

SOUTH AFRICA COUNTRY REPORT 2025

JAPAN INTERNATIONAL COOPERATION AGENCY (JICA)

Prepared by

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Presentation outline

- 1 Country Profile
- 2 Economic Indicators
- 3 Primary Energy Demand
- 4 Primary Energy Supply
- 5 Outlook of Energy Demand and Supply
- 6 Current energy policy and measures
- 7 Major Difficulties and Bottlenecks
- 8 Subjects of interests



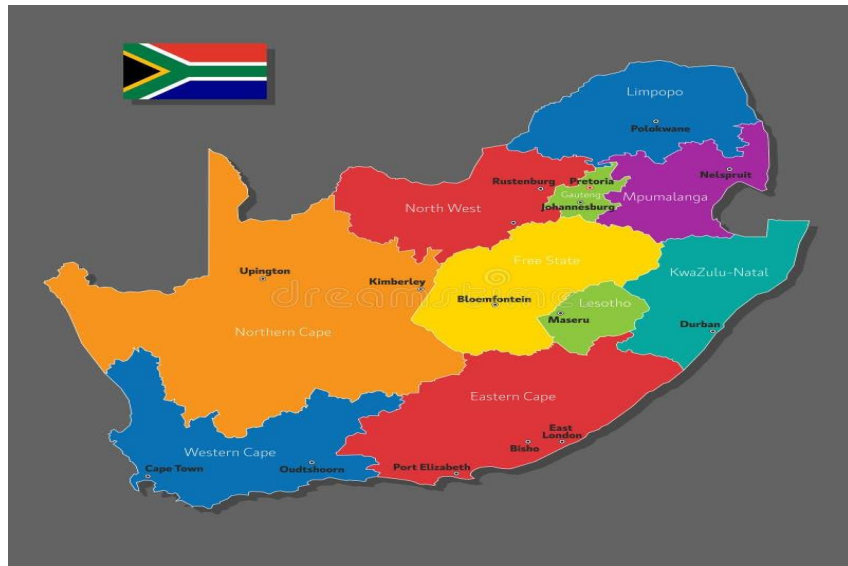
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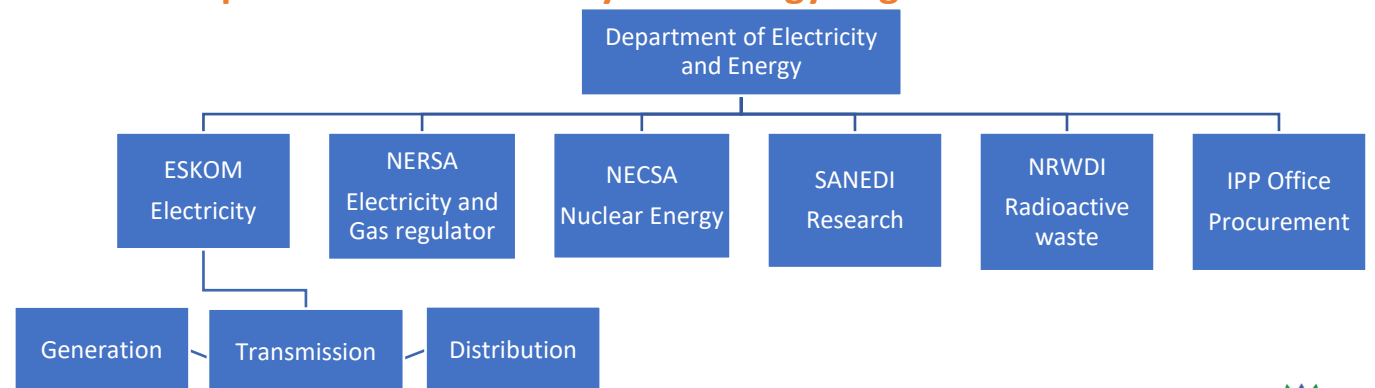
South Africa Country Profile



- **South Africa**, officially the Republic of South Africa (RSA), is in the Southern most part of Africa.
- It is a Constitutional democracy government (The Constitution is the highest law)
- South Africa's total surface area is 1,22 million square kilometres. It's the 24th-largest country in the world. It is the ninth-biggest country in Africa
- It consist of nine provinces
- South African has 12 official languages



Department of Electricity and Energy Organisation structure



Key Economic Indicators

- GDP – R7.3 trillion (approximately \$400.19 billion)
- GDP per capita - \$6,331 in 2024
- Consumer Price Index (CPI) – 3.2% in February 2025
- Population – 62.02 million (2024 mid-year population estimate)
 - ❖ Population with access to electricity in 2023 - 87.7%
 - ❖ Population with access to clean cooking and technologies in 2022 - 89.4%
- Unemployment rate – 27.24% in 2024
- Government Deficit - \$699.5 billion in 2024 (4.9% of GDP)
- Exchange Rate - R/\$ 18.11 (the average for the period 2 May 2025 to 29 May 2025)

* Sources: Statistics South Africa, South African Reserve Bank, National Treasury

