreat, decreased snow cover, a rise in sea level, ocean acidification and extreme weather event patterns. Water is the primary medium through which the impacts of climate change are being felt in South Africa. These impacts are manifesting in associated crop losses, water restrictions and impacts on food and water security. Globally, far-reaching transitions in all facets of society are required.

As countries increase their climate change mitigation and adaptation ambitions, a drive towards more focused policy and regulatory approaches has been taking place in almost all of the markets in which we operate. Countries are introducing or strengthening a range of climate-related policy instruments, such as carbon pricing, carbon budgets, policy incentives for renewable energy and efficiency standards. Investors and civil society are also expressing concerns about the measures companies are taking to prepare themselves for these changes. Many of these measures are encouraging shifts in consumer behaviour, spurring innovation and changing business models. These trends are affecting our business and the journey to a lower-carbon global economy could bring further, more pronounced impacts (see pages 15–17 for a discussion on the risks to our business).

A significant transition in the energy system is underway, driven by factors such as rising demand, technological

innovation, geopolitical shifts and the falling price of renewable energy. The growth of renewable energy deployment in the power sector has already outpaced that of any other energy source, including fossil fuels. Challenges and priorities are being dealt with differently across countries, depending on their socio-economic needs. Accelerating the transition will therefore require coordinated action across economic, technological and socio-political systems.

Despite economic progress over the past few decades, problems associated with poverty and lack of participation among disadvantaged groups persist in South Africa. Solutions that are innovative and far-sighted are necessary if the country is to stimulate a sustained economic recovery and achieve upward social mobility, while meeting its commitments to the Paris Agreement.

South Africa's commitment to the Paris Agreement is to peak, plateau and decline (PPD) its GHG emissions. It's stated goal is to be in the range between 398 Mt and 614 Mt CO<sub>2</sub>e for the period 2025 and 2030. At New York Climate Week this year, South Africa's President announced that the PPD will be reviewed for communication in 2020. As science evolves, it is also likely that the country will increase its GHG reduction requirement, while balancing necessary socio-economic considerations. The current PPD trajectory is also premised on the need for global support to be provided by developed countries to fund developing countries mitigation actions. In fulfilling its commitments to the Paris Agreement, South Africa is preparing for the implementation of a complex set of regulatory and policy instruments.

Shamini Harrington, Vice President: Climate Change, participating at the 2019 UN Climate Action Summit, New York



Source: Carbon Pricing Leadership Coalition, World Bank



## Summary of South Africa's policy instruments

### Recent climate change policy developments impacting Sasol

#### Energy efficiency

**The draft South African National Energy Efficiency Strategy for 2030:** Sets a national objective of a 15% improvement in energy efficiency by 2030 from 2015. We support the energy efficiency drive and have expanded our initial target to a global 30% improvement by 2030 from 2005 (see page 22). To date, we have achieved a 21,7% improvement for our South African operations and 19,5% globally, since 2005.

#### Carbon budgets

**Carbon budgets:** The setting of carbon budgets with potential emission thresholds is a recognised approach to addressing climate change and is supported by Sasol. We see carbon budgets as an effective mechanism for aligning with the Paris Agreement, while providing flexibility for the economy to grow. Sasol has been issued with an approved carbon budget of 302 Mt CO<sub>2</sub>e for a five year period, on a voluntary basis. This budget aligns with the peaking of emissions envisaged by the PPD trajectory for South Africa, applicable for 2016 to 2020. We are well on track to be comply with this budget. Mandatory carbon budgets will be implemented from 2021 onwards once the draft Bill is enacted as the Climate Change Act. This will be the first key piece of legislation aimed at developing a specific national climate change response. We are actively monitoring the finalisation of the Bill in preparation for more stringent future legal requirements. Sasol has also been participating, since 2011, with government on the roll-out of the National Climate Change Response Policy.

#### Carbon tax

**Carbon tax:** South Africa's parliament approved a Carbon Tax Act to be implemented in phases, which began on 1 June 2019. The first phase runs from 2019 to 2022, at which point the tax will be aligned with the carbon budget. Sasol supports carbon pricing as a tool to enable a transition to a lower-carbon economy, however, we remain concerned that the carbon tax may result in unintended consequences for South Africa. Sasol is adhering to the Act and continues to participate in the relevant government processes to develop the operating rules for the tax and its subordinate legislation. Our preliminary estimated liability is approximately R800 million to R1 billion in 2020, escalating at consumer price index (CPI) +2 percentage points until 2022. Thereafter, our liability is uncertain as it is dependent on the design of the carbon budget and tax process, which is still outstanding.

## Our global operations

Sasol has extensive operational footprints in South Africa and the US, with smaller footprints in Europe, China and the Middle East. The primary feedstock in our South African operations remains sub-bituminous coal, while our recent growth decisions largely utilise natural gas as a feedstock, which has a reduced carbon footprint and improves our overall carbon intensity. At a product level, we have shifted our focus to producing more chemicals, which offer lower emissions across our value chain compared with our South African fuels product slate. We have also made a decision to not invest in new oil refining, which would have added to our GHG emissions. Our global operations are positioned to utilise a cleaner mix of energy and our European operations have been participating in the European Union Emissions Trading Scheme (EU ETS) since inception in 2005. This has resulted in these operations having a lower emissions profile (for example, by using more energy efficient fuels and technologies and carbon-free steam). We continue to ensure our operations thrive in these mature legislative environments. We believe our strategic choices and investments outside of South Africa have added a degree of resilience and portfolio flexibility to our overall business as we transition to a lower-carbon future.

# The distinctive context of our Secunda Operations

Our Secunda facility was built in the 1970s in Mpumalanga, South Africa, utilising the country's abundant coal resources to reduce reliance on imported fuel. The distinctive nature of our Secunda Operations and its significant role in our GHG footprint shapes our climate change management response. The chemistry of the CTL process limits the potential to significantly reduce our process emissions from this plant, unless the feedstock is changed or solutions are found to capture and use concentrated CO<sub>2</sub>. Low cost mitigation opportunities such as efficiency improvements and process emission reductions have already been achieved. We continue exploring and pursuing further options, where feasible, including the use of renewable energy, process optimisation and feedstock changes. The most significant future improvements involve increasing the intake of natural gas or switching to other hydrogen-rich feedstocks (initiated in 2004 – see page 12). However, today alternative feedstock availability is limited and constrains further application in South Africa. Sasol has ambitions to change this situation by exploring for further additional gas (see page 23).

Our Secunda Operations have a significant positive socio-economic contribution in South Africa - this necessitates finding and developing a balanced approach in mitigating our emissions. Sasol's Secunda Operations connects with a number of stakeholders as we are a significant employer, supplier and customer, with millions of people relying on us for their energy needs. Meeting those energy needs is vital to economic growth and development in South Africa. In recognising our responsibilities, we also recognise the imperative of reducing our GHG emissions. We are taking steps to reduce our emissions and are mindful of our responsibilities to our stakeholders. We are responding in a manner that reflects the urgency of the problem, while ensuring that we do not impede economic progress. Within this context, collaboration with stakeholders is critical in our approach, future capital allocation and the diversification of our portfolio.

## Understanding the complexity of our Secunda Operations

CTL is an energy-intensive, multi-step process that converts coal to liquid fuels and chemicals. In a typical CTL process, coal is first gasified to produce synthesis gas, which is subsequently converted to liquid hydrocarbons in a catalytic Fischer-Tropsch<sup>3</sup> reaction. The process requires a significant portion of carbon from the feedstock coal to produce hydrogen and generate electricity. Therefore, as long as coal is utilised as a feedstock, the carbon efficiency of the CTL process will remain fundamentally low. Because of these limitations, further significant improvements in the Secunda GHG emissions profile will require the introduction of lower or low-carbon energy sources, such as natural gas or renewable energy.

Our focus on operational excellence and reliability, as well as the introduction of natural gas as a supplementary feedstock has reduced the absolute GHG emissions of our Secunda Operations by 6% since 2004. Incremental growth and operational improvement projects have, however, tempered the impact of our reduction efforts.

Apart from further use of natural gas as a feedstock, the most significant opportunity for meaningful reductions is to target the emissions related to electricity generation, including both our own generation and imported electricity (see Secunda Operations GHG emission sources page 9).

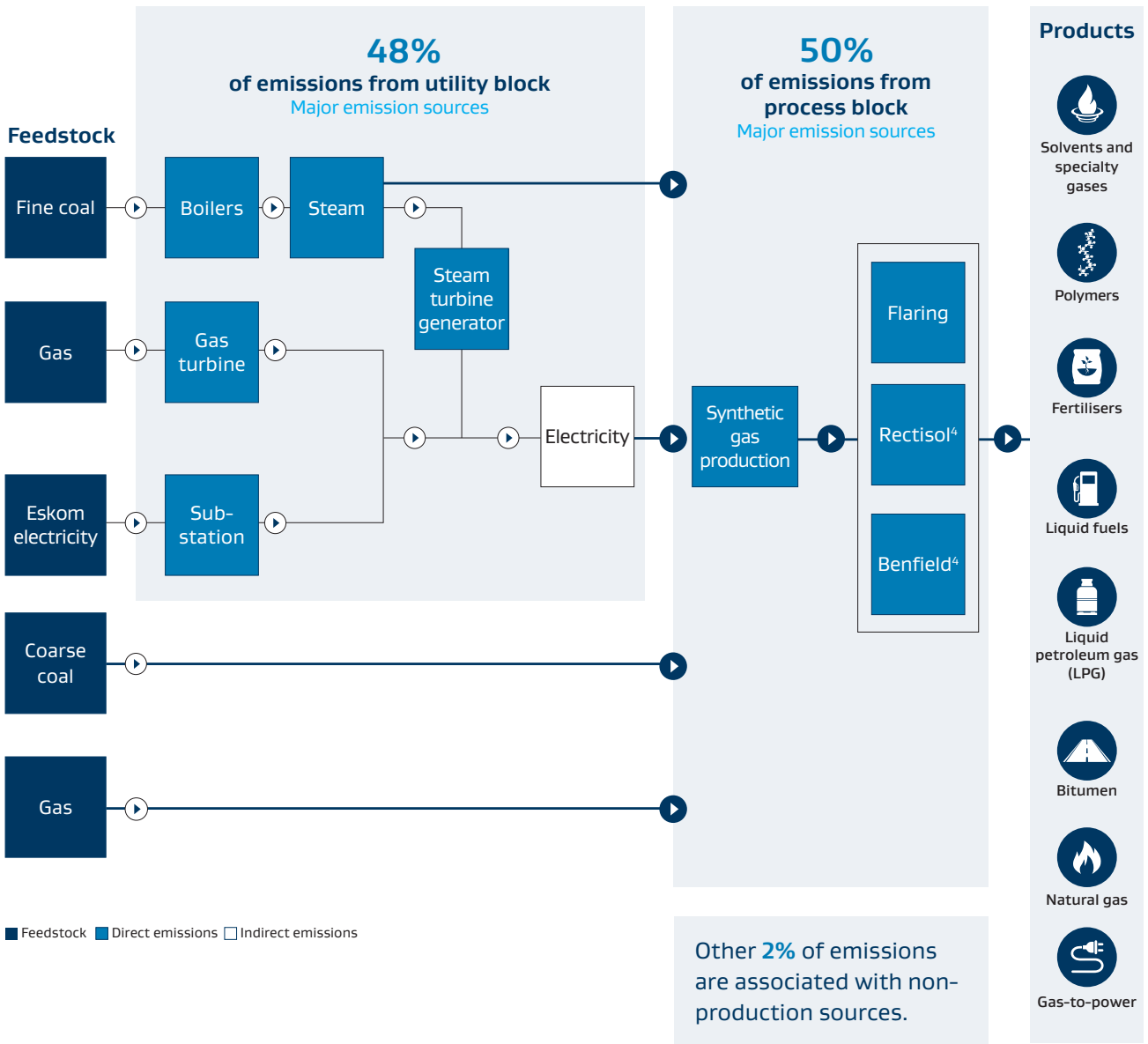
The fact that renewable energy offers a low-carbon option for generating electricity, we are focusing our attention on this energy source in the short-to-medium term (see page 22).

3. A catalytic chemical reaction in which carbon monoxide (CO) and hydrogen (H<sub>2</sub>) are converted into hydrocarbons, which in turn can be processed to liquid fuels and chemicals.

Secunda Operations, South Africa



# Our Secunda Operations GHG emission sources



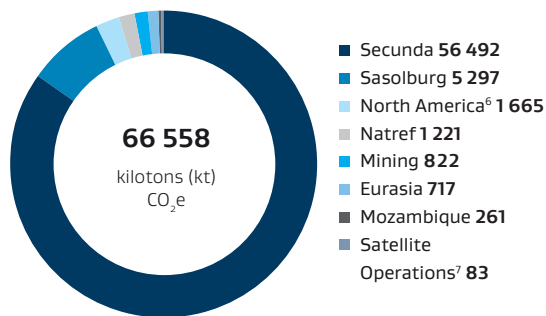
4. The gas clean up parts of the process that extract and emit GHGs to the atmosphere.



