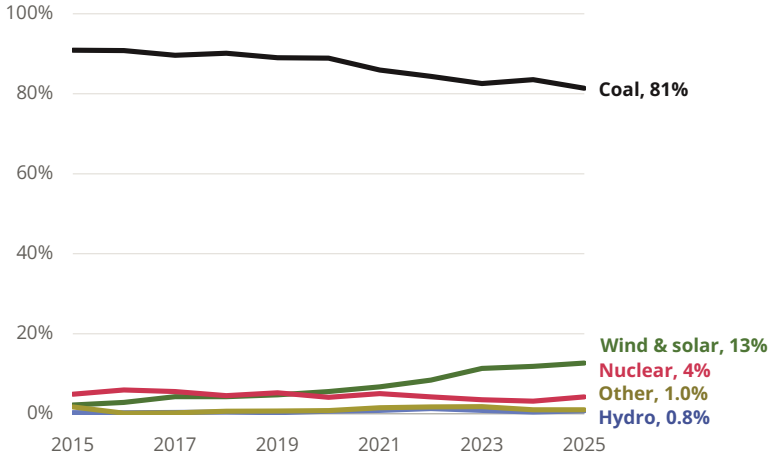
South Africa at a glance

South Africa's transition is progressing as energy insecurity and market reform drive renewables and private participation in the power sector, but coal remains entrenched and expanding gas risks fossil lock-in.

Key transition conditions: The electricity crisis has made renewables, storage and grids practical security solutions, but institutional and distributional limits matter more than capital.

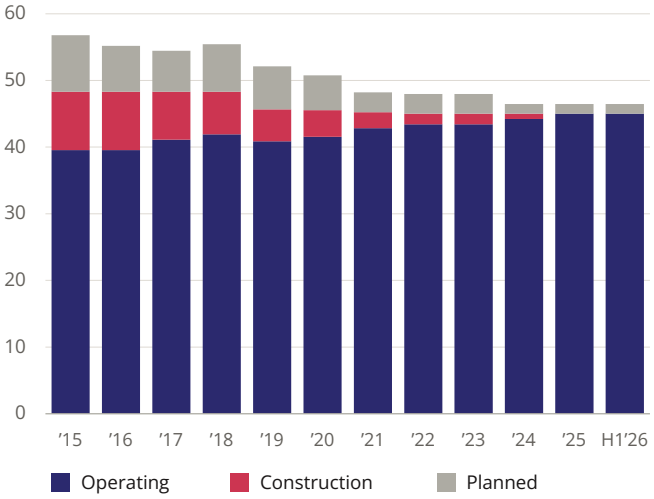
Electricity generation by source

2015–2025

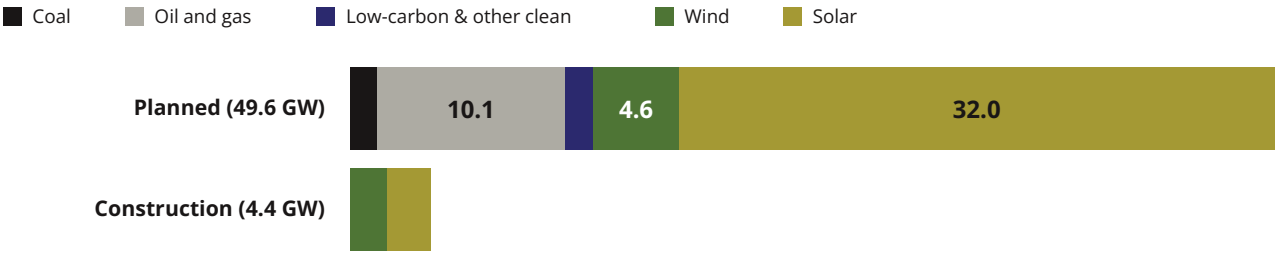


Coal capacity by status

2015–H1 2026



Capacity under development by source



Coal 1.5, Low-carbon & other clean 1.5 GW (planned) · Wind 2.0, Solar 2.4 GW (construction)

Power system landscape

Coal supplies around **81%** of electricity and 40% of industrial energy use. The coal workforce is geographically concentrated, which makes phase-out politically difficult. Renewable capacity now exceeds 16 GW.

Clean transition trends

A pipeline of roughly **220 GW** of renewable projects, some 72 GW at an advanced stage, enough to replace Eskom's planned coal retirements in the short to medium term. New law mandates unbundling Eskom. Gas-to-power plans risk lock-in.

Enablers and bottlenecks

Substantial domestic capital, more than 250 registered JET projects and reform written into law support delivery. Yet about **800 km** of lines are built a year against 1,450 km needed, and a distressed Eskom is not a creditworthy offtaker.

Opportunities for international cooperation with *South Africa*

- **The JETP can act as an investment catalyst**, helping turn more than 250 registered projects into bankable investments by de-risking and crowding in capital.
- **Transmission and storage finance is a priority area:** supporting NTCSA's capitalisation and separation from Eskom, and a market that gives projects reliable revenue.
- **A Clean Trade and Investment Partnership** around platinum-group metals and green iron and steel could support green industrialisation and turn CBAM into an opportunity.

