



SAOGA / Eskom JET

Standard Bank

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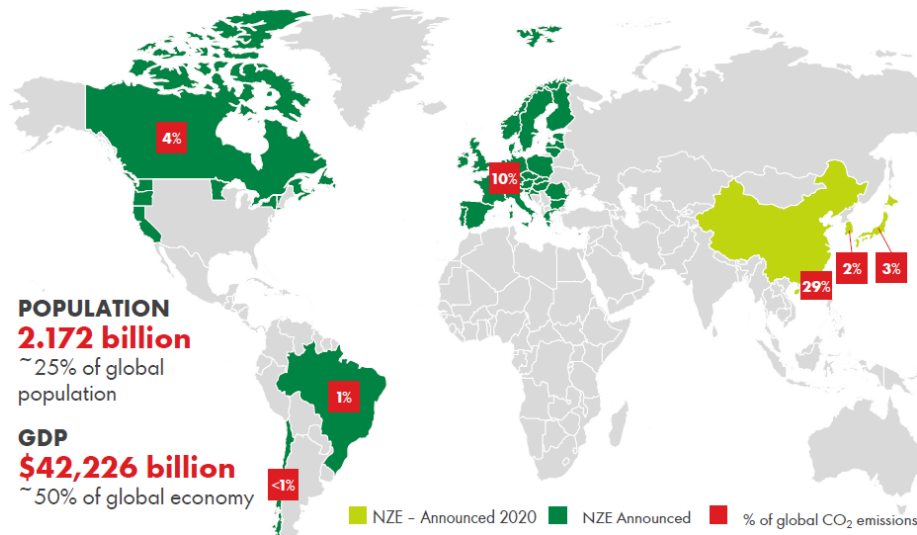


GAS AS A TRANSITION FUEL

GAS' FUNDAMENTALS REMAIN STRONG

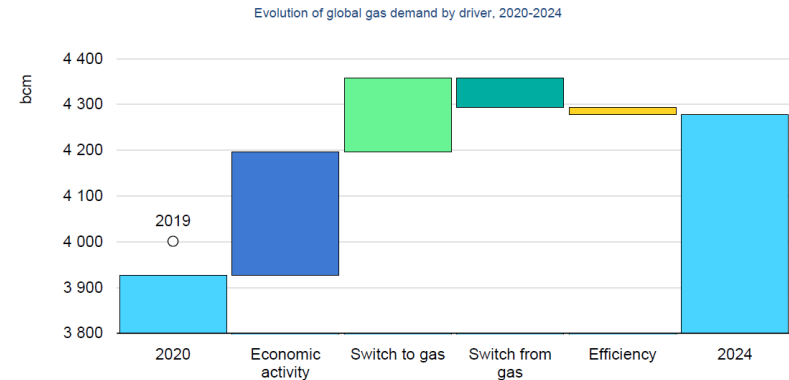
- Shell's 2021 LNG Outlook noted that in 2020, key large emitters introduced Net Zero Emission ("NZE") targets (by 2050 – 2060). Absent demand side technological innovation and renewable energy physical breakthroughs, only natural gas can easily lead to significant CO2 emission reductions.

NZE announcements globally



- In advance of game-changing developments in Green Hydrogen etc (unlikely before 2030s), Natural Gas continues to have a bright future, especially in key markets such as China/India. Projected gas demand increases crucially include coal/diesel/oil to gas switching

Substitution of more CO₂-emitting fossil fuels drives one-third of gas growth to 2024