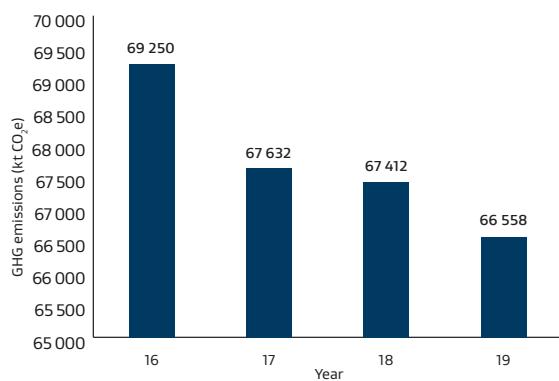
# Our global presence and associated GHG footprint

Sasol reports our GHG emissions in accordance with the IPCC and the World Business Council for Sustainable Development GHG Protocol. We measure, calculate and report on direct and indirect emissions (Scopes 1 and 2, respectively), with 100% of these emissions verified by a third party. Our Scope 2 emissions are reported as location-based<sup>5</sup>. For 2019 PwC/Nexia SAB&T provided reasonable assurance on our Scope 1 and 2 emissions data and limited assurance on our other indirect emissions (Scope 3) data. For further information on our emissions data refer to page 31 of this report and for our assurance statements refer to our Sustainability Report [SR](#) (pages 81 – 83) and our 2019 CDP submission.

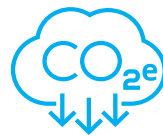
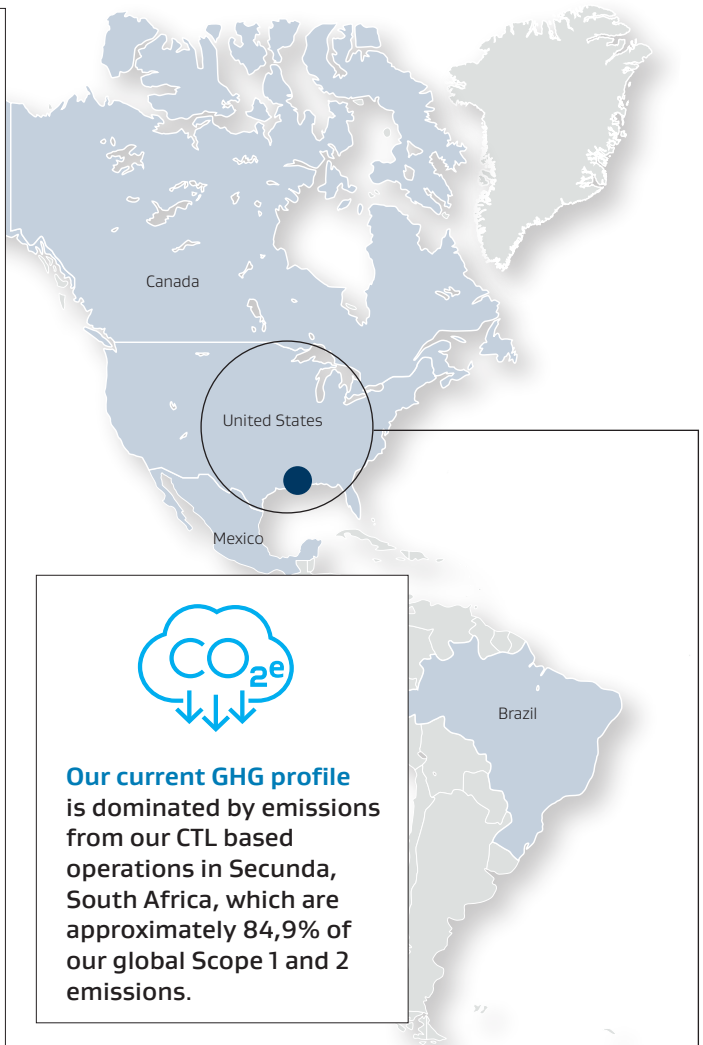
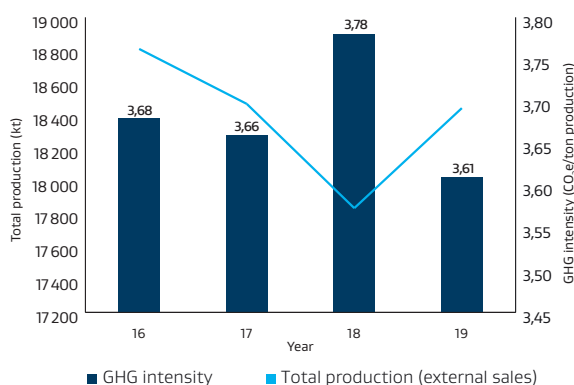
## Our operational GHG emissions in 2019



## Our GHG emissions trend since 2016



## Our GHG intensity and production since 2016




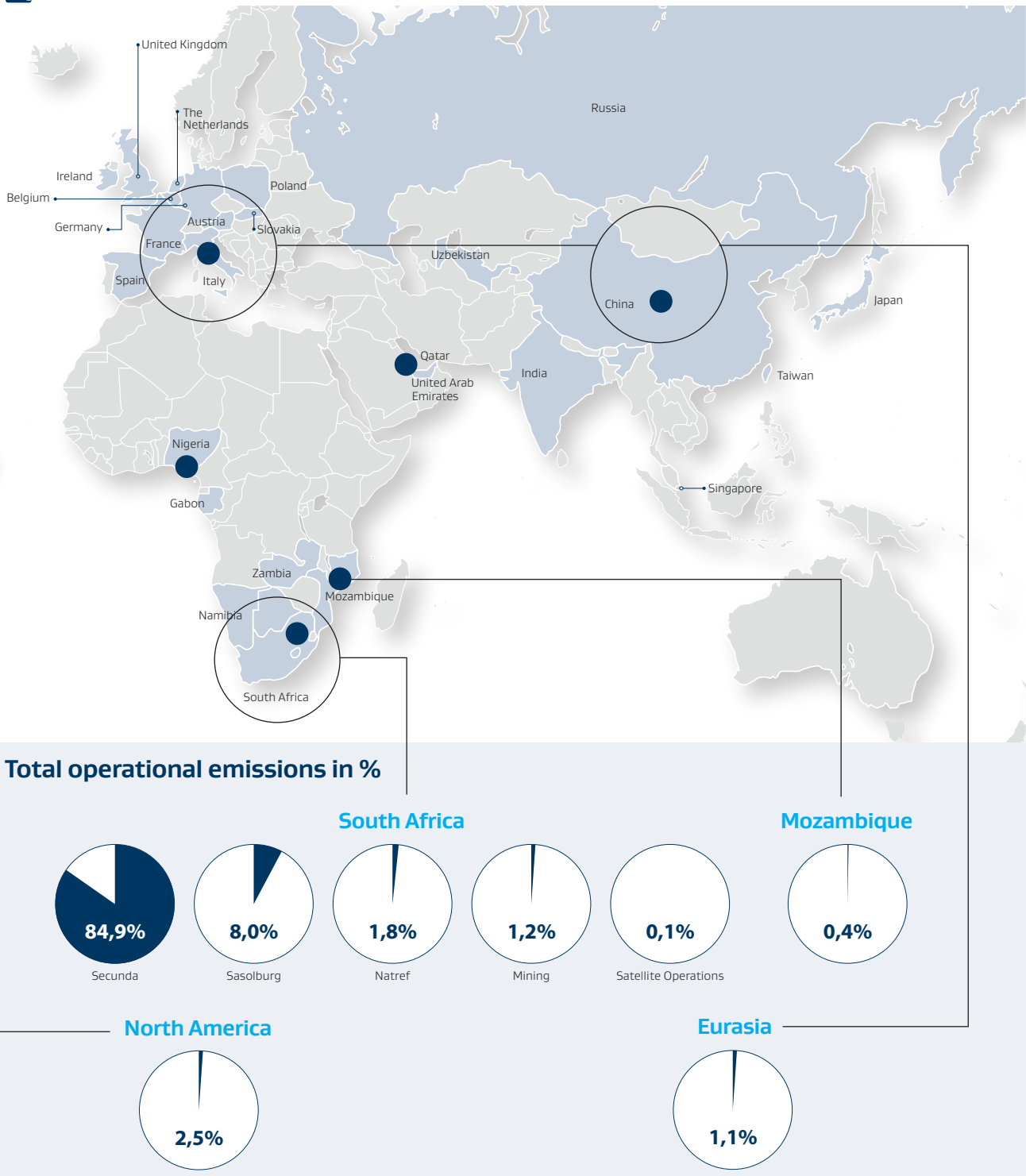
**Our current GHG profile is dominated by emissions from our CTL based operations in Secunda, South Africa, which are approximately 84,9% of our global Scope 1 and 2 emissions.**

**Sasol's absolute emissions reduced in 2019,** with production increasing compared to 2018. Our emission reductions were achieved through concerted process optimisation initiatives at our Secunda Operations, including less coal feedstock input. Our emissions profile, being so significant in comparison to our production for our Secunda Operations, does not lend itself to a GHG intensity-based production target but rather an absolute GHG target. This is evidenced by the fact that small changes in production, as can be seen in 2018, increased our intensity, even though absolute emissions decreased. In light of this, our 2030 target, supporting our roadmap execution is absolute reduction-based for our South African operations, while at an international level, intensity-based targets could still be considered.

5. A method to quantify Scope 2 GHG emissions based on average energy generation emission factors for defined locations, including local, sub-national or national boundaries.  
 6. Total CO<sub>2</sub>e emissions of North America prior to LCCP reaching beneficial operation.  
 7. Including Strategic Business Units and Functions.

We report our Scope 3 emissions in the categories of purchased goods and services, upstream transportation and distribution, fuel and energy-related activities, waste generated in operations, business travel, employee commuting, use of sold products, downstream leased assets and franchises. We estimate, using assumptions that our total Scope 3 emissions for all CDP-indicated categories accounts for approximately 36 Mt CO<sub>2</sub>e in 2018, as reported in our 2019 CDP submission. The significant majority of our Scope 3 emissions pertain to the downstream use of Sasol's energy products including petrol, diesel, coal, gas and crude oil. Use of Sasol's sold energy products is estimated to be approximately 32 Mt CO<sub>2</sub>e for 2018. We continue working to better understand and report these emissions. Sasol also engages our suppliers and customers through surveys, questionnaires and discussions to create more awareness on the emissions associated with purchasing our products. Our Scope 1 and 2 emissions, given its significance remains a priority focus.

 For more details on our emissions in this category, access our CDP on [www.sasol.com](http://www.sasol.com).