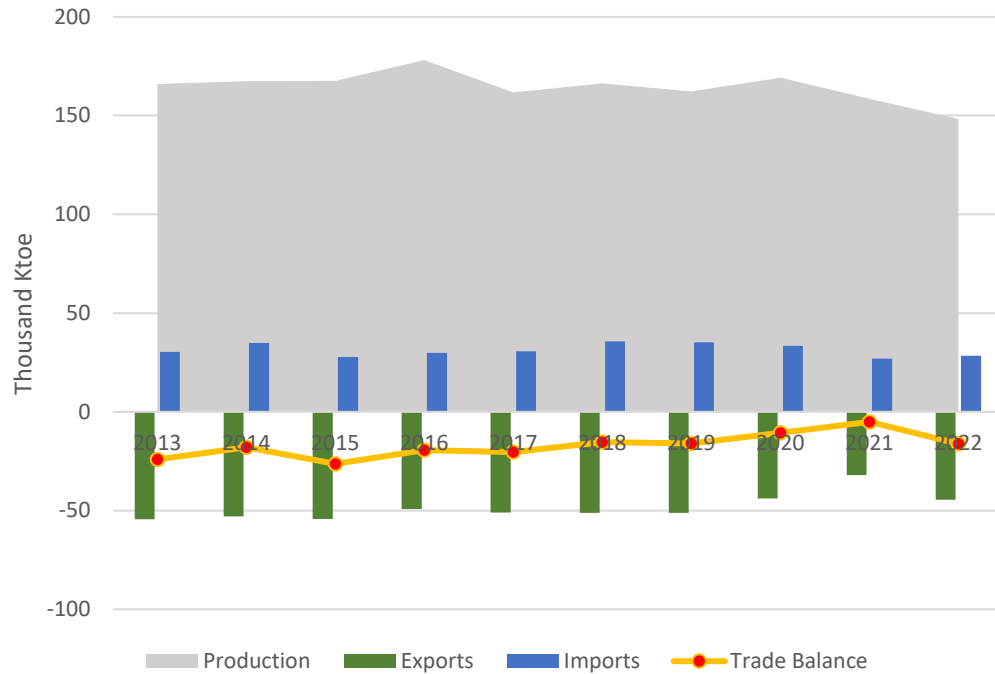


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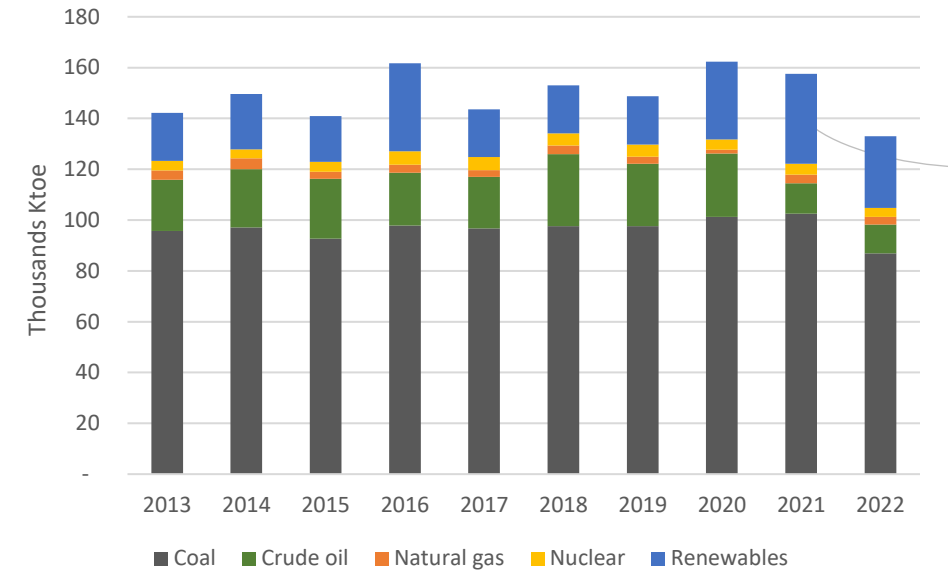
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Primary Energy Supply Trade balance and by source

Energy Supply by origin



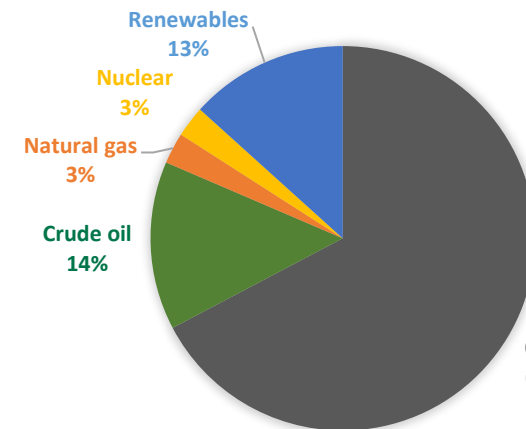
Energy Supply by Sources



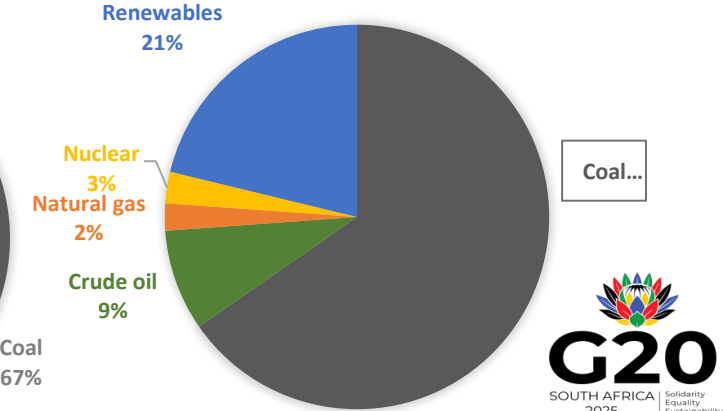
- The overall production is declining
- The trade balance is positive though slightly decreasing
- Coal is still the dominant fuel, followed by renewables