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LNG DEMAND COMPARISON

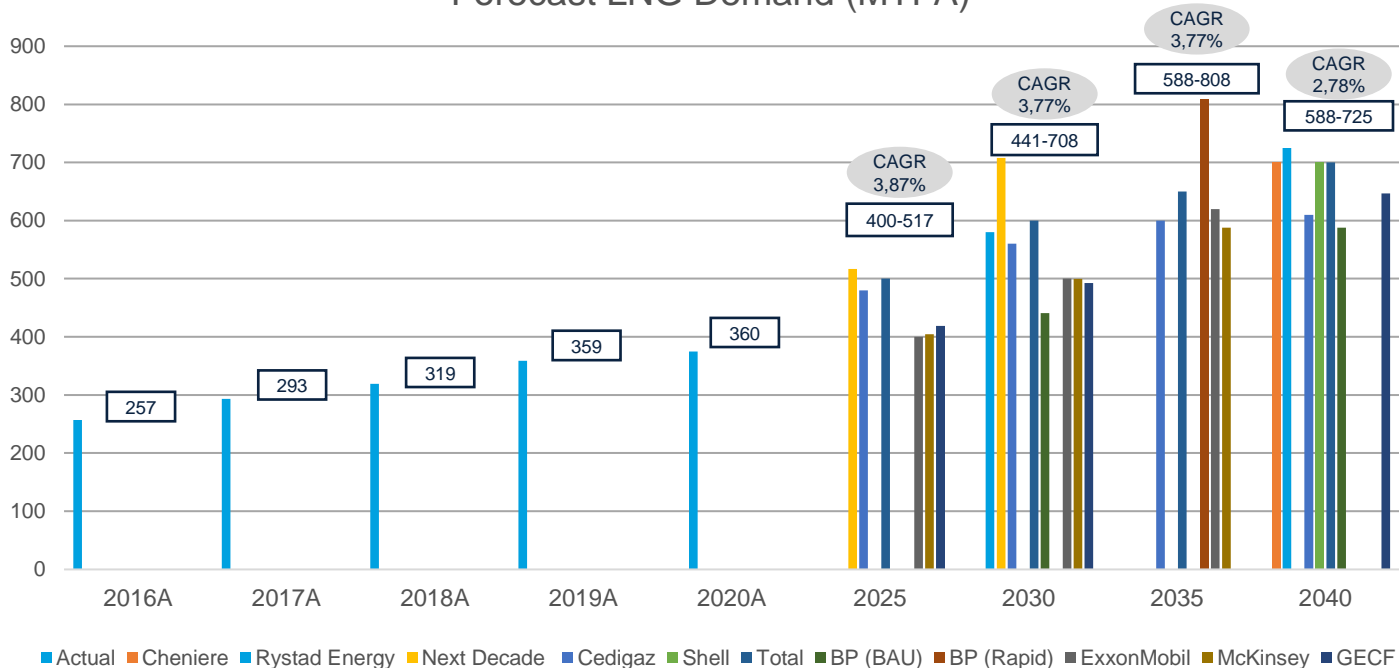


Twelve independent LNG demand forecasts outlined from 2025-2040:

- 1) 2016,2017,2018: Actual International Gas Union – P 2019 Edition
- 2) 2019/2020: Shell LNG Outlook (2020 & 2021)
- 3) Cheniere: Corporate Presentation P (Aug'20)
- 4) Rystad Energy: Gas Market Yearly Report (Dec'20)
- 5) Next Decade: Market Fundamentals P (Nov'20)
- 6) Cedigaz: LNG Outlook 2020
- 7) Total: Energy Outlook 2020
- 8) BP: Energy Outlook 2020
- 9) ExxonMobil: March 2020 Investor Day P
- 10) McKinsey: Energy Insights – Global Gas & LNG Outlook to 2035 (H1 2019)
- 11) Gas Exporting Countries Forum (GECF): Global Gas Outlook 2050 Synopsis P (Feb'20)