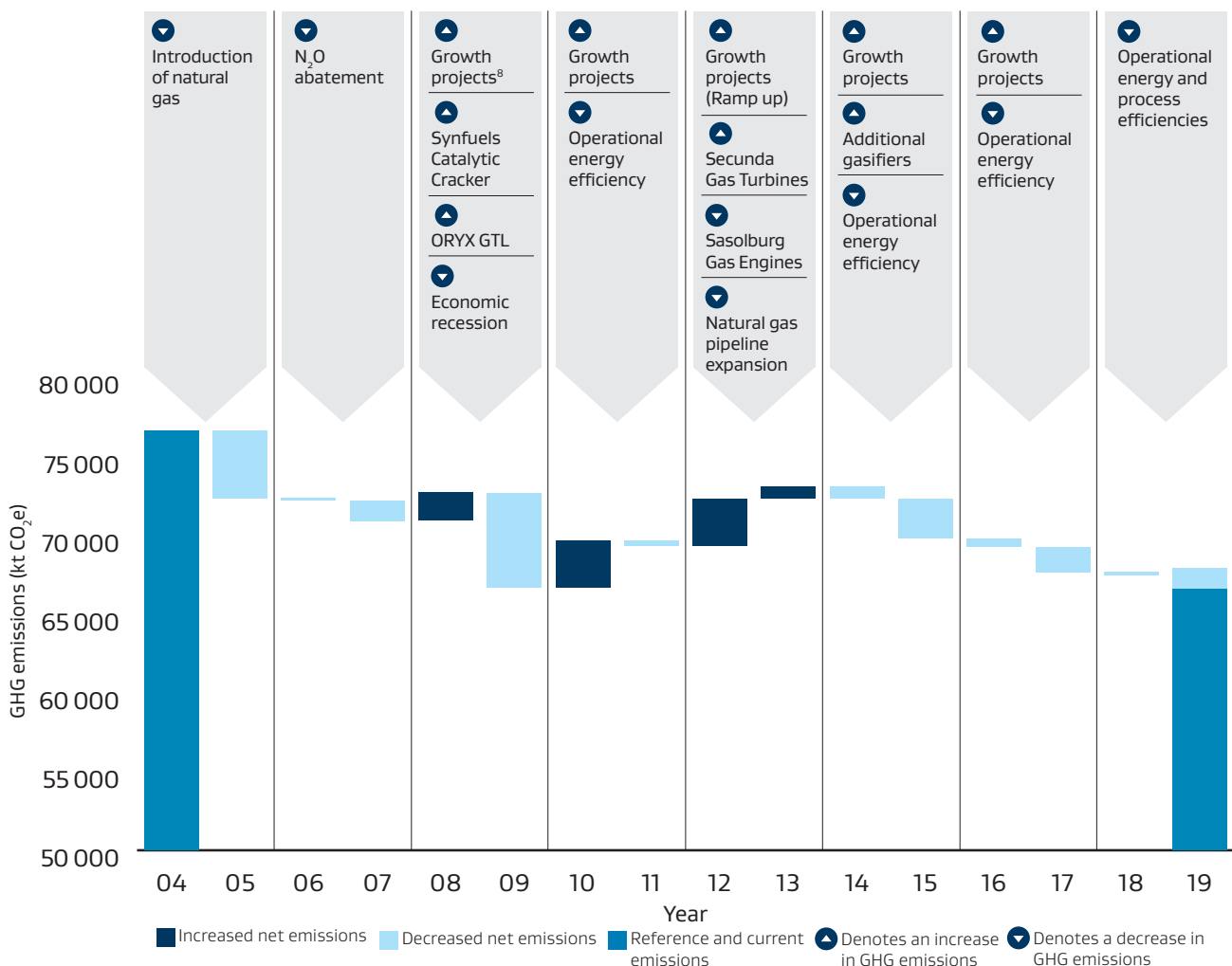
# Reducing our GHG footprint

Fuel switching, energy efficiency projects, offsetting, carbon trading, partnerships, research and development and other environmental conservation measures have enabled us to reduce our Scope 1 and 2 emissions by approximately 10 Mt since 2004, a reduction of approximately 13%. Between 2008 and 2014, Sasol New Energy (SNE) operated as a business unit focusing on developing sustainable new energy growth opportunities. SNE's mandate was to support our business to improve and reduce our GHG footprint. Areas of focus included identifying opportunities in low-carbon electricity, clean coal, biomass to energy and sustainable water. Key successes were the gas-to-power projects and advances in carbon capture and storage (CCS), which provided us with learnings on identifying and developing lower-carbon solutions. While SNE has been repositioned following a restructuring of the Group, these past efforts are informing our current climate change approach.

Sasol has been publicly reporting on our emissions since 1996 and set our first GHG target in 2005. Although this target was revised in 2009 and closed out in 2015 due to our updated CTL strategy, we continued with our ambition to reduce our absolute GHG emissions, as reflected in our 2019 GHG data performance (see page 10). We remain steadfast in our commitment for further reductions and continue with our energy efficiency drive through operational interventions and deploying capital-based solutions. Our past achievement in transforming our Sasolburg Operations in South Africa provides a solid track record of expertise and knowledge for undertaking the necessary changes required at our Secunda Operations to increase our resilience in a lower-carbon future.

We believe that interim milestone targets are crucial to achieving our aim of further reductions, which is evidenced by our commitment to a 2030 absolute GHG emission-reduction target. Our target setting process took into account both bottom up and top down approaches that considered external expectations and balanced this with internal technical analysis of feasible mitigation opportunities. Our 2030 GHG emission-reduction target is based on the probability of success of potential reduction opportunities, associated risks, economic viability and balance sheet capability to finance these activities. Taking this into account, **Sasol committed to reduce by 2030 the absolute GHG emissions from our South African operations by at least 10%, off our 2017 baseline.** Our main focus to 2030 will be on projects that improve process and energy efficiency at our operations, together with the introduction of initial amounts of renewable energy. We have achieved key milestones over the past two decades, where we have pioneered lower-carbon initiatives. Our emission-reduction roadmap will take forward this journey for Sasol.

## Our 13% global GHG emission reduction profile since 2004



8. Projects that were implemented across our value chains, including but not limited to growth at our Secunda and Sasolburg Operations and increased natural gas volumes.

# Key milestones



# Governance and risk management

Effective management of climate change is integral to delivering our strategic and business objectives. To this end, Sasol follows a fit-for-purpose governance approach in enabling a climate change strategy that achieves our ambitions.

The Board believes that climate change is a pressing global issue impacting us all, and for Sasol to achieve our vision and purpose, addressing climate change is critically important. We are responsible for the oversight of the group-wide approach in order to minimise risks and maximise opportunities, as we transition to a lower-carbon future.

## Board oversight of climate change

The Sasol Limited Board of Directors (the Board) has ultimate control of the organisation and approves our strategy. Accordingly, it plays a central role in overseeing climate change as a Group top risk and managing the main aspects linked to climate change, with a heightened focus on sustainability as a strategic imperative for long-term value creation. Supported by relevant Committees, the Board ensures that strategy, risk, performance and sustainable development considerations, such as climate change, are effectively integrated and appropriately balanced in achieving Sasol's value-based strategy. The Safety, Social and Ethics Committee has assigned oversight to manage our climate change risk and the associated impact on our business. This is measured against performance targets, agreed with management, in support of achieving Sasol's ambitions.

It is within this remit that the Board approved key milestones in our climate change response, as referred to in this report. This includes our climate change strategy (three-pillar emission-reduction framework), 2030 GHG emission-reduction target, advancement of disclosures aligned with the voluntary adoption of the TCFD, as well as the establishment of the Sustainability and Risk Function. The Board provides oversight of the continued resiliency testing of Sasol's portfolio, with due consideration of robust risk assessments and scenario analysis conducted within the company to accelerate our climate change response.

In 2018, Sasol appointed an Independent Non-executive Director, Ms Muriel Dube to enhance consideration of climate change and sustainability at Board level. She brings specific experience on sustainability and climate change, including as former Chief Negotiator for the South African government to the United Nations Framework Convention on Climate Change (UNFCCC). To increase the effectiveness

and awareness of the Board members', training is conducted on climate change and wider sustainability matters and has, in particular been reinforced since 2017 given the rapid changes in national and international climate change policy.

## Executive and management responsibility for climate change

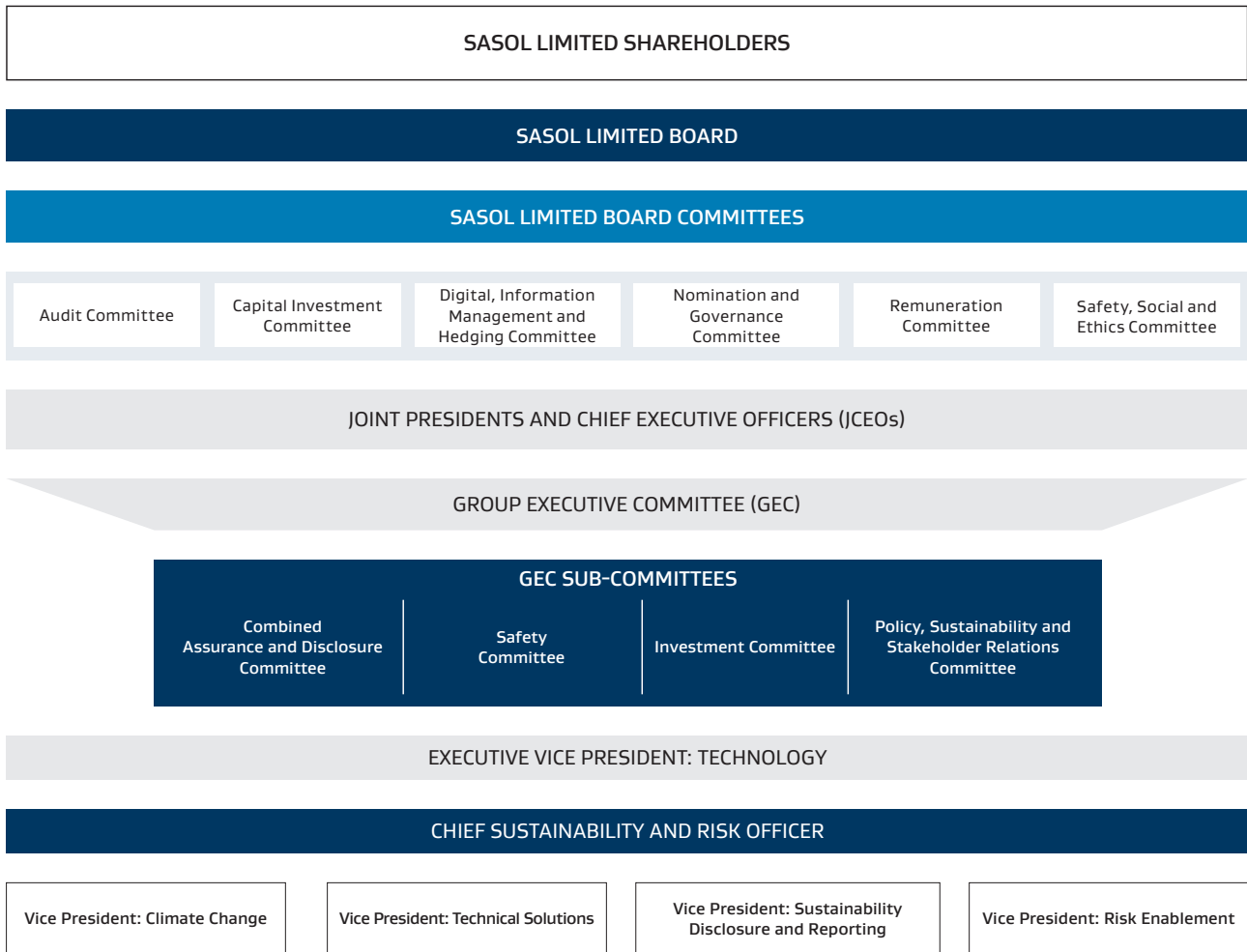
Climate change is considered and governed at levels below the Board. The **Group Executive Committee (GEC)** is responsible for the implementation of our climate change response. It consists of Sasol's executive management (Executive Vice Presidents) and is co-chaired by the Joint Presidents and CEOs (JCEOs). The GEC is supported by the **Policy, Sustainability and Stakeholder Relations Committee (PSSR)** that provides strategic direction on the prioritisation of our climate change response. The **Climate Change and Environmental Policy Steering Committee (CCEP)**, in turn, supports the PSSR in enabling Sasol's response to climate change to be proactive and appropriately informed on global policy matters.

We grow our internal understanding of climate change through ongoing tracking of trends. This is internalised through detailed scenario work and governed by our management structures. A **Group Sustainability and Risk Function** has been established with effect 1 July 2019 as a specific competence centre that coordinates all activities relating to our climate change strategy. Our principle approach is that climate change management is embedded through the organisation with coordination by the Function. The Sustainability team has specific responsibility for thought leadership and coordinating development of our emission-reduction roadmap. It is led by a designated Chief Sustainability and Risk Officer (CSRO) at Senior Vice President level. This Function is supported by other key role players such as the Strategy, Safety, Health and Environment (SHE), Corporate Affairs and Technology Functions.

Through decisions of the **Investment Committee**, capital allocation is aligned with our climate change strategy. Management at our various facilities is responsible to implement the required transformational changes to our foundation business in support of our climate change ambitions.







## Driving performance through incentives

We promote effective management and achievement of climate-related targets and objectives through appropriate performance incentives. With the exception of Mining employees below management levels who participate in production bonus plans, short-term incentives are distributed through the single short-term incentive (STI) structure, which applies to all other employees globally. Corporate performance targets are set in relation to the long-term incentive structure. For the JCEOs and members of the GEC, the Group STI plan for now only includes the energy efficiency target in the scorecard.

**Our 2030 GHG reduction target and any further targets emerging from the roadmap development process will inform the incentive targets for 2021, which will include a climate change target**, the details of which will be determined by the Remuneration Committee following discussions with our management team. The roadmap, together with other strategic priorities form critical inputs in determining targets to be included in the incentive plans. The Remuneration Committee ensures a balanced set of targets are applied. For further information refer to the Report of the Remuneration Committee **IR** page 74.

Some members of the GEC also have objectives in their personal scorecards for achieving the energy efficiency target and for performance against climate change indicators, such as development of our GHG emission-reduction roadmap. This drives their individual performance factor, which is a multiplier in the STI calculation.

## Climate-related risks and opportunities

Climate change-related risks are prioritised as Board-approved Group top risks. Climate change is assessed as part of long-term business viability, which relates to sustainable delivery on our strategy, opportunity management and ensuring a balanced approach between growth and returning value to shareholders. In line with the TCFD recommendations, Sasol undertook a comprehensive climate change risk review in 2018 using the bow-tie methodology. This methodology provided us with a structured way of exploring, analysing and identifying appropriate key responses for our prioritised top risks. It also presented a view of the risk drivers and events facing Sasol's business. Through this risk process, we are proactively positioning Sasol to act and respond to potential risks and opportunities, anchored in an understanding of both our external and internal operating context. For further information on our risk management process refer to the **IR** page 46.