*Source: Department of electricity and energy, South Africa

2013



2022

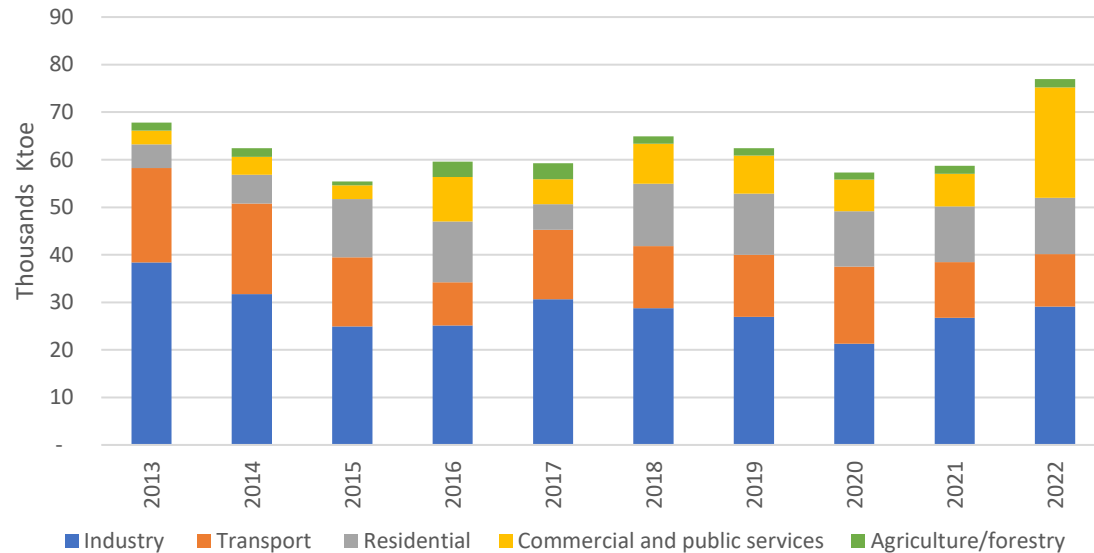


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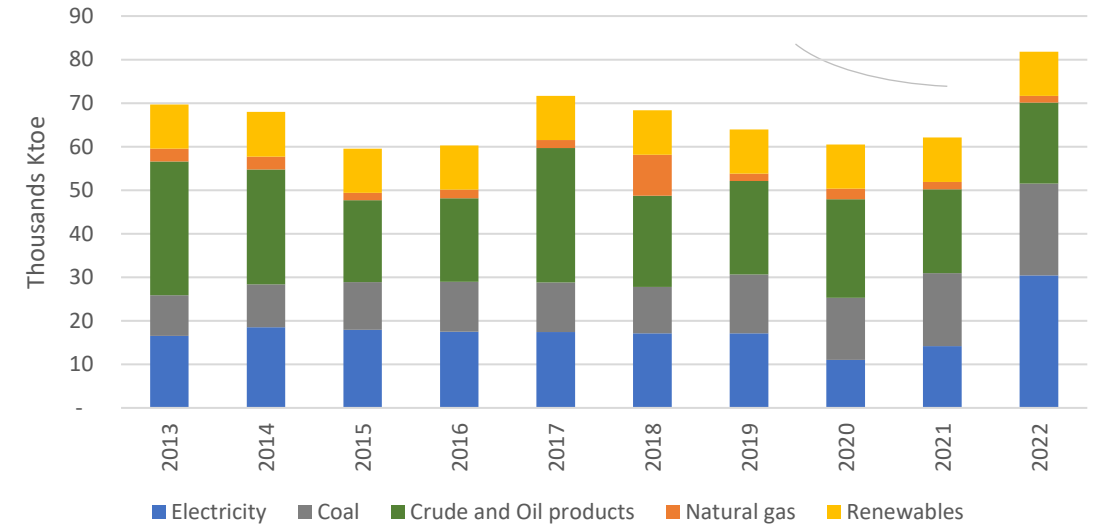
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Final energy consumption by sectors and energy sources

Energy consumption by sectors



Energy consumption by sources

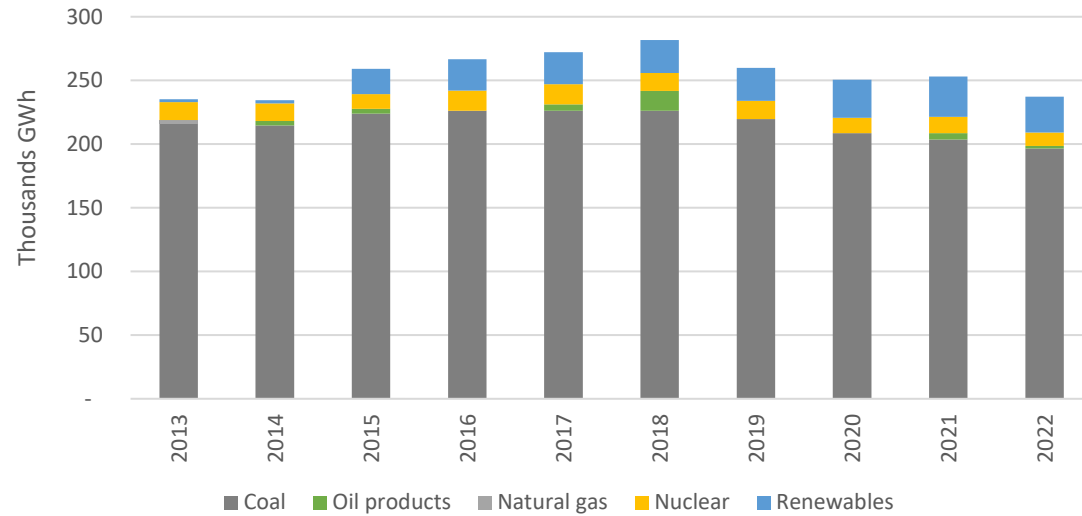


- Industry dominated by the mining and quarrying sub-sector (18%), Iron and steel at 16%, Petrochemical and non-ferrous metals contributed 11% are the dominant consumer of energy.
- The residential and commercial sector have also gained the highest share with time.
- The energy consumption have grown by 17% from 2013 to 2022, with the highest source coming from electricity, coal and crude products respectively.