P - Published
Summarised by Standard Bank

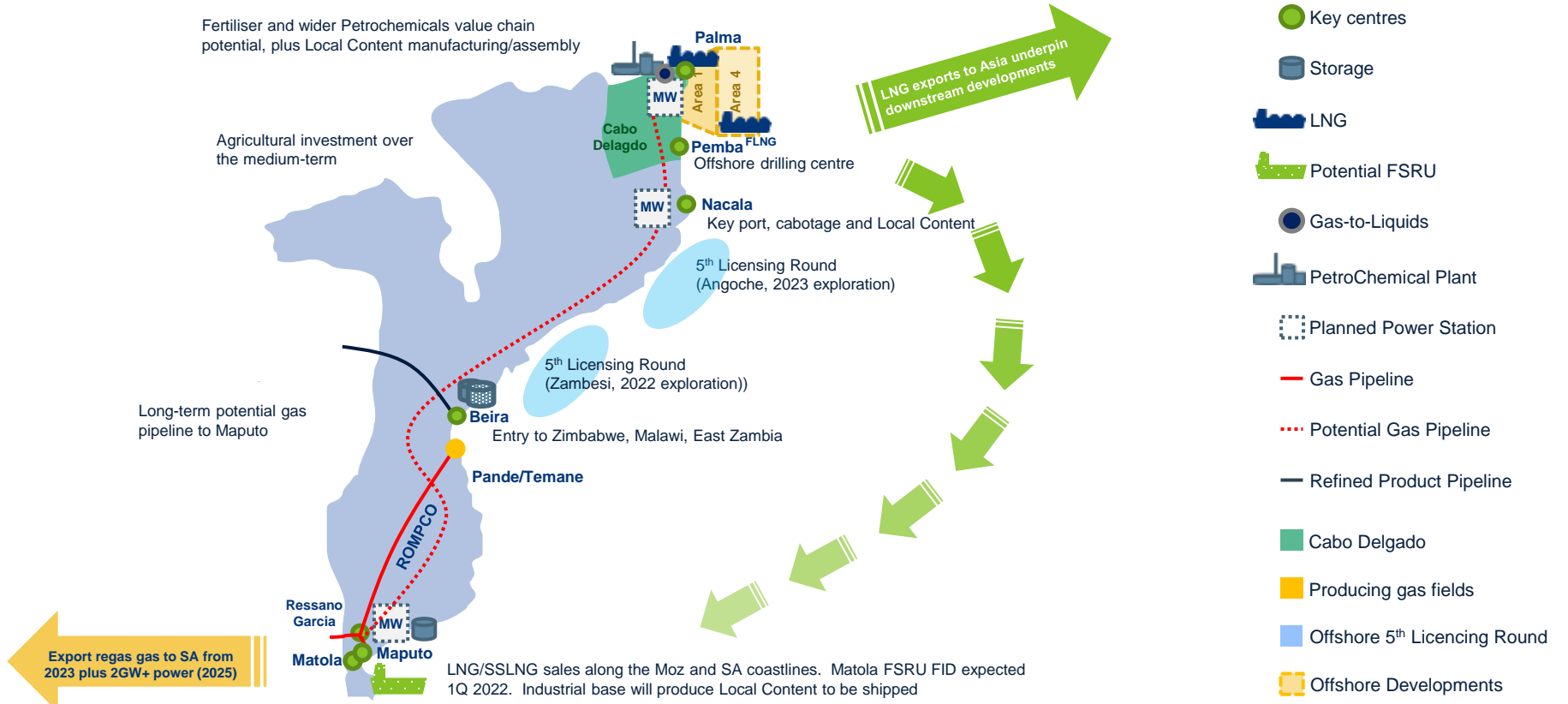
Forecast LNG Demand (MTPA)



P Published

Demand is expected to increase from 360 MTPA to 655 MTPA (average) from 2020-2040 using leading industry players forecasts. Per Shell (2021), LNG demand was essentially flat in 2020, despite COVID, a superb achievement compared to oil

POTENTIAL DEVELOPMENTS FUELLED BY LNG & DOMGAS



On 14th May 2021, Sasol announced a sale of 30% of ROMPCO. This will grow the SA market by connecting ROMPCO to the Matola FSRU, and facilitate two major growth nodes in Mozambique

GAUTENG (GP) & KWAZULU NATAL (KZN) - MOZAMBIQUE LINKS



1 We expect falling **PT** output by c.10%p.a. from 2025, to c.118 MGJA by 2028. As output declines, so will Sasol's allocation, thus securing alternative supplies is critical.