## Climate change top risks and key responses

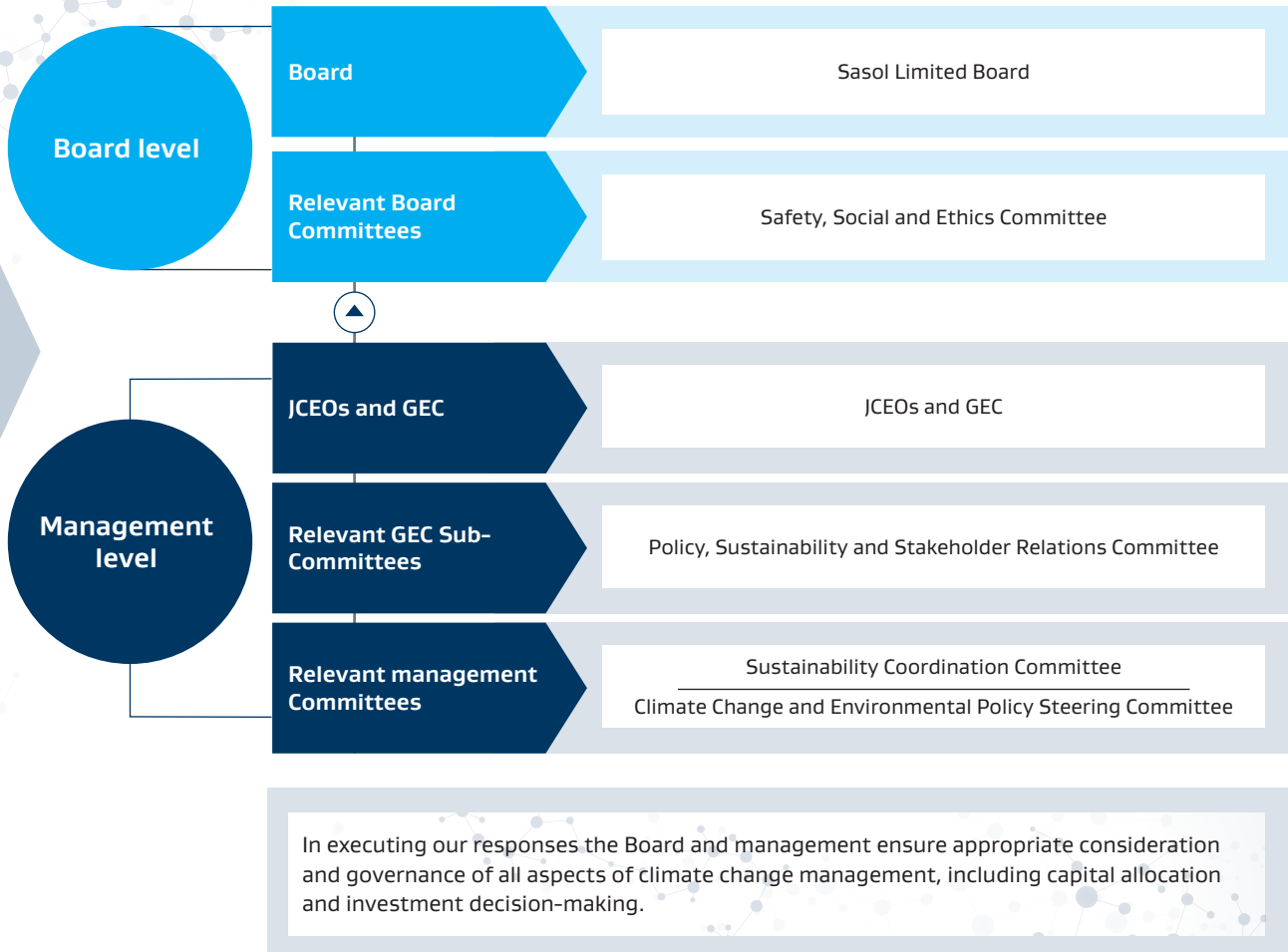
To ensure delivery on our vision, ambitions and climate change strategy our risk management process is embedded through a Sustainability and Risk Function, mandated governance structures and active leadership focus. Our risk management process is iterative and applied in a dynamic operating context.

| Risk 1  | Risk 2   | Risk 3   |
|---|--|--|
| <p><b>Inability to develop and implement an appropriate climate change mitigation response.</b></p>   | <p><b>Downstream societal pressure impacting market access and product competitiveness.</b></p>  | <p><b>Inability to ensure physical long-term resilience of business operations.</b></p>  |
| <p><b>Risk events</b></p> <ul style="list-style-type: none"> <li>• Transitional risk exists for our current business in South Africa, further impacted by increasing societal pressures and a shift away from carbon-intensive processes and products.</li> <li>• Meeting new and anticipated policy and legislative requirements, such as carbon taxes, more stringent carbon budgets and stricter emission-reduction targets, pose potential risks for our business.</li> </ul>   | <p><b>Risk events</b></p> <ul style="list-style-type: none"> <li>• Changes in consumer behaviour, growing pressure from capital markets, increasing community and societal activism and environmental awareness may impact market access and product competitiveness. This is particularly the case in more mature regions, such as Eurasia and North America but is likely, over time, to impact other areas. These risks are relevant when considering Sasol's GHG emissions profile in South Africa.</li> </ul> | <p><b>Risk events</b></p> <ul style="list-style-type: none"> <li>• Physical climate change-related risks, such as rainfall, extreme weather events and hurricanes could negatively impact growth strategies and objectives and are likely to increase operational costs.</li> </ul>  |
| <p><b>Risk 1, 2 and 3 responses</b></p> <ul style="list-style-type: none"> <li>• Proactive stakeholder engagement, policy advocacy and tracking of the climate change landscape.</li> <li>• Enhanced climate change disclosures.</li> </ul>   |  |  |
| <p><b>Risk 1 and 2 responses</b></p> <ul style="list-style-type: none"> <li>• Development of our three-pillar emission-reduction framework.</li> <li>• Undertaking robust scenario analysis in a carbon-constrained world incorporating potential strategy and portfolio shifts, and interpreting impacts on our portfolio.</li> <li>• Developing an emission-reduction roadmap with associated targets, continuing with energy efficiency efforts and pursuing hydrogen-rich feedstocks to further lower our emissions.</li> <li>• Tracking new GHG mitigation and carbon utilisation technologies, co-creating and collaborating on innovative solutions that benefit society and Sasol.</li> </ul> |  |  |
|   | <p><b>Risk 2 responses</b></p> <ul style="list-style-type: none"> <li>• Investigating further opportunities to diversify our portfolio, including asset reviews and equity positions.</li> </ul>   | <p><b>Risk 3 responses</b></p> <ul style="list-style-type: none"> <li>• Embedding our adaptation response based on the latest downscaled modelling results for the prioritised areas.</li> <li>• Ongoing efforts to guide our interventions for improving maintenance and asset integrity management processes to increase our resilience to future events.</li> </ul> |

## Integration of our risk and governance approach

To better position us to manage, govern and assure our climate change top risks, we strengthened the risk and assurance oversight role played by the various mandated governance bodies within the Group. As demonstrated below, our climate change risks and responses are actively managed in the organisation, both at Board and management level.

The oversight of our climate change risk responses is executed by the Board, management and relevant committees



# Testing the resilience of our strategy through scenario analysis

Scenario analysis provides a basis to imagine how the world could develop in response to changes in the external environment. Scenarios are therefore not forecasts nor do they represent our preferences for the future.

**Our approach to scenario analysis considers how market conditions, technology, political and other influences interact to produce a vastly different set of future outcomes. For us, scenario planning provides a link between strategy development, innovation and risk management.**

We believe that a balanced portfolio and a disciplined investment strategy, including consideration of climate change impacts, will enable resilience to our climate change challenges and build a sustainable foundation. Sasol's scenarios have and will continue to play a key role in our strategy formulation specifically in light of climate change. Our scenario process is iterative, annually reviewed and will continue to be communicated as more information becomes available.

**We recognise that the global efforts to mitigate climate change introduces uncertainty into the range of outcomes for the energy sector. Each scenario has an implied total liquids demand and crude oil price range. What differentiates each scenario is the context, pace and scale at which the lower-carbon transition occurs.**

Our existing macroeconomic scenarios, developed in 2016 and updated in 2018 for the Paris Agreement goal, were used for preliminary robustness testing of our strategy in a lower-carbon future. The robustness test used two Sasol scenarios: a Base case and a Cooperative world case, with a time horizon of 2030 for our South African operations. Both scenarios took into account key global variables related to the macroeconomy, security, geopolitics and global environmental considerations to generate the storylines that underpin the scenarios. Examples of outcomes include a rise in renewable energy in the power sector as lower-carbon energy becomes increasingly cost competitive; and changes to fuel demand as alternative technologies (such as electric vehicles) and internal combustion engine efficiency improvements temper oil demand for passenger transport.

Under the Cooperative world case scenario, continued economic development, increased access to low-carbon intensive energy and much lower GHG emissions to 2030 can be expected. Underpinning this scenario is the Base case scenario, which takes a medium-to-long term view that helps shape and refine our business strategy. Both the Base and Cooperative world case scenarios consider continued economic development, increased access to low-carbon intensive energy and much lower GHG emissions to 2030. In the Cooperative world case scenario, change takes place at a faster pace than in the Base case scenario.

Gas-to-power plant, Sasolburg operations, South Africa



## Assumptions underpinning Sasol's scenarios to 2030

### Our Base case

- Long-term economic growth remains **robust, driven by emerging markets**.
- **Oil demand growth** continues, driven by growing population and increasing wealth, but slowed by fuel efficiency and alternative technology.
- Current country **commitments to reduce emissions** to meet the **Paris Agreement** goal.
- **Rapid decoupling of economic growth from GHG emissions** as new disruptive technologies and renewable energy fundamentally changes the energy mix.
- More carbon pricing and complementary policy frameworks are expected **to accelerate energy efficiency and emission reduction technologies**.

### Our Cooperative world case

- Greater **global economic cooperation**.
- A more focused **global response to climate change** and other environmental issues.
- **Higher carbon pricing** and more ambitious **emission-reduction commitments** to meet the Paris Agreement goal.
- Global investments to **drive technology developments and breakthroughs**.
- Significant global regulatory changes drive **new energy demand patterns**.
- **Increasing societal pressure** on fossil fuel products.

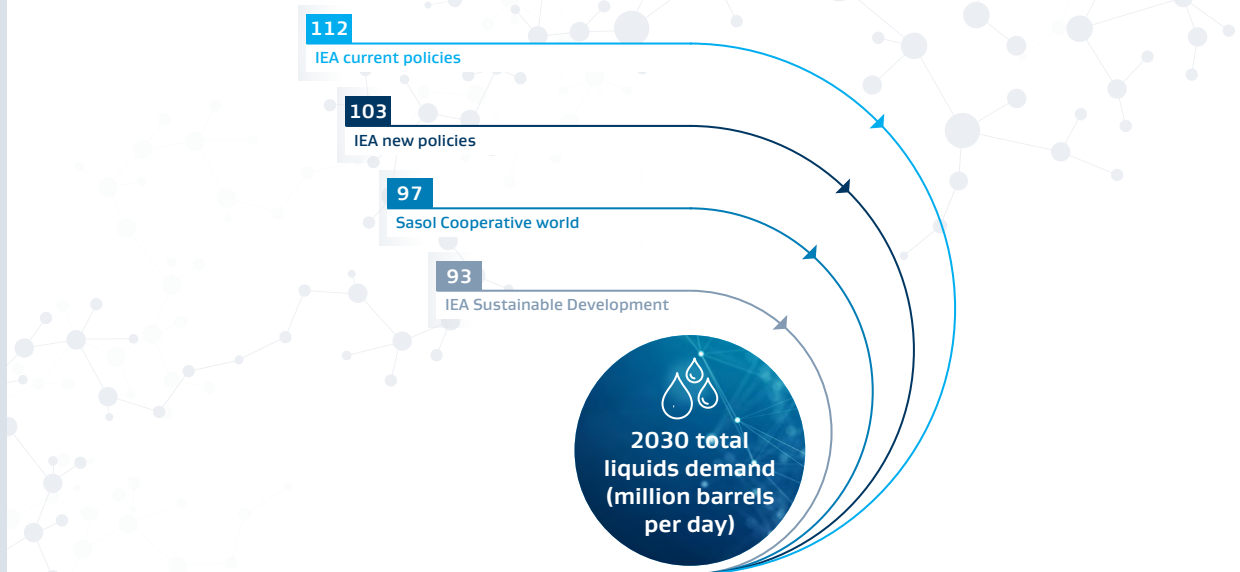
**The difference between how Sasol expects the portfolio to perform in the Base case scenario, relative to the Cooperative world case scenario, helps us understand the different risks and opportunities relating to an uncertain future.**

## Exploring scenarios in a lower-carbon future

Although none of our current scenarios are fully aligned with the International Energy Agency's (IEA) Sustainable Development Scenario (SDS), our Cooperative world case scenario does have similarities with the IEA SDS up to 2030.

Under the IEA's SDS, global liquids demand is projected to decline from 95 million barrels per day in 2016 to about 93 million barrels per day in 2030; by comparison, our own Cooperative world case scenario assumes global liquids demand of 97 million barrels per day in 2030. We are currently evaluating the full envelope of scenarios projecting temperature rises and the possible implications on our portfolio.