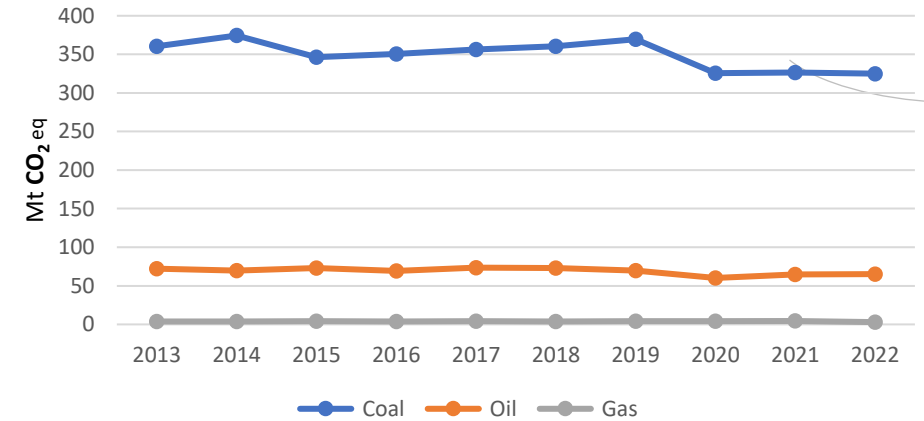


Electricity generation and CO₂ emissions by energy sources

Electricity generation by source

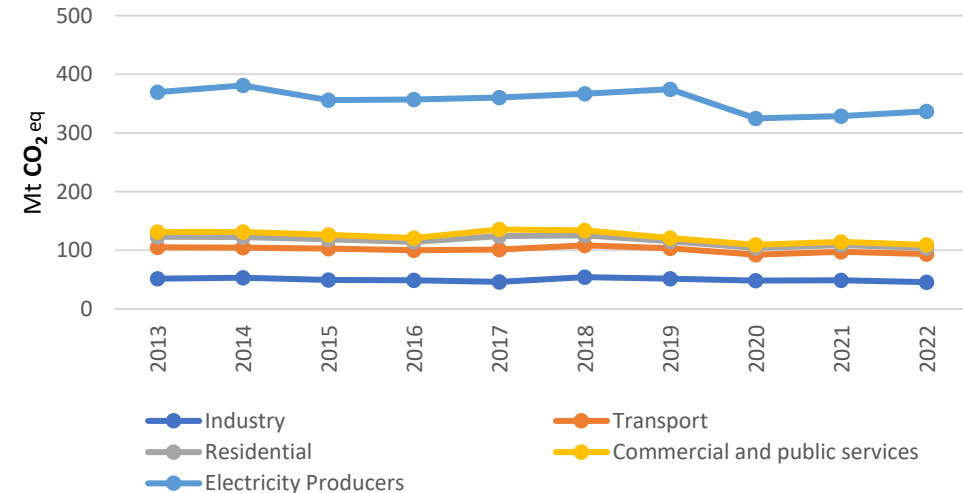


CO₂ emissions by sources



- The main source of electricity generation is still dominated by coal.
- Renewables's share have been growing with years, following the South African government introducing an increase in the amount of renewable energy in the nation's energy mix.
- Coal remains a significant contributor to the country's greenhouse gas emissions, however decreased from 361 in 2013 to 325 in 2022 MtCO₂.
- Electricity producers are a significant contributor to emissions when burning fuels to generate electricity

CO₂ emissions by sectors

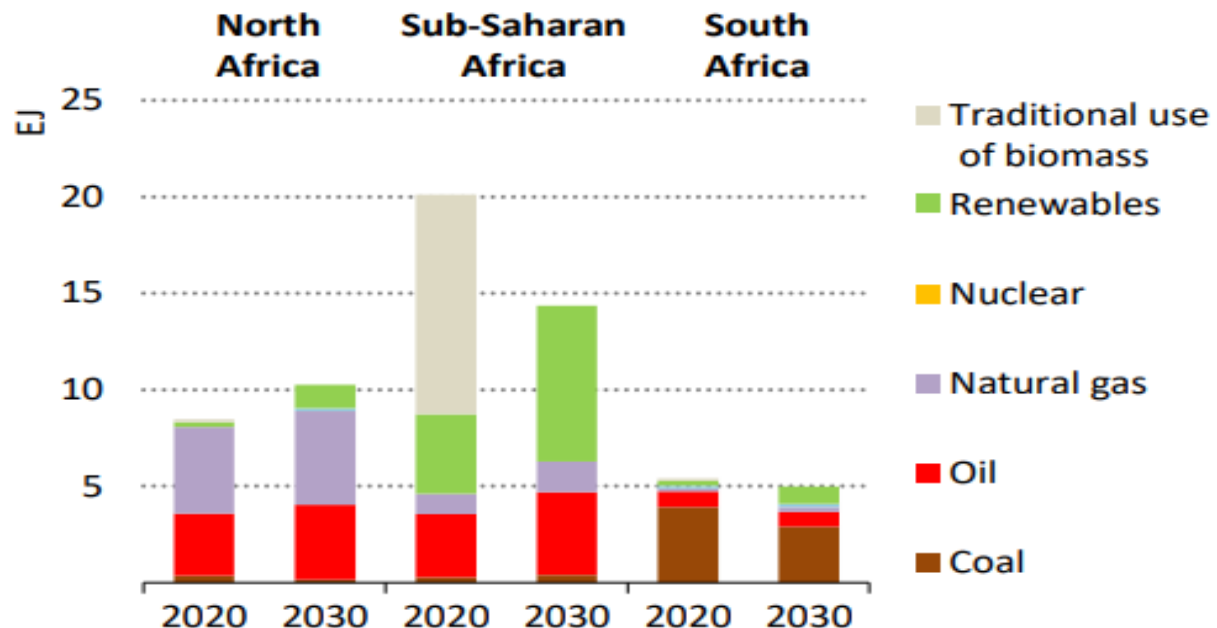


*Source: Department of electricity and energy, South Africa



Primary energy supply projections by sources

Energy supply by sources outlook



- The role of coal in South African industry is decreasing, while that of renewables and gas is increasing in both the scenarios.