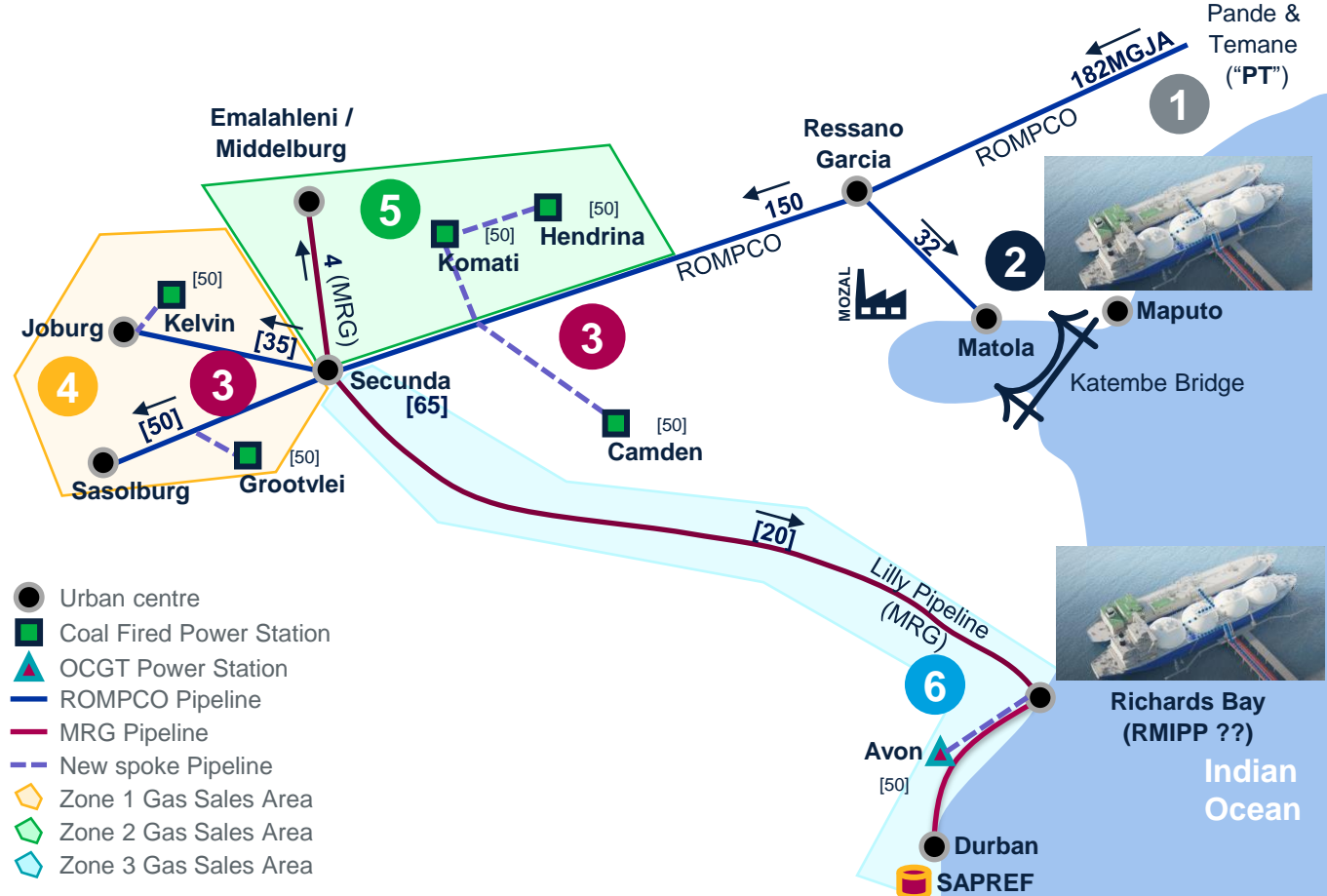
2 **Matola FSRU**
From [2024], c 212 MGJA throughput, subject to free ROMPCO capacity (current 212 MGJA, post debottleneck 325 MGJA?), c 62 MGJA free in ROMPCO today

3 **New Gas-to-Power (GTP)**
New CCGT at indicated brownfield sites, can be connected to Pipeline Network and/or ROMPCO

4 **Zone 1**
Gauteng area major demand potential for GTP and industrial users

5 **Zone 2**
Reasonable GTP demand potential

6 **Zone 3**
With LNG entering Richards Bay or Durban, real opportunity to increase GTP demand (e.g. Avon) and / or industrial users. Main issue is need to involve Transnet on reverse flow and debottleneck of Lilly line (capacity c 0.5 MTPA)





LNG / GAS PRICING KEY POINTS

1

Let's be blunt. No one globally buys long-term LNG using spot indices. Most popular is % of Brent, with other contenders (Henry Hub, TTF etc)

2

Mozambique produces LNG from [3Q 22]. Most of Mozambique to date (Coral/MLNG) has been sold at a % of Brent. Tiny shipping costs to SA.

3

Our base assumption is for Ship or Pay / Take or Pay volumes (e.g. to underpin c 70% dispatch of a new CCGT) to be **term-contract priced** LNG

4

Pricing will likely be DES Matola (at first) plus Regas Fee plus ROMPCO. The Regas Fee should decline as more gas is bought.

5

Post Matola, can SA regain SA Energy Security after 14 years of problems? LNG is always be cheaper than diesel/load-shedding and it facilitates the growth of renewables (e.g. Spain). **New world-class CCGT is literally within reach.**

SA POWER SECTOR CONTEXT

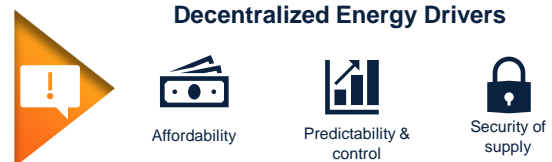


IRP2019 sets out future power generation with a shift towards Renewables

- Significant demand supply gap estimated at **5-7GW** over medium term;
- A total of **11 017MW** of coal plants are to be decommissioned between **2019 and 2030**, followed by **additional 35 GW from 2030 to 2050**;
- **Conversion** of all current diesel peaking plants to gas is an immediate key priority, Just, timing will be critical. **Eskom repurposing tender** under way, **Just Transition Transaction**;
- Gas to Power: **3 000MW** (2024 & 2027) – Critical to support increased roll out of Renewables to ensure grid stability;
- Presidential Climate Commission identified Gas as a **Transitional fuel** with a key priority to build stakeholder consensus;
- Distributed generation opportunities as market opens up and regulations are amended, **100MW licensing** threshold and Schedule 2 amendments – significant interest from industry;
- Power sector **reform** and **Just Transition** considerations towards low cost electricity, job creation, economic growth & long term sustainability.