### Comparison of total liquids demand from our Cooperative world case scenario in 2030 with various IEA scenarios, including the IEA SDS



## Implications for our portfolio

We recognise that our foundation business in South Africa is sensitive to climate-related risks. With this in mind, we tested the resilience of our South African business against our Base case and Cooperative world case scenarios, in which we qualitatively assessed:

- **feedstock use:** reviewing the feasibility to use coal and natural gas in our operations; and
- **product slate:** evaluating the future acceptability of our fuel and chemical products and the resulting supply and demand dynamics for these products.

This analysis enables us to proactively take mitigation actions to ensure that our operations (and our overall value chains) remain robust.

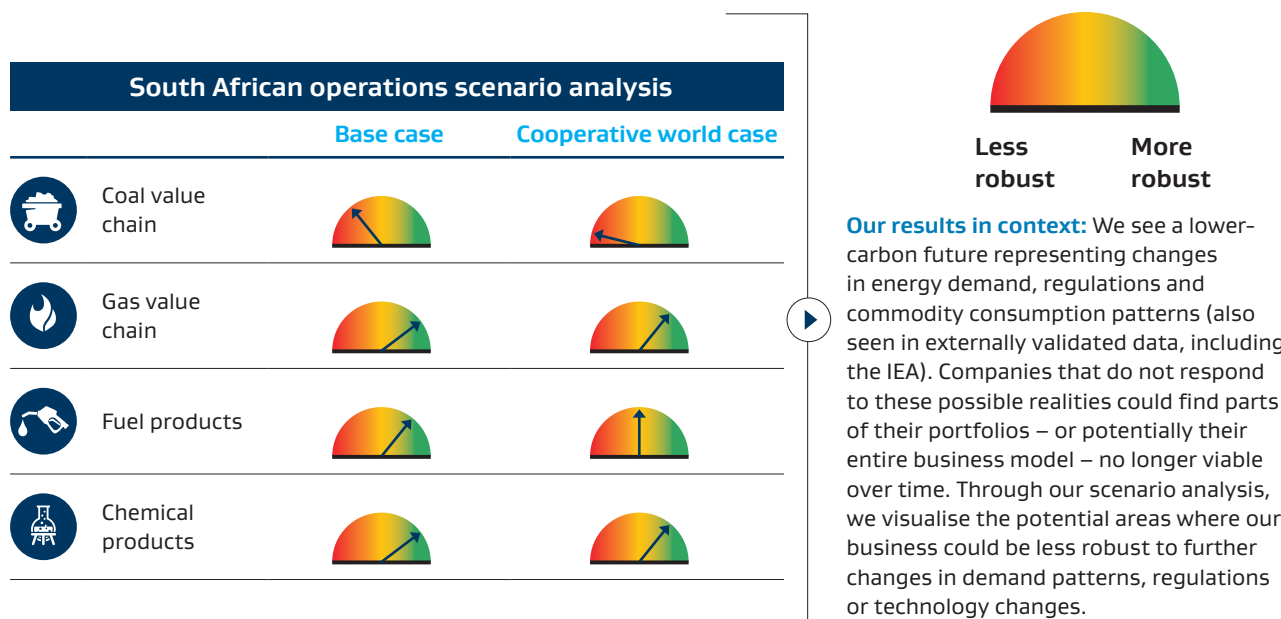
In the event that we do not reduce our emissions and the Cooperative world case scenario becomes a reality, risks could materialise placing pressure on our coal-based power generation by 2030.

In a Base case scenario, while the risk is not as high, we still see impacts into the future given the drop in the price of low-carbon electricity, such as renewable energy. This finding further supports the inclusion of low-carbon electricity generation options as a mitigation action.

In the Cooperative world case scenario, coal for process use also comes under pressure, supporting our three-pillar emission-reduction framework, 2030 GHG emission-reduction target and current areas of work to position us for the future.

The results of the qualitative resiliency testing also indicates that gas remains robust to 2030 for power generation, process use and sales. Our chemicals growth strategy for South Africa is indicated as being robust under both scenarios given our current view on market conditions for 2030 where these products are sold. **The findings focus our attention on the need to reduce the use of coal to produce electricity as an immediate and critical opportunity for us to reduce emissions.**

## Results of the unmitigated qualitative assessment on the resilience of our South African operations to 2030



## How we use carbon pricing in our planning

**Carbon pricing** provides an incentive to accelerate the lower-carbon transition through either emission trading schemes or taxes. For example, carbon prices could encourage electricity users to switch from coal to natural gas and/or renewable energy, ultimately steering innovation and investment toward lower-carbon technologies. We have for some time engaged on, considered and evaluated South Africa's carbon tax. To ensure the viability of our projects and our long-term strategy, with regard to climate change issues, we developed and implemented internal South African carbon prices to assist with evaluating our business decisions. These, and other regional carbon prices that will be developed, will and are being reviewed on an ongoing basis.

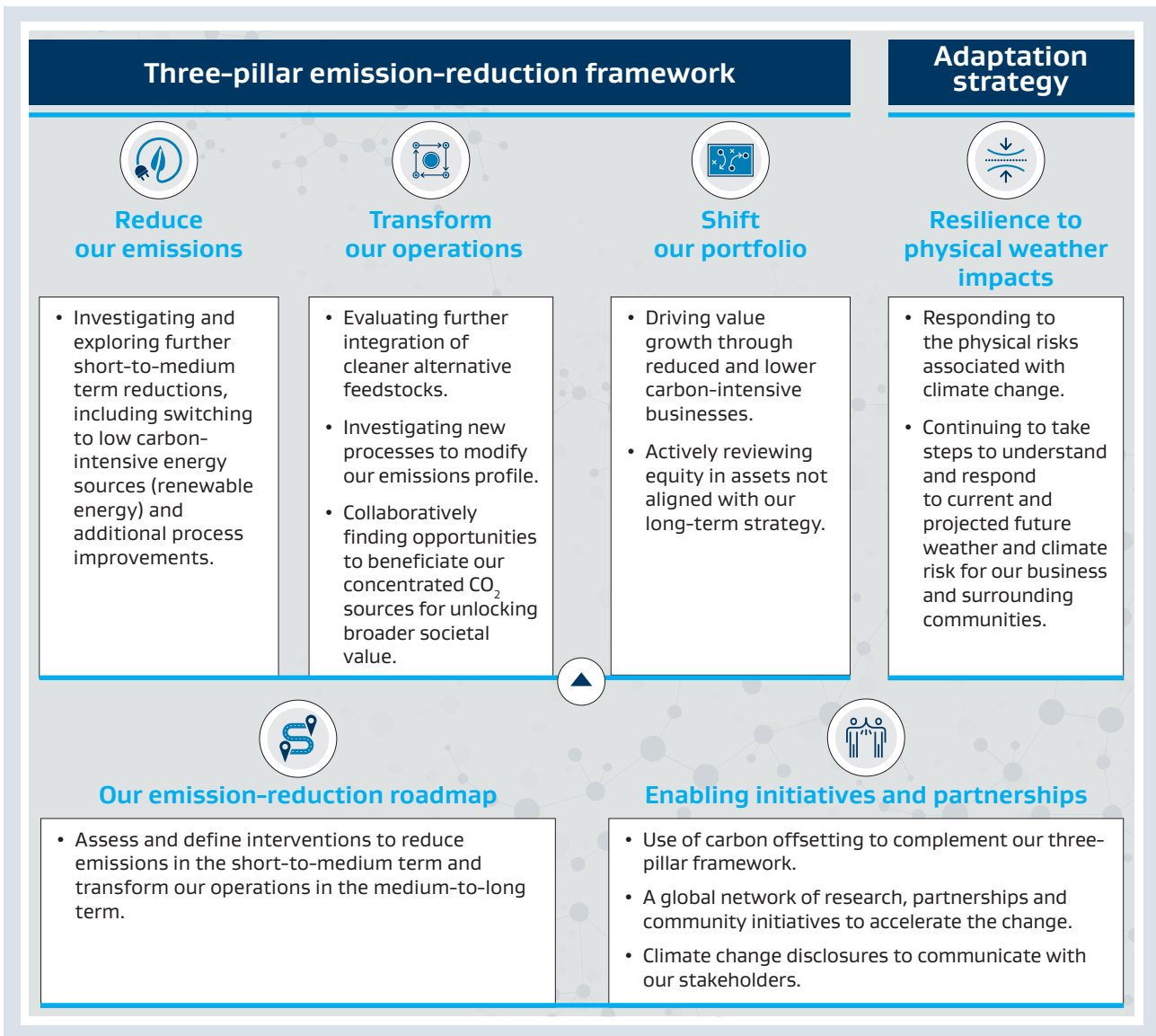




## Positioning Sasol for a lower-carbon future

Our three-pillar emission-reduction framework forms the basis of our roadmap development process. Various activities are already underway in each of these pillars, under the leadership of the CSRO. Our targets are the beacons for action and guide our work activities in each of the pillars. Our overall efforts focus on both Scope 1 and Scope 2 emission reductions from our South African operations.

Our emission-reduction roadmap will detail our prioritised initiatives for implementation. Opportunities within the three pillars consider both known and emerging technology developments that could have a meaningful impact on our emissions. Within our overall climate change strategy, initiatives are being evaluated against our project development methodology, taking into account financial viability and socio-economic implications.





## Reduce our emissions



In addition to our 2030 absolute GHG reduction target, Sasol adopted the voluntary short-term carbon budget approved by the South African government as our internal target in 2016. Our interim carbon budget target, applicable to our South African operations, sets a limit for calendar years 2016 to 2020 of 302 Mt CO<sub>2</sub>e in total, of which we used 169 Mt CO<sub>2</sub>e as at December 2018.

**In 2017, we committed a cumulative 3,2 Mt CO<sub>2</sub>e reduction in our direct and indirect emissions for the period 2016 to 2020 to the South African government, through the Pollution Prevention Plan regulations. For 2018, we reported a setback in terms of our project delivery.**

The setback was mainly due to process instabilities as a result of external interruptions to the Eskom power supply to the Secunda Operations. We were however able to recover most of these losses in 2019 through energy efficiency improvements. We aim to maintain this progress for our December 2020 target date.

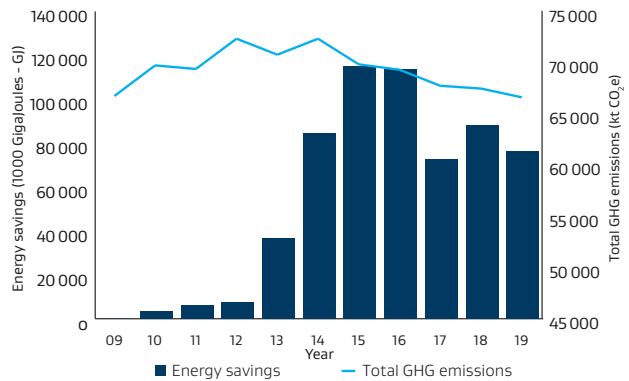
### Energy efficiency

Sasol drives energy efficiency at all our facilities by examining operating processes in our business and identifying high opportunity areas. **Through our energy efficiency drive, we delivered a 21,7% energy efficiency improvement from 2005 to 2019 for our South African operations and 19,5% for our global operations.** In 2018, Sasol joined the international Climate Group's globally recognised EP 100<sup>9</sup> initiative and aligned our energy efficiency target into a single global goal that **aims to improve energy efficiency by 30% by 2030, off a 2005 baseline.**

Through our operating entities, we developed comprehensive energy efficiency roadmaps that together meet our objectives. Our roadmaps include different initiatives such as operational energy interventions and deploying capital-based solutions that improve the overall utility energy efficiency.

Sasol South Africa, through implementing the principles of International Standards Organisation (ISO) 50001, achieved a net saving of approximately 76 520 thousand gigajoules (GJ) between 2005 and 2019 of utility and process energy input. We are currently on track to meet our EP 100 target. We are aggressively pursuing energy savings and reduction projects that are interdependent. They will impact the overall sustainability of our business by improving GHG emissions, air quality and water use.

### Energy savings vs GHG emissions



Energy savings have become incrementally more challenging as our least cost mitigation options are exhausted, this has been observed over the past four years. This supports our investigations into other mitigation opportunities.

### Renewable energy

We are examining the potential of integrating renewable energy into our operations. As a priority, we have conducted studies on a range of renewable energy options for integration at our Secunda facilities.

**We have also commenced with the development of two 10 MW solar photovoltaic projects, one located at our Sasolburg Operations and the other at our Secunda Operations. These renewable projects will result in Scope 2 emissions being abated in Secunda and Scope 1 emissions in Sasolburg. Renewable energy use has the potential to mitigate a large share of our fuel combustion emissions – most of our Scope 2 and a portion of our Scope 1 emissions (our Scope 1 opportunities relate primarily to fuel combustion emissions associated with electricity generation).**

The South African government updated the Integrated Resource Plan (IRP), which sets out the projected energy mix for the country to 2030. The increase in renewable energy within the IRP offers industry and Sasol additional decarbonisation opportunities.