*Source: Left: African Energy Outlook, 2022. Right: Department of electricity and energy IEP South Africa

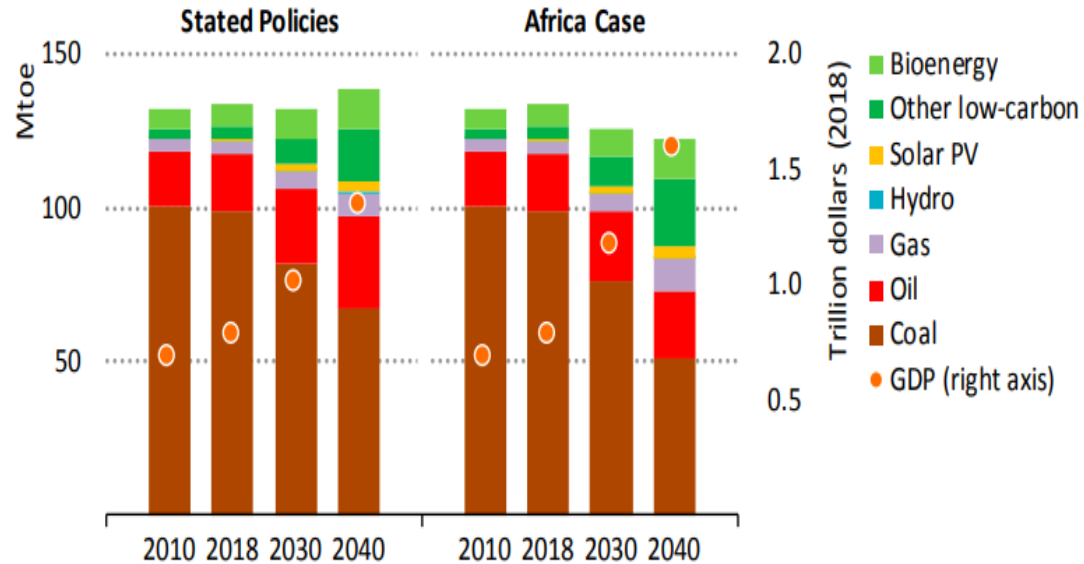


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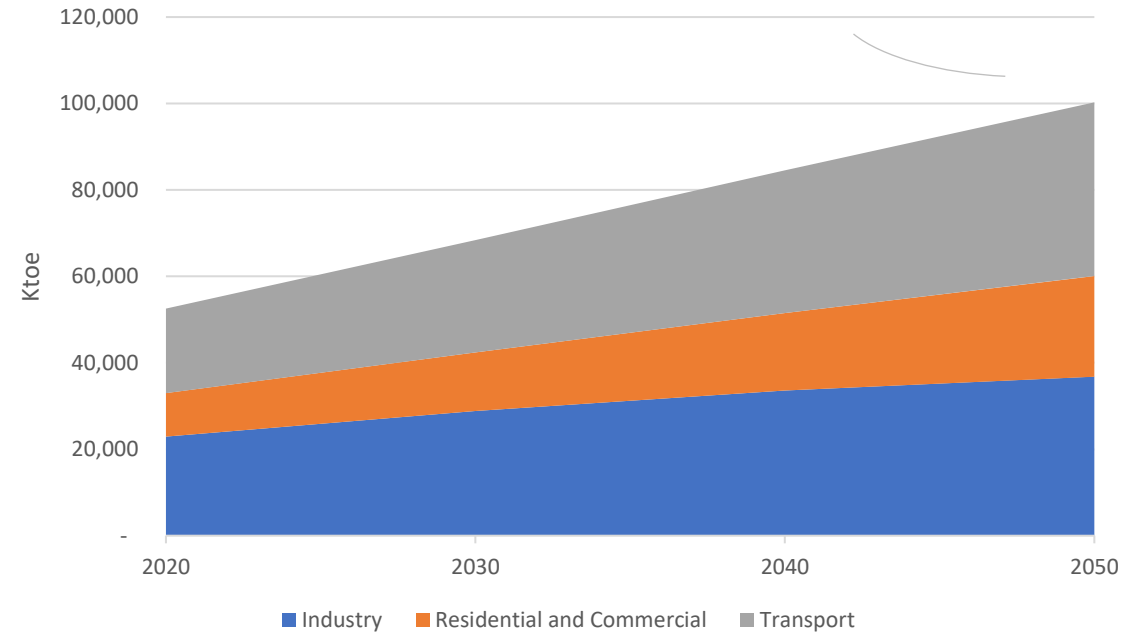
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Final energy consumption projections by sectors and energy sources

Energy consumption by sources outlook



Energy Consumption Projections by sectors



- The role of coal in South African industry is decreasing, while that of renewables and gas is increasing in both the scenarios.
- The demand of energy across the sectors is expected to increase in the future.