	Coal	Coal (Decommissioning)	Nuclear	Hydro	Storage	PV	Wind	CSP	Gas & Diesel	Other (Distributed Generation, CogGen, Biomass, Landfill)
Current Base	37 349		1 860	2 100	2 912	1 474	1 980	300	3 930	499
2019	2 355	2 229					244	300		Allocations to the extent of the short term capacity and energy gap.
2020	1 433	157				114	300			
2021	1 433	1 810				300	816			
2022	713	826			513	400	1 000	1 600		
2023	750	1 35				1 000	1 600		500	
2024			1 860				1 600		1 000	
2025						1 600	1 600		500	
2026		1 216					1 600		500	
2027	750	817					1 600	2 000	500	
2028		475				1 600	1 600		500	
2029		1 094			1 075	1 600	1 600		500	
2030		1 000		2 500		1 600	1 600		500	
TOTAL INSTALLED CAPACITY by 2030 (MW)	11 563		1 860	2 400	7 000	9 200	1 774,7	600	6 065	
% Total Installed Capacity (% of Mw)	43		2,36	5,84	6,35	10,52	22,53	0,76	8,1	
% Annual Energy Contribution (% of MWh)	58,8		4,5	8,4	1,2*	6,3	17,8	0,6	1,3	

Installed Capacity
 Committed / Already Contracted Capacity
 Capacity Decommissioned
 New Additional Capacity
 Extension of Koeberg Plant Design Life
 Includes Distributed Generation Capacity for own use



The South African power sector is set to grow through increased focus on **Renewable Energy** as tariffs continue to decline as a result of competition and technology advancements. This will drive the need to fast track the roll out of **Gas to Power** within the power system.

TOWARDS A SUSTAINABLE POWER SECTOR

POLICY CERTAINTY AND LONG-TERM PLANNING IMPORTANT DRIVERS



Current IPP programs (announced)

- RMIPP: 2 000MW
- REIPPP:
 - Round 5 (2 600MW)
 - Round 6 (2 600MW)
 - Storage (513MW)
 - Round 7 (1 600MW)
- Gas to Power: 3 000MW

Eskom Just Transition projects (ca 7,5GW)

Key Considerations

- IRP2019 already outdated
- Slow pace of procurement
- Government support
- Grid availability
- Reduced IRRs
- Local content & participation
- Distributed power: Timing & process

Eskom Just Transition Transaction

Immediate Priorities

- Launch Gas to Power RFP
- Finalize grid upgrade & expansion plans
- RE industrialization & Local devl. plan
- New IRP
- Distributed power implementation
- Climate Change Commission priorities incl:
 - * Power sector reform (market & tariff)
 - * RE, Gas & Green H2



Other key trends and observations:

- Significant **competition** to fund Renewable projects from DFIs and Commercial Banks with more aggressive funding structures and margin compression across all levels of funding;
- REIPPP round 5 is expected to have **lowest tariffs** with 104 projects bid (preferred bidders expected to be announced Oct/Nov), noting constraint in Northern Cape which prevented many competitive projects from bidding;
- Focus on **Decentralised Energy** projects driven by reliability, affordability and predictability of electricity costs, with a significant increase in clients considering procurement processes. Main technologies being considered – RE and gas for industrial use. Mining clients are leading with 1,6-2GW RfPs in process
- Standard Bank launching **PowerPulse – Innovative** digital platform that facilitates, funds & optimises Africa's DE supply.

Transmission supply Capacity Assessment 2021

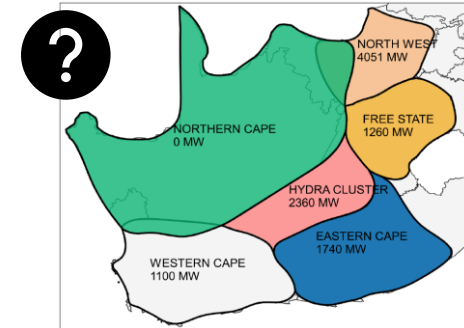


Figure 5: Supply area capacity

Current procurement of new generation capacity is still slow, whilst funders remain committed.



Thank You

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