At this stage our focus is on the integration of solar and/or wind energy to reduce our Scope 2 emissions. We are engaging with relevant stakeholders with the aim of creating an enabling environment to expand renewable energy integration into our operations.

9. A global collaborative initiative on energy productivity. This initiative is led by The Climate Group, in partnership with the Alliance to Save Energy, which targets the implementation of a global energy management system within a 10 year timeframe.





## Transform our operations



Growing the share of affordable natural gas compared to coal in our operations is one of the most important ways we can reduce the GHG footprint of our operations. We introduced natural gas into our Sasolburg and Secunda Operations in 2004, realising significant GHG and other emission-reduction benefits.

**Sasol invested approximately US\$ 1,2 billion into the natural gas conversion project, supplying gas to our South African operations from Mozambique. This introduction resulted in GHG emission reductions in excess of 4,3 Mt CO<sub>2</sub>e for our Sasolburg Operations. At our Secunda Operations, we avoided more than 2 Mt of GHG emissions by growing on gas rather than coal. In addition, we also supply natural gas into the South African market enabling our customers to realise annual savings of approximately 3 Mt CO<sub>2</sub>e.**

Natural gas is a hydrogen-rich feedstock, which would enable a transformation similar to that observed in 2004 at our Sasolburg Operations. Besides playing a huge role in reducing our process emissions, gas can also play a key role in unlocking the full potential of renewable energy, by providing stable base-load power.

**Further natural gas introduction will be transformational for South Africa.** This is being driven by two distinct work streams within Sasol. The first work stream is actively exploring for new gas resources, as part of our upstream business, while the second stream is focusing on sourcing alternate gas supplies. Significant gas resources are available globally and in the Southern African sub-region. Sasol currently produces approximately 197 petajoules (PJ) per annum in Southern Mozambique with approximately 160 PJ being imported into South Africa. Sasol has invested a total of US\$ 3,1 billion in various gas-related activities in Mozambique between 2004 and 2018. These investments have been in further exploration and development, gas production, expansion of the Rompco pipeline and development of gas-to-power in Mozambique.

Sasol sees a potential opportunity to markedly increase the volume of gas supply to Southern Africa either through additional gas pipeline investment or liquefied natural gas (LNG). The Rovuma Basin in Mozambique has been one of the most significant gas discoveries globally in the last decade. We believe that through a public-private partnership approach between the South African and Mozambican governments, Sasol and various other partners in the region

- similar to the one used to develop the existing gas project - would be able to successfully unlock further development of this resource. A regional pipeline and/or LNG imports would enable significant investments and contribute materially to economic prosperity in the Southern Africa Development Community (SADC) region, through the collective efforts of key stakeholders.

In the long term, renewable energy could also be utilised as an energy source for green hydrogen production. We are exploring green hydrogen to determine the extent to which it can mitigate process emissions produced at our Secunda Operations, as well as for niche applications in the transport sector.

We have explored the use of biomass as an alternative energy source. Biomass was considered for a variety of applications with initial studies focusing on the availability of this feedstock in the Southern Africa region. Our findings suggest only a limited opportunity for large-scale deployment due to the supply cost of the feed and the dispersed nature of the sources.

We continue to track developments in the carbon capture and utilisation space. We do not see opportunities for this technology at the moment to meaningfully impact our emissions profile. However, we continue to actively monitor developments for potential breakthroughs, particularly in light of the 2018 IPCC science findings.

We have ensured that we are sufficiently resourced to monitor and influence CCS. This involves representation, participation and engagement on various local and international platforms considering the sustainability and deployment of CCS. Between 2010 and 2017 we invested in the Technology Centre Mongstad (TCM) in Norway, where several completed test runs further informed our understanding of large-scale capture of CO<sub>2</sub>.

The South African Centre for Carbon Capture and Storage (SACCCS), of which we are a founding member, is currently investigating the viability of geological storage of CO<sub>2</sub> in South Africa. We are a member of the SACCCS Advisory Committee and are actively participating in the policy and regulatory development process, while supporting a commercial test injection planned for 2021.

In 2019, we sold 57 kt of CO<sub>2</sub> produced from our Sasolburg Operations and Natref refinery for use in downstream beverage and industrial applications. We are exploring other opportunities for beneficiation of our CO<sub>2</sub> emissions.





## Shift our portfolio



Over the period to 2050, we recognise that we will need to further shift our portfolio towards reduced and lower-carbon businesses. We are reviewing our current strategy, taking into account plausible future energy trends (for example electric and hydrogen-powered vehicles) and the evolving chemicals space.

The strategy review process is being conducted with stringent climate-constraints in mind. Further business opportunities are being identified that will be particularly suited to a climate-constrained world. These will be progressively assessed through both qualitative and quantitative criteria. This work has already begun and

is being pursued in a phased approach for delivery by November 2020.

Our asset review process is currently underway and we already divested from our Lake De Smet coal reserves in the US. We have identified a few other assets for divestiture which will be communicated in due course. In recent years, we decided not to invest in greenfield CTL and GTL, or in new refining capacity. These important strategic decisions, combined with our increased focus on chemicals production from gas, are consistent with our intent to reduce our emissions and the overall carbon intensity of our total portfolio.

Lake Charles Chemicals Project, United States



### The significance of the Lake Charles Chemicals Project to our overall portfolio

**Our LCCP in the US diversifies our portfolio, strengthens our position in a growing global chemicals market and will reduce our overall carbon intensity when fully operational.**

The new LCCP, located adjacent to Sasol's existing facility in Southwest Louisiana, encompasses a 1,5 Mt per year ethane cracker and six downstream derivatives units, delivering 1,8 Mt per year of total production. The LCCP ethane cracker will roughly triple our chemical production capacity in the US. Once at full production approximately two thirds of Sasol's overall pre-tax profit will be derived from chemicals. The LCCP ethane cracker implements an energy efficient, modern technology for both the cracking furnaces and the recovery section that will result in reduced overall GHG emissions per unit of production, relative to other types of ethylene production.

Our evaluation and selection of the available ethylene technologies carefully considered all attributes of the technology, including ethylene yield, reliability and energy efficiency. The LCCP ethane cracker uses a

proprietary furnace design to minimise its GHG footprint. The cracking furnaces are equipped with heat recovery systems to produce steam from waste heat for use within the cracker, thus maximising energy efficiency.

In addition, the LCCP cracking furnaces are fuelled by natural gas and a hydrogen-rich, lower-carbon plant off-gas.

Together, this will result in ethylene being produced at the LCCP at an intensity of less than 18 GJ/ton, significantly lower than production of ethylene via cracking of crude-oil derived naphtha (25 – 40 GJ/ton). The reduced emissions profile of LCCP will also lower the overall carbon intensity of our total global production (tons of CO<sub>2</sub> per ton of production) by approximately 10% relative to 2018 levels.

## Providing diverse climate change solutions

We aim to increasingly generate revenue growth by developing products, services and solutions that meet our climate change ambitions. We view the climate change challenge not only as a risk to be mitigated, but as a driver of innovation for new products, services and technologies. These opportunities will grow further as we transition to a lower-carbon future.

Sasol produces products that meet our customers' changing needs. In this way, we deepen our relationships across the chemicals value chain becoming more agile and responding to market trends. These solutions enable greater energy and process efficiency in our key markets and are indicated below.

### Creating materials for high technology applications

- Sasol's high purity alumina is used to manufacture high-performance abrasives that allow grinding and cutting processes to become significantly more efficient, enabling less energy to be used per unit of production.
- The unique properties of our anionic surfactant portfolio allow for greater efficiency to be achieved when applied in low temperature washing applications.

### Transportation and clean energy

- Our product offerings for road and vehicles enable greater fuel efficiency without compromising safety.
- As a support for specialised catalysts, high purity alumina is used in refineries to produce fuels that meet the latest fuel specifications, enabling improved efficiencies and reducing emissions in automotive applications.
- Our aluminas are key components for emission control systems in vehicles, catalysing the removal of harmful gases as well as filters to eliminate particulate emissions from exhaust gases. Some of these gases would otherwise contribute directly and indirectly to the accumulation of GHGs.
- Our Sasobit hard wax enables asphalt mixes to be produced and placed on road surfaces at reduced temperatures, protecting resources and saving costs through reduced energy consumption and with the added benefit of reduced emissions of volatile organic compounds (VOCs<sup>10</sup>).
- We supply a number of customers with natural gas and a similar energy product, methane-rich gas (MRG), as an energy source in Southern Africa. The use of natural gas and MRG enables customers to carry out a fuel switch from coal to gas thereby reducing their direct emissions. Comparing the emission factors for combustion of different fuels, the total direct emissions avoided by customers is estimated at approximately 3 Mt CO<sub>2</sub>e.

### Construction

- Our materials help the construction industry design solutions for better performance throughout a building's life cycle.
- Our Fischer-Tropsch wax enables relatively lower concentrations of external lubricants, reduces power consumption and the amount of polyvinyl chloride (PVC) scrap in the moulding of PVC pipes, per unit of production.
- The differentiated properties of our high purity paraffins are applied in phase change heat storage devices, including functional textiles and construction, packaging and transport of temperature-sensitive goods and air conditioning systems in vehicles, where they enable higher efficiencies in stop-start cycles.
- We produce different grades of high-density polyethylene (HDPE) for pipe applications in home and commercial building construction. HDPE pipe is produced with lower energy intensity relative to concrete and steel piping systems and is easier to transport and install.



Wax granules produced at Sasolburg Operations, South Africa

10. Gaseous compounds that readily evaporates at room temperature.



## Adapting to the physical impacts of climate change



Climate change is impacting people, ecosystems and the global economy and even if GHG emissions are drastically reduced, impacts will still be felt. Therefore responding to the physical risks associated with climate change is critical and a priority focus for us. We continue to take steps to understand and respond to current and projected future weather and climate risk for our business and surrounding communities. In managing our operations with a climate change mindset, we also contribute to the overall resilience of the communities in which we operate.

Between 2012 and 2014, studies were undertaken to assess how extreme weather events had affected Sasol operations and supply chains in the past. Furthermore, the effectiveness of Sasol's response to extreme weather events was assessed. The study confirmed that Sasol had to date experienced production and supply chain interruptions as well as safety and environmental incidents due to extreme weather events with financial losses in excess of US\$35 million. The findings of the initial work directed our attention towards improving the manner in which extreme weather events were managed at operational sites. We undertook to improve our early weather warning systems and operational practices to mitigate the risk of lightning, extreme winds and intense rainfall events. An extreme weather readiness guideline was also developed to guide the implementation of good practices.

In 2018, we commissioned a study in which our Secunda and Sasolburg Operations in South Africa, the Central Processing Facility (CPF) in Mozambique and the Lake Charles facility in the US were chosen as priority adaptation focus areas. This was based on size, importance of the operations and the potential impacts of a changing climate on these facilities.

A key outcome of the study was the application of advanced downscaled climate modelling capabilities to identify a number of site-specific risks that we aim to be resilient against in terms of a changing climate. These risks are:

### Flooding

With the expected increase in intensity and frequency of flood events, adaptation measures will need to continuously be reviewed and strengthened, including a review of flood lines for some of our operations.

### Heat stress

Given the significant increase by the middle of the century in the number of days per year that workers will be exposed to heat stress, additional measures will likely need to be introduced to reduce this potential exposure and mitigate potential impacts.

### Cyclone/hurricane intensity

Our operating sites in the US and Mozambique are at risk of cyclones (also referred to as hurricanes) and an increase in the maximum intensity of these extreme weather events is projected, both in terms of rainfall and wind speed. While the number of cyclones and hurricanes are not projected to increase, the implication of more intense events (with a possible shift from Category 3<sup>11</sup> to Category 5<sup>12</sup> events) will need to be factored into the design, operating and emergency response protocols at these sites.

### Cooling capacity

Considering the increased frequency of periods where existing cooling capacity may become inadequate, additional and alternative process cooling methods may need to be introduced, or operating envelopes adjusted to accommodate periods of higher temperatures.

### Bush fires

With the projected delay in the onset of summer rains in South Africa, a hotter and drier spring climate is likely to increase the risk of bush fires (also referred to as veld fires). Response measures may need to be deployed depending on the potential impact on our operations.

### Supply chain

Extreme weather (both flooding and temperature) also increase the exposure of our supply chains (inbound and outbound) to interruptions. Specific areas of risk will need to be identified and prioritised, with appropriate controls implemented.

11. Regarded as a major hurricane, i.e. devastating damage can occur (178 - 208 kilometres/hour wind speed).

12. Highest category of the Saffir-Simpson scale, i.e. extremely catastrophic damage can occur (252 kilometres/hour wind speed).

## Our adaptation strategy

We face multiple drivers for addressing climate change adaptation. These include strategic considerations, stakeholder concerns, empirical experience, local stakeholder considerations and potential site and investment decisions. The Sustainability and Risk Function has the responsibility to coordinate the development, implementation and review our adaptation response to:

- demonstrate leadership;
- contribute to the resilience of communities;
- reduce future financial losses; and
- protect our workforce and existing assets from future events.