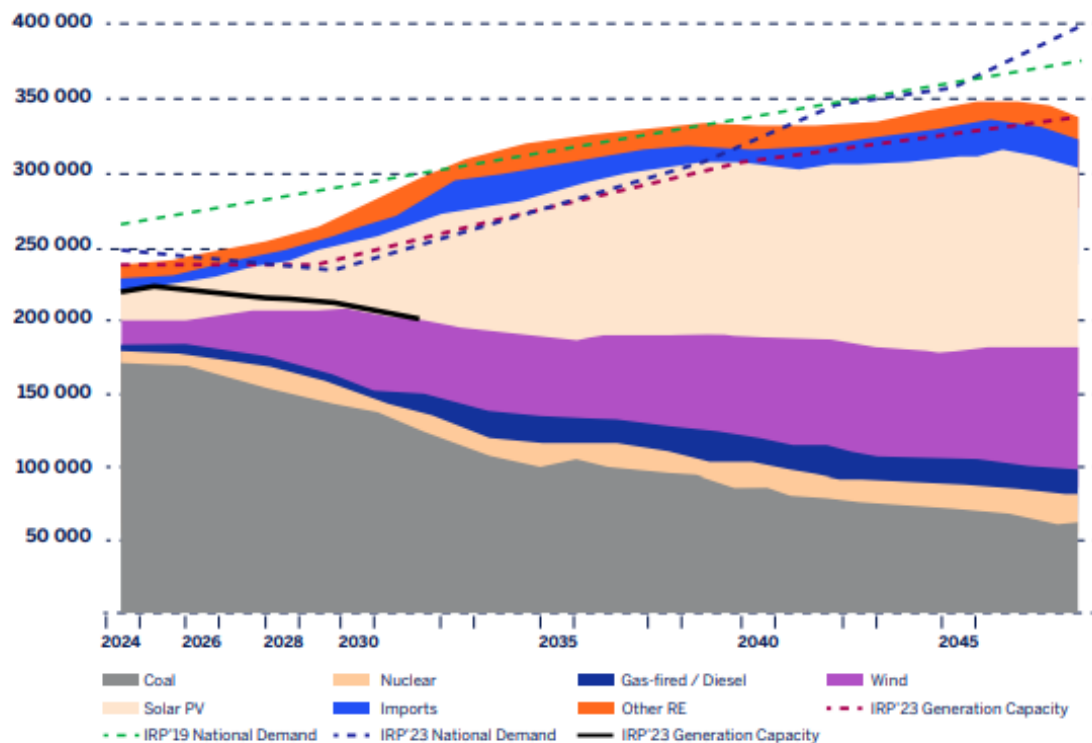
*Source: Left: African Energy Outlook, 2022. Right: Department of electricity and energy IEP South Africa



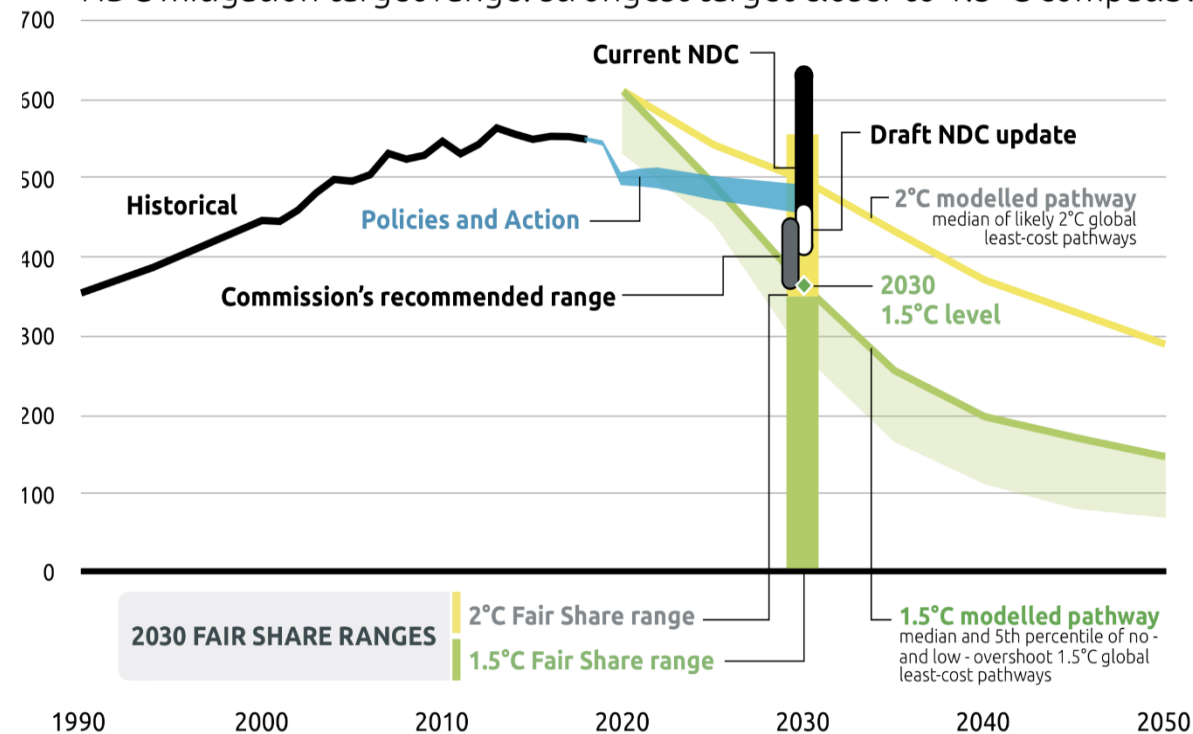
Electricity generation and emission projections

Generation per Technology (in GWhs)