Our adaptation ambition is that our employees, communities, operating assets and value chains are resilient and safe from the effects of a changing climate in the future. To deliver on this we have developed two key strategic objectives. These are:

- **comprehensively protective:** ensure our physical assets are designed, built and protected from the impacts of a changing climate; and
- **strategically proactive:** integrate climate change adaptation into relevant business processes in order to prepare our employees, communities, operations and value chains to a changing climate.

Our strategic objectives are achieved through the integration of climate change into existing business processes and procedures. These include communication, risk management, supply chain, reporting, capital projects and community engagement.

Site specific actions are being developed to respond to risks and embed the strategy into the business. A key enabler of this will be the inclusion of physical climate change considerations into our existing risk management processes at all levels of the organisation. Our Sustainability and Risk Function will enable the implementation and review of our adaptation approach, which will be measured and tracked by relevant key performance indicators (KPIs).

Sasolburg eco-park, South Africa





## Carbon offsetting

Sasol supports the use of offsets and other business relevant flexibility mechanisms that are based on real and quantifiable emission reductions to complement our on-site activities.

We have played a significant role in pioneering environmental offsets as a way to deliver tangible environmental improvements outside our factory boundaries in South Africa. We demonstrated the value of carbon offsets as an off-site reduction mechanism through reducing N<sub>2</sub>O emissions from 2006 to 2018. We did this by improving the nitric acid production process by using a secondary catalyst at both our Secunda and Sasolburg Operations. These two offset projects were stopped due to financial feasibility issues and the low price of international carbon credits.

Over the past seven years, Sasol has initiated projects and in some instances implemented, at scale, to reduce household potable water losses through leak prevention and to reduce air pollution in South Africa. The reduction in demand for resources, such as potable water, coal and wood resulted in the secondary benefit of reducing associated direct and indirect GHG emissions.



The provisions of the recently approved carbon tax enable carbon offsets in the South African context. Therefore, in line with the principle of least-cost mitigation, our strategy is to maximise our access to carbon offsets (up to the limits stipulated in law) through multiple outlets.

Regardless of the avenue pursued, projects will be within one or more of these broader categories: small scale renewable energy, methane abatement, energy efficiency, reforestation and fuel switching. Project selection will be based on the projected quantity of emission reductions, complexity and social and environmental co-benefits that will be realised.

While we recognise that offsets alone will not provide a long-term solution, we believe they can play an important role in reallocating capital toward emission saving opportunities globally. For example, our European operations are directly impacted by the EU ETS allowance auctions and we participate in offset activities within this context.

## Climate research and partnerships

### Research

Research and technology development is a critical component of our climate change response and as our roadmap develops this area will also expand. Our current budget is used to fund research at South African universities. The research topics range from nanostructures for photo-electrochemical hydrogen production to the development of innovative resource recovery technologies and catalysts.

Additional activities involve interaction with the Department of Science and Innovation (DSI). We are participating in and supporting the DSI's Solar Fuels Study Tour that will be used to inform decisions related to establishing a high end solar research infrastructure in South Africa. The tour delegation has recently visited the German Aerospace Agencies facilities in Jülich, Cologne

and Stuttgart and the Plataforma Solar de Almeria in Spain. A further visit to the University of Adelaide and the Commonwealth Scientific and Industrial Research Organisation in Newcastle, Australia is also planned.

Sasol Group Technology teams will also be represented on the second, five year review panel of the DSI's Hydrogen South Africa (HySA<sup>13</sup>). This research programme was initiated by the DSI in 2008 and is located in three Centres of Competency in South Africa. These are:

1. HySA/Catalysis, co-hosted by the Institute for Catalysis Research at the University of Cape Town and South Africa's national mineral research organisation, Mintek.
2. HySA Infrastructure, co-hosted by the North-West University (NWU) and Council for Scientific and Industrial Research (CSIR).
3. HySA Systems Integration and Technology Validation, hosted by the University of the Western Cape (UWC) and located at the South African Institute for Advanced Materials Chemistry (SAIAMC).

We are also in discussions with the South African government on the potential for further studies, technology development and demonstration.

## Partnerships

We recognise the need for key partnerships in order to realise SDG 13 and have been participating in various initiatives. Since 2001, Sasol has been a founding signatory to the UN Global Compact, which demonstrates our commitment to responsible business by following the ten key principles, including environment. From 2009, Sasol has been actively involved in the UNFCCC Conference of the Parties (COP), and in 2011, Sasol's climate change expert joined the South African climate change negotiating team as the first duly nominated business representative. This support partnership with government spanned five years.

Our executive management and climate change experts participate in various roles that range from being lead experts through to observers on international platforms, most notably at the UNFCCC COP and New York Climate Week. Through the New York Climate Week platform, we joined the Carbon Pricing Leadership Coalition (CPLC), which is an international voluntary coalition that brings together leaders from governments and private and public sectors for the purpose of strengthening the evidence-base on effective carbon pricing systems and policies. Our JCEO Bongani Nqwababa was appointed as a commissioner on the CPLC, with Shamini Harrington, Vice President: Climate Change participating as an advisor.

In May 2019, our JCEO hosted a CPLC Carbon Pricing and Competitiveness stakeholder workshop in South Africa to provide an opportunity for collaborative learning on the impacts and benefits of carbon pricing policies. This year at the UN session in New York, we presented a developing country company view on carbon pricing policy to accelerate emission-reductions.

Through the South African National Business Initiative (NBI) in 2015, Sasol partnered with We Mean Business, a global non-profit coalition comprising of the world's most

influential businesses to catalyse business action and drive policy ambition in the transition to a lower-carbon future.

In 2016, Sasol partnered with the NBI and the South African government to host the UNFCCC COP Pavilion to showcase the country's climate change management approach and initiatives. This collaboration has been running for three consecutive years and is proving to be successful for both business and government.

These partnerships help us to keep abreast of key developments and position both Sasol and South Africa to leverage technological and collaborative climate solutions in transitioning to a lower-carbon future. Solutions for climate change management necessitates working together to find ways forward.

## Working with others: facilitating a lower-carbon global economy through policy and advocacy

In South Africa, we support government policy development and reform on climate change mitigation and adaptation responses. We believe that an aligned approach should be adopted in developing climate change policy that balances the national priorities of reducing unemployment and achieving economic growth.

Business is an integral part of the solution to the challenge of climate change and only through working with various stakeholders, including governments, regulatory authorities and civil society in the countries in which we operate, can we achieve optimum management solutions.

Our contribution aims to assist in ensuring that policy does not result in unintended consequences for business, society and the broader economy. We continue to engage directly with regulators and policymakers, as well as indirectly through relevant national and international business associations and task teams. Sasol is actively involved in leading various South African policy development initiatives and chairs the NBI Advisory Committee on Environment and Society, BUSA Environment Sub-Committee and the Industry Task Team on Climate Change. Our subject matter experts sit on a number of policy task teams for climate change management in South Africa.

## Working with our communities

We aim for sustainable outcomes through various initiatives with our communities. Delivering stakeholder value in the areas in which we operate in response to the needs of our fenceline communities is critical. We do this through continuous engagements, community development initiatives, skills development and growing local procurement. For further information refer to the Sustainability Report **SR** page 34.

Social investment focuses on environmental stewardship under the theme of "promoting the protection of the environment" through:

1. Environmental education in schools and communities:
  - The Sasol Envirobox Programme: Environmental education and training for sustainable development

13. In 2008, South Africa established a research, development and innovation strategy called Hydrogen South Africa (HySA).

helps learners, educators and the community at large increase their awareness on the connection between environmental awareness and economic opportunities. The programme covers waste management, water conservation and sustainable food systems, using a comprehensive toolkit that includes digital software for sustainable design, drones and aquaponic systems.

- We also support the Wildlife and Environment Society of South Africa (WESSA) Eco-schools programme, which focuses on environmental stewardship and skills development within the green sector.
- Our partnership with Plastics South Africa educates learners and communities on plastic waste and its impact on water systems.
- Infrastructure support, such as the newly designed enviro-cycles, utilised for Plastics South Africa educates learners and communities on plastic waste and its impact on water systems.

#### 2. Community-based environmental protection projects:

- Sasol has an Integrated Waste Management programme which trains communities on waste management and provides waste removal.

#### 3. Supporting offset projects in the areas in which we operate:

- We have been supporting the implementation of the programme 1 000 Trees in 1 000 Days by McNeese State University's Harold and Pearl Dripps Department of Agricultural Sciences, the Community Foundation of Southwest Louisiana and a committee of community members. We are also working to help restore the longleaf pine habitat in Sam Houston Jones State Park near Sasol's site in Southwest Louisiana. Our work to help the city of Lake Charles protect and preserve local parks, assists in ensuring natural habitats are restored for use by future generations.
- We facilitate community engagements on air quality education and awareness campaigns, such as the inception of the offset projects in the Govan Mbeki and Metsimaholo Municipalities in South Africa.
- We also insulated 1 500 homes in the Secunda region to improve indoor air quality and reduce GHG emissions.

## Transparency as we transition

In previous years, Sasol's climate change-related information was communicated through an annually published Sustainability Report. This year, we decided to publish a Climate Change Report to demonstrate our commitment to increased transparency. Through our partnership with the We Mean Business Responsible Reporting initiative, we started to align with the Guiding Principles of the Climate Disclosure Standards Board (CDSB) in 2015.

The CDSB is an international consortium of businesses and environmental non-governmental organisations committed to advancing and aligning the global corporate reporting model. Sasol was the first oil and gas company to sign the CDSB's statement on fiduciary duty and climate change disclosure. To build on this commitment, in 2018 we committed to reporting against the TCFD. Climate change experts from Sasol participated in the process for development of the TCFD recommendations.

We have also been a long-standing participant in the voluntary CDP (formerly Carbon Disclosure Project) process, which aims at providing companies with a disclosure system for water and climate-related information. This process has assisted us to manage our GHG emissions and help our investors understand our climate change risks and opportunities.

We continue reporting against the GRI standards as it provides a framework for us to communicate the impact of our material sustainability issues. Sasol team members have been appointed to the task team currently developing the oil, gas and coal standards and our climate change experts participated in the task team that developed the energy and climate change standards for GRI in 2016.

For us, enhanced climate change disclosures is a key aim and as our approach evolves we will be communicating with our stakeholders through various platforms including reporting more extensively.



Sasol eco-awareness campaign, Sasolburg, South Africa



# Performance data

## Natural Capital: Climate change-related data table

|  | Footnote | 2019          | 2018   | 2017   | 2016   | Level of assurance 2019 |
|--|----------|---------------|--------|--------|--------|-------------------------|
| <b>Production performance</b>                                |          |               |        |        |        |                         |
| <b>Product meant for external sale (kilotons)</b>            | 1        | <b>18 446</b> | 17 836 | 18 472 | 18 806 | Reasonable              |
| Secunda  |          | <b>6 736</b>  | 6 720  | 6 974  | 7 019  |                         |
| Sasolburg  |          | <b>1 467</b>  | 1 585  | 1 561  | 1 461  |                         |
| Mining   |          | <b>3 209</b>  | 3 192  | 2 976  | 3 331  |                         |
| Natref   |          | <b>4 271</b>  | 3 578  | 3 964  | 4 067  |                         |
| Eurasia  |          | <b>1 277</b>  | 1 341  | 1 345  | 1 309  |                         |
| North America  |          | <b>688</b>    | 707    | 811    | 793    |                         |
| Mozambique   |          | <b>53</b>     | 54     | 64     | 62     |                         |
| Satellite Operations, Strategic Business Units and Functions |          | <b>745</b>    | 659    | 776    | 763    |                         |
| <b>Greenhouse gases (GHG) (kilotons)</b>                     |          |               |        |        |        |                         |
| <b>Direct methane (CH<sub>4</sub>)</b>                       | 2        | <b>105,04</b> | 109,18 | 110,68 | 119,25 | Reasonable              |
| Secunda  |          | <b>96,16</b>  | 98,34  | 99,52  | 100,10 |                         |
| Sasolburg  |          | <b>5,34</b>   | 7,24   | 7,42   | 10,54  |                         |
| Mining   |          | <b>3,49</b>   | 3,55   | 3,73   | 4,01   |                         |
| Natref   |          | –             | –      | –      | –      |                         |
| Eurasia  |          | –             | –      | –      | –      |                         |
| North America  |          | <b>0,04</b>   | 0,04   | –      | –      |                         |
| Mozambique   |          | –             | –      | –      | –      |                         |
| Satellite Operations, Strategic Business Units and Functions |          | <b>0,01</b>   | 0,01   | 0,01   | 4,61   |                         |
| <b>Nitrous oxide (N<sub>2</sub>O)</b>                        |          | <b>1,64</b>   | 1,44   | 0,51   | 0,45   | Reasonable              |
| Secunda  |          | <b>0,90</b>   | 1,18   | 0,34   | 0,31   |                         |
| Sasolburg  |          | <b>0,73</b>   | 0,26   | 0,16   | 0,14   |                         |
| Mining   |          | –             | –      | –      | –      |                         |
| Natref   |          | –             | –      | –      | –      |                         |
| Eurasia  |          | –             | –      | –      | –      |                         |
| North America  |          | <b>0,01</b>   | 0,01   | –      | –      |                         |
| Mozambique   |          | –             | –      | –      | –      |                         |
| Satellite Operations, Strategic Business Units and Functions |          | –             | –      | –      | –      |                         |
| <b>Direct carbon dioxide (CO<sub>2</sub>) Scope 1</b>        |          | <b>56 004</b> | 56 731 | 57 281 | 58 329 | Reasonable              |
| Secunda  |          | <b>48 418</b> | 49 411 | 49 284 | 50 152 |                         |
| Sasolburg  |          | <b>4 557</b>  | 4 517  | 5 017  | 5 196  |                         |
| Mining   |          | <b>16</b>     | 18     | 16     | 16     |                         |
| Natref   |          | <b>932</b>    | 791    | 903    | 938    |                         |
| Eurasia  |          | <b>610</b>    | 698    | 773    | 748    |                         |
| North America  |          | <b>1 163</b>  | 988    | 978    | 953    |                         |
| Mozambique   |          | <b>261</b>    | 258    | 260    | 273    |                         |
| Satellite Operations, Strategic Business Units and Functions |          | <b>47</b>     | 51     | 51     | 53     |                         |
| <b>Indirect carbon dioxide (CO<sub>2</sub>) Scope 2</b>      | 3        | <b>7 653</b>  | 7 756  | 7 659  | 8 046  | Reasonable              |
| Secunda  |          | <b>5 596</b>  | 5 580  | 5 598  | 6 089  |                         |
| Sasolburg  |          | <b>400</b>    | 723    | 527    | 468    |                         |
| Mining   |          | <b>726</b>    | 697    | 705    | 739    |                         |
| Natref   |          | <b>289</b>    | 248    | 263    | 261    |                         |
| Eurasia  |          | <b>108</b>    | 125    | 170    | 162    |                         |
| North America  |          | <b>498</b>    | 349    | 360    | 289    |                         |
| Mozambique   |          | –             | –      | –      | –      |                         |
| Satellite Operations, Strategic Business Units and Functions |          | <b>36</b>     | 37     | 37     | 39     |                         |
| <b>Indirect carbon dioxide (CO<sub>2</sub>) Scope 3</b>      | 4        | <b>0,05</b>   | 0,59   | 0,78   | 0,52   | Limited                 |
| Secunda  |          | –             | –      | –      | –      |                         |
| Sasolburg  |          | –             | –      | –      | –      |                         |
| Mining   |          | –             | –      | –      | –      |                         |
| Natref   |          | –             | –      | –      | –      |                         |
| Eurasia  |          | –             | –      | –      | –      |                         |
| North America  |          | –             | –      | –      | –      |                         |
| Mozambique   |          | <b>0,05</b>   | 0,59   | 0,78   | 0,52   |                         |
| Satellite Operations, Strategic Business Units and Functions |          | –             | –      | –      | –      |                         |

|   | Footnote | 2019          | 2018   | 2017   | 2016   | Level of assurance 2019 |
|---|----------|---------------|--------|--------|--------|-------------------------|
| <b>Total greenhouse gas (CO<sub>2</sub> equivalent)</b>         |          | <b>66 558</b> | 67 412 | 67 632 | 69 250 | Reasonable              |
| Secunda   |          | <b>56 492</b> | 57 586 | 57 267 | 58 633 |                         |
| Sasolburg   |          | <b>5 297</b>  | 5 483  | 5 763  | 5 947  |                         |
| Mining  |          | <b>822</b>    | 797    | 807    | 847    |                         |
| Natref  |          | <b>1 221</b>  | 1 038  | 1 166  | 1 199  |                         |
| Eurasia   |          | <b>717</b>    | 823    | 943    | 910    |                         |
| North America   |          | <b>1 665</b>  | 1 340  | 1 338  | 1 242  |                         |
| Mozambique  |          | <b>261</b>    | 258    | 260    | 274    |                         |
| Satellite Operations, Strategic Business Units and Functions    |          | <b>83</b>     | 88     | 89     | 198    |                         |
| <b>GHG intensity (CO<sub>2</sub> equivalent/ton production)</b> |          | <b>3,61</b>   | 3,78   | 3,66   | 3,68   | Reasonable              |
| Secunda   |          | <b>8,39</b>   | 8,57   | 8,21   | 8,35   |                         |
| Sasolburg   |          | <b>3,61</b>   | 3,46   | 3,69   | 4,07   |                         |
| Mining  |          | <b>0,26</b>   | 0,25   | 0,27   | 0,25   |                         |
| Natref  |          | <b>0,29</b>   | 0,29   | 0,29   | 0,29   |                         |
| Eurasia   |          | <b>0,56</b>   | 0,61   | 0,70   | 0,70   |                         |
| North America   |          | <b>2,42</b>   | 1,89   | 1,65   | 1,57   |                         |
| Mozambique  |          | <b>4,92</b>   | 4,74   | 4,08   | 4,38   |                         |
| Satellite Operations, Strategic Business Units and Functions    |          | <b>0,11</b>   | 0,13   | 0,11   | 0,26   |                         |

#### Footnotes

1. Production – external sales – The boundaries of this figure only include a product that is destined for sale to Sasol customers, and does not include a product utilised or sold between the Sasol Group of companies. Stable production was experienced at Natref and resulted in increased production for external sale as compared to last year, in which planned shutdowns occurred.
2. Greenhouse gas (GHG) emissions have been calculated and reported in accordance with the GHG Protocol ([www.ghgprotocol.org](http://www.ghgprotocol.org)) and the Intergovernmental Panel on Climate Change (IPCC) 2006 Guidelines. In our GHG measurements, in which included 100% of the emissions for the following joint ventures (JVs): Natref in South Africa and Sasol Exploration & Production International. Data for those JVs where we do not have a significant influence or operational control is not included. An external assurance provider has once again independently verified our direct and indirect emissions levels. Our GHG emission intensity (tons CO<sub>2</sub>e per ton of production – external sales) decreased to 3,61 in 2019 from 3,78 in 2018, due to an increase in the production – meant for external sale and a decrease in total GHG CO<sub>2</sub>e.
3. The reduced indirect CO<sub>2</sub> Scope 2 emissions for this year are as a result of the Secunda Synfuels Operations total shutdown in September 2018, as well as less electricity purchased by Sasolburg Operations following increased own electricity generation.
4. Indirect carbon dioxide (CO<sub>2</sub>) Scope 3 includes only the emissions as a result of the charter flights to Vilanculos, Mozambique, where our Central Processing Facility is located. These flights have been discontinued resulting in the significant decrease in these Scope 3 emissions. Our other categories of Scope 3 emissions can be found on page 11 and in our CDP submission available at [www.sasol.com](http://www.sasol.com).

# TCFD index

## Location of our aligned disclosures

| TCFD recommendation   | Place of disclosure  | Page                     |
|---|--|--------------------------|
| <b>GOVERNANCE – Disclose the organisation’s governance on climate-related risks and opportunities</b>   |  |                          |
| a) Describe the Board’s oversight of climate-related risks and opportunities.   | Board oversight of climate change<br>Governance overview <b>IR</b>             | 14–15<br><b>IR</b> 60    |
| b) Describe management’s role in assessing and managing climate-related risks and opportunities.  | Executive and management responsibility for climate change                     | 14–15                    |
| <b>STRATEGY – Disclose the actual and potential impacts of climate-related risks and opportunities on the organisation’s business, strategy and financial planning where such information is material</b> |  |                          |
| a) Describe the climate-related risks and opportunities the organisation has identified over the short, medium and long term.   | Climate-related risks and opportunities  | 15–17                    |
| b) Describe the impact of climate-related risks and opportunities on the organisation’s business, strategy and financial planning.  | Climate-related risks and opportunities  | 15–17                    |
| c) Describe the resilience of the organisation’s strategy, taking into consideration different climate-related scenarios, including a 2°C or lower scenario.  | Testing the resilience of our strategy through scenario analysis               | 18–20                    |
|   | Positioning Sasol for a lower-carbon future                                    | 21–25                    |
| <b>RISK MANAGEMENT – Disclose how the organisation identifies, assesses and manages climate-related risks</b>   |  |                          |
| a) Describe the organisation’s processes for identifying and assessing climate-related risks.   | Managing Group risks strategically <b>IR</b><br>Governance and risk management | <b>IR</b> 46–52<br>14–17 |
| b) Describe the organisation’s processes for managing climate-related risks.  | Climate-related risks and opportunities  | 15–17                    |
| c) Describe how processes for identifying, assessing and managing climate-related risks are integrated into the organisation’s overall risk management.   | Managing Group risks strategically <b>IR</b><br>Governance and risk management | <b>IR</b> 46–52<br>14–17 |
|   |  |                          |
| <b>METRICS AND TARGETS – Disclose the metrics and targets used to assess and manage relevant climate-related risks and opportunities where such information is material</b>                               |  |                          |
| a) Disclose the metrics used by the organisation to assess climate-related risks and opportunities in line with its strategy and risk management process.   | Performance Data: Natural Capital <b>SR</b> and <b>CCR</b>                     | <b>SR</b> 73–74<br>31–32 |
|   | Our global presence and associated GHG footprint                               | 10–11                    |
| b) Disclose Scope 1, Scope 2 and, if appropriate, Scope 3 GHG emission and the related risks.   | Performance Data: Natural Capital <b>SR</b> and <b>CCR</b>                     | <b>SR</b> 73–74<br>31–32 |
|   | Our 2019 GHG improvements  | 2                        |
|   | Our global presence and associated GHG footprint                               | 10–11                    |
| c) Describe the targets used by the organisation to manage climate-related risks and opportunities and performance against targets.   | 2030 emission-reduction and energy efficiency targets                          | 1, 3, 4, 5, 7<br>12, 22  |

## Additional information

Under our commitment to SDG 13, Climate Action is an immediate priority and the work that we do is subject to independent review. Recognitions, participation in indexes, initiatives and commitments are included below.

### Support to global and national initiatives:



### Directors' approval

The Board is ultimately responsible for ensuring the integrity of Sasol's suite of Annual Reports. We confirm that the 2019 Climate Change Report addresses material areas relating to the TCFD recommendations. The Board approved this report for publication on 28 October 2019.

Signed on behalf of the Board:

**MSV Gantsho**  
Chairman of the Board

**M Dube**  
Chairman of  
Safety, Social and  
Ethics Committee

**B Nqwababa**  
Joint President and  
Chief Executive Officer

**SR Cornell**  
Joint President and  
Chief Executive Officer

### Sasol contacts

#### Postal and electronic addresses and telecommunication numbers

Private Bag X10014  
Sandton 2146  
Republic of South Africa  
Telephone: +27 (0) 10 344 5000  
Website: [www.sasol.com](http://www.sasol.com)

#### Business address and registered office

Sasol Place  
50 Katherine Street  
Sandton 2196  
Republic of South Africa

#### Company registration number

1979/003231/06

#### Sustainability and Risk

Email: [sustainability&risk@sasol.com](mailto:sustainability&risk@sasol.com)







## Disclaimer: Forward-looking statements

Sasol may, in this document, make certain statements that relate to analyses and other information which are based on forecasts of future results (related to the future rather than past events and facts) and estimates of amounts not yet determinable. These statements may also relate to our future prospects, expectations, developments and business strategies. Examples of such forward-looking statements include, but are not limited to, statements regarding our climate change strategy generally, our energy efficiency improvement target, our three-pillar emission-reduction framework, our absolute GHG emission-reduction target and our estimated carbon tax liability. Words such as “aim”, “estimate”, “believe”, “anticipate”, “expect”, “intend”, “seek”, “will”, “plan”, “could”, “may”, “endeavour”, “target”, “forecast”, “committed”, “project” and similar expressions are intended to identify such forward-looking statements, but are not the exclusive means of identifying such statements.

By their very nature, forward-looking statements involve inherent risks and uncertainties, both general and specific and there are risks that the predictions, forecasts, projections and other forward-looking statements will not be achieved. Therefore, you should not place undue reliance on any forward-looking statements. If one or more of these risks materialise, or should underlying assumptions prove incorrect, our actual results may differ materially from those anticipated. You should understand that a number of important factors could cause actual results to differ materially from the plans, objectives, expectations, estimates and intentions expressed in such forward-looking statements. Important factors that could cause actual results to differ materially from those in the forward-looking statements specifically related to this climate change strategy include, but are not limited to, changing regulatory and political environments in the countries in which Sasol operates; potential liability of the Sasol’s operations under existing or future environmental regulations, including international agreements and severe weather events. These factors and others are discussed more fully under the heading “Risk Factors” in our most recent annual report on Form 20-F filed on or about 28 October 2019 and in other filings we make with the United States Securities and Exchange Commission. The list of factors discussed therein is not exhaustive; when relying on forward-looking statements to make investment decisions, you should carefully consider both these factors and other uncertainties and events. Forward-looking statements apply only as of the date on which they are made and we do not undertake any obligation to update or revise any of them, whether as a result of new information, future events or otherwise.



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