Total Generation per Technology
(incl. peaking in GWhs)



SOUTH AFRICA Presidential climate commission recommends stronger NDC mitigation target range: strongest target closer to 1.5°C compatible



*Source: Left: Standard Bank Energy Markt Projections 2024. Right: Climateactiontracker.org



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Current energy policy and measures

Current Energy Policies

- Just Energy Transition.
- Energy security of supply
- Energy Efficient

Measures

- Low-Emission Development Strategy Double investment, NDP emission targets, Carbon tax introduction and clean energy technologies to achieve net-zero targets.
- Diversifying its energy mix, improving infrastructure
- Setting Energy efficient targets through National Energy Efficiency Strategy (NEES)



Major difficulties and bottlenecks

- Lack of strategic direction
- Lack of finance/investment
- Inadequate planning
- Balancing competing priorities
- Implementation of Policies



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Subjects of Interest

Personal

- How other countries does their energy planning
- Data collection and verification process
- Modelling techniques from Supply and Demand
- Energy forecasting
- Energy Scenario development
- Understanding clean energy technologies
- Side events

Supervisor

- Energy Scenario development
- Energy planning processes
- Data collection and verification process
- Understanding various energy modelling techniques from Supply and Demand
- Energy forecasting



Thank you



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Appendix

Annual Average Eskom Prices by Customer Category in cents per kilowatts hour

| | Bulk | Domestic and Street lighting | Commercial | Industrial | Mining | Rural / Farming | Traction/ Rail | International | Average for all categories |
|-----------|--------|------------------------------|------------|------------|--------|-----------------|----------------|---------------|----------------------------|
| 2011/2012 | 49,96 | 79,52 | 65,92 | 42,13 | 50,11 | 89,22 | 58,23 | 37,53 | 50,27 |
| 2012/2013 | 54,59 | 87,05 | 73,24 | 45,56 | 55,74 | 99,75 | 68,66 | 42,72 | 58,49 |
| 2013/2014 | 60,67 | 92,41 | 82,67 | 51,79 | 64,66 | 108,75 | 77,34 | 47,56 | 62,82 |
| 2014/2015 | 65,92 | 98,06 | 89,16 | 56,81 | 69,52 | 115,66 | 83,63 | 52,55 | 67,91 |
| 2015/2016 | 74,11 | 108,11 | 100,07 | 62,64 | 78,01 | 128,19 | 96,60 | 59,82 | 76,24 |
| 2016/2017 | 81,38 | 118,60 | 109,09 | 67,71 | 84,80 | 141,70 | 104,95 | 70,77 | 83,60 |
| 2017/2018 | 82,94 | 118,56 | 111,25 | 70,02 | 86,91 | 142,78 | 100,10 | 62,42 | 85,06 |
| 2018/2019 | 88,53 | 125,73 | 117,30 | 73,99 | 91,64 | 149,79 | 110,17 | 66,13 | 90,01 |
| 2019/2020 | 99,62 | 142,29 | 134,15 | 82,79 | 104,41 | 170,52 | 127,81 | 80,51 | 101,86 |
| 2020/2021 | 109,44 | 154,57 | 147,52 | 90,03 | 113,77 | 187,91 | 154,17 | 76,93 | 111,04 |

Source: Eskom



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2022 Monthly Natural Gas Prices in Rand per Gigajoule

| | Maximum price | Class 1 | Class 2 | Class 3 | Class 4 | Class 5 | Class 6 |
|-----|---------------|---------|---------|----------|-----------|------------|--------------|
| | | 33 GJ | 333 GJ | 3 333 GJ | 33 333 GJ | 333 333 GJ | 1 054 093 GJ |
| Jan | 63,94 | 63,94 | 63,94 | 63,94 | 63,94 | 63,94 | 63,94 |
| Feb | 63,94 | 63,94 | 63,94 | 63,94 | 63,94 | 63,94 | 63,94 |
| Mar | 63,94 | 63,94 | 63,94 | 63,94 | 63,94 | 63,94 | 63,94 |
| Apr | 63,94 | 63,94 | 63,94 | 63,94 | 63,94 | 63,94 | 63,94 |
| May | 63,94 | 63,94 | 63,94 | 63,94 | 63,94 | 63,94 | 63,94 |
| Jun | 63,94 | 63,94 | 63,94 | 63,94 | 63,94 | 63,94 | 63,94 |
| Jul | 63,94 | 63,94 | 63,94 | 63,94 | 63,94 | 63,94 | 63,94 |
| Aug | 63,94 | 63,94 | 63,94 | 63,94 | 63,94 | 63,94 | 63,94 |
| Sep | 63,94 | 63,94 | 63,94 | 63,94 | 63,94 | 63,94 | 63,94 |
| Oct | 63,94 | 63,94 | 63,94 | 63,94 | 63,94 | 63,94 | 63,94 |
| Nov | 63,94 | 63,94 | 63,94 | 63,94 | 63,94 | 63,94 | 63,94 |
| Dec | 63,94 | 63,94 | 63,94 | 63,94 | 63,94 | 63,94 | 63,94 |

Source: SASOL

Annual average local and export coal prices in Rand per ton

| Period | Coal Bituminous | | Coal Anthracite | |
|--------|-----------------------------|---------------------------------|-----------------------------|---------------------------------|
| | Average Price Exports (FOB) | Average Price Local Sales (FDR) | Average Price Exports (FOB) | Average Price Local Sales (FDR) |
| 2012 | 682,62 | 231,68 | 961,39 | 957,20 |
| 2013 | 692,50 | 263,20 | 898,57 | 923,07 |
| 2014 | 677,74 | 292,46 | 712,64 | 984,52 |
| 2015 | 627,65 | 308,65 | 773,99 | 1028,79 |
| 2016 | 732,62 | 332,81 | 694,35 | 608,65 |
| 2017 | 852,61 | 359,66 | 732,83 | 1088,18 |
| 2018 | 966,74 | 391,91 | 1044,75 | 1054,73 |
| 2019 | 783,66 | 432,19 | 1020,26 | 1200,75 |
| 2020 | 764,25 | 443,09 | 719,67 | 1037,50 |
| 2021 | 1385 | 475 | 1013 | 1182 |

Source: Department of Mineral Resources and Energy (DMRE)



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2022 Monthly Regulated Maximum Retail Prices for LPG in cents per kilogram

| Period | Regulated Maximum Retail Prices | |
|--------|---------------------------------|---------|
| | Inland | Coastal |
| Jan | 3500 | 3259 |
| Feb | 3376 | 3134 |
| Mar | 3446 | 3204 |
| Apr | 3696 | 3454 |
| May | 3765 | 3523 |
| Jun | 3714 | 3472 |
| Jul | 3496 | 3255 |
| Aug | 3553 | 3311 |
| Sep | 3388 | 3146 |
| Oct | 3407 | 3166 |
| Nov | 3309 | 3068 |
| Dec | 3403 | 3146 |

Source: Department of Mineral Resources and Energy (DMRE)



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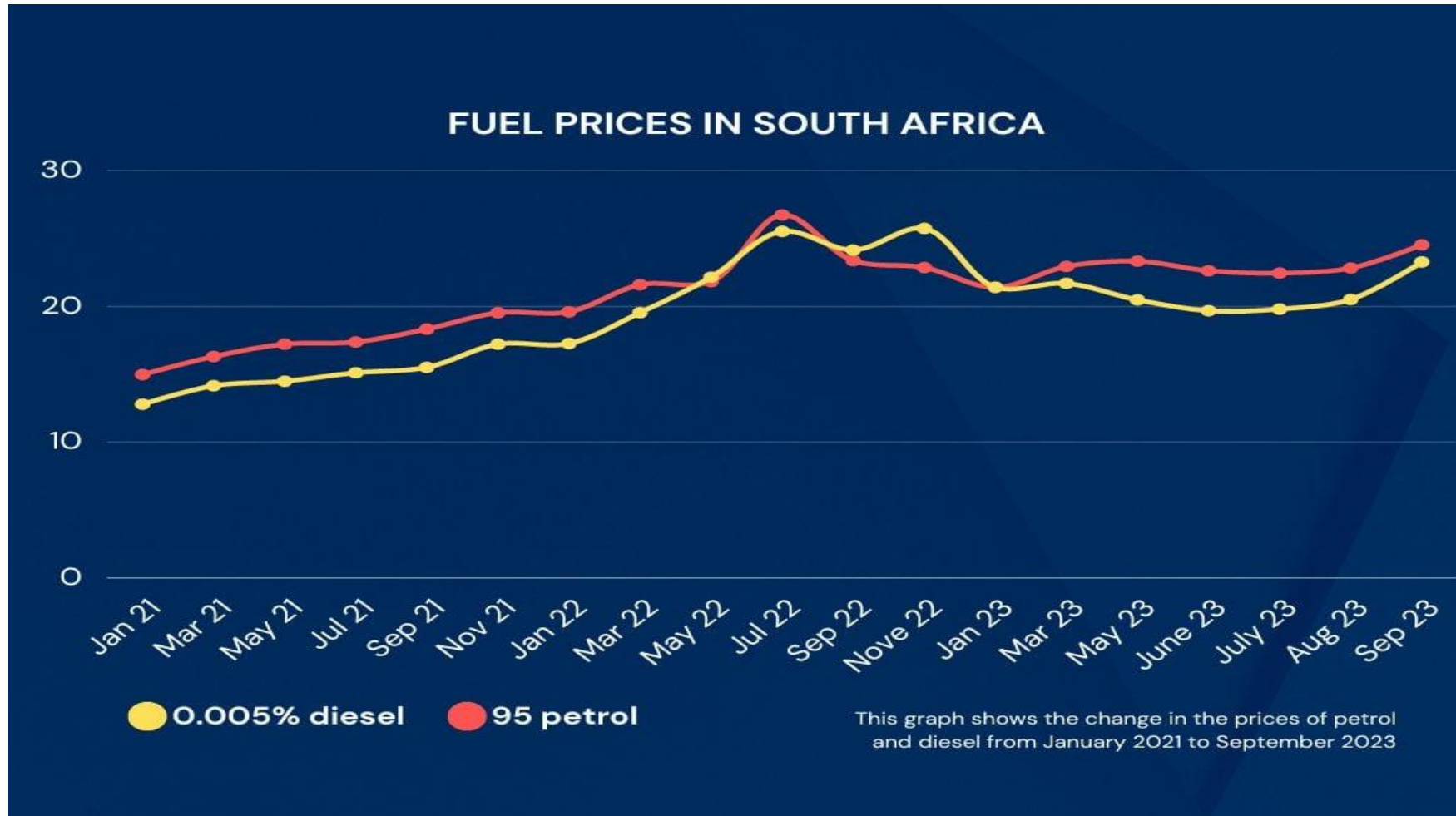
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2022 Monthly Illuminating Paraffin Prices in cents per litre



Source: Department of Mineral Resources and Energy (DMRE)

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Energy-Related Investment

- Just Energy Transition Investment Plan
- Clean Energy Investment - a shift in investment flows away from fossil fuels is needed to develop a reliable clean energy supply in South Africa
- Investment in energy infrastructure
- Investment in the upstream sector (Oil and Gas)