Sources: *Ember annual electricity data; Global Energy Monitor annual capacity charge data and coal plant tracker data*

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South Africa's profile

Outline and domestic political economy context

Renewable energy is expanding across South Africa, with total installed capacity exceeding 17 GW,[1] primarily driven by businesses and households seeking relief from electricity shortages and price increases, as well as increased private investment. The country also has a pipeline of roughly 220 GW of renewable projects, with some 72 GW at an advanced stage.[2] Renewables increasingly align with the state's core energy priorities − energy security, affordability, jobs, public ownership, justice and economic competitiveness − by offering more reliable, affordable power to households and industry during the supply crisis. At a macro level, however, the link between renewables and national economic competitiveness remains largely prospective, weakening the economic case for fast-tracking reform.

Coal remains dominant in the electricity supply, with around 81% of generation;[3] it also remains important in debates around energy sovereignty and economic development as South Africa is a coal producer and exporter as well consumer. Coal and coal products are also a backbone of major industries and local economies, accounting for 40% of industrial energy consumption.[4] Its workforce is geographically concentrated: Mpumalanga in the east accounted for roughly 72–87% of national coal mining employment (2011–2019),[5] so that coal mining, coal power, supply chains, local government revenue and community livelihoods are tightly interwoven across the province – even more so in coal towns in the province, such as eMalahleni. This extensive dependence makes the phase-out challenging both politically and economically.

Another structural barrier in South Africa is grid connectivity. The 72 GW of advanced-stage projects in the pipeline alone could replace coal retirements planned by Eskom, the state-owned utility that dominates South Africa's power system, in the short and medium term; however, new grid capacity is highly constrained, with most availability already allocated. Accounting for planned expansions, no evacuation capacity remains from the

[1] NTCSA, October 2026, **System Status Reports**: utility-scale solar and wind rose from 5.7 GW (2021) to 7.9 GW (2026), with a further 9.4 GW of estimated rooftop PV, making it around 17 GW in total, excluding hydro and biomass. Rooftop PV, now the largest component, was not separately estimated in 2021.

[2] South African Wind Energy Association, 31 October 2025, **SAREGS 2025 & IRP 2025 What It Means for South Africa's Wind Energy Industry**

[3] Ember, 22 April 2026, **South Africa**

[4] IEA, 2023, **South Africa** (webpage, accessed 5 August 2026)

[5] Haroon Bhorat et al. 2024, **Just Transition and the Labour Market in South Africa**

Northern, Eastern and Western Cape − the regions richest in renewables.[6] The National Transmission Company South Africa's controlled curtailment strategy raises hosting capacity but leaves it constrained overall. The build-out of the grid also lags the required pace: annual construction stands at roughly 800 km yet must accelerate towards an average of 1,450 km, peaking near 2,700 km, to integrate new renewable generation.[7]

The primary tension in South Africa's energy political economy is not merely a contest between coal and renewables, but more fundamentally over how the power sector is owned and governed: the entrenched, Eskom-centric monopoly versus electricity market liberalisation and private developers. The loadshedding crisis – which peaked in 2023, a record year with some 332 days of power cuts –[8] exposed the fragility of Eskom's ageing, coal-dominated fleet and lent urgency to reform; however, it left unresolved how to open the sector to competition while ensuring security of supply and managing Eskom's financial stability. Coal is bound up with Eskom's vertically integrated state monopoly and, as noted, a perception of delivering sovereignty, employment, the Black Economic Empowerment policy and regional development. Renewables, by contrast, are associated with foreign and private capital and with an open, competitive sector: the very liberalisation codified in the Electricity Regulation Amendment Act of late 2024, which mandates unbundling Eskom and creating an independent transmission and market operator.[9] Eskom's own position is ambivalent: it resists the unbundling that would end its monopoly, yet under the Integrated Resource Plan 2025[10] is itself building new capacity across renewables, storage and gas, opening to private participation– seeking to lead the new sector while maintaining coal for security.

This same divide helps explain why the international dimension of the transition remains politically contested in South Africa. As an internationally co-financed initiative, the JETP necessarily carries an external-financing logic centred on emissions reductions, even as the process remains domestically driven rather than externally imposed. Labour representatives, such as the Congress of South African Trade Unions, have consistently supported a just transition, linking climate action with workers' rights; however, they argue that the current design of the JETP places insufficient emphasis on just components that safeguard jobs and benefit workers or local communities.[11] Much of the contest therefore concerns ownership and pace, not renewable energy itself: who owns and benefits from

[6] Eskom, 2023, **Generation Connection Capacity Assessment (GCCA) 2025** (PDF)

[7] Development Bank of Southern Africa, 2025, **Propelling South Africa's Energy Transition through Investment in Transmission Infrastructure** (webpage, accessed 5 August 2026)

[8] Business Report, 2024, **How South Africa's load shedding crisis escalated over 17 years** (webpage, accessed 5 August 2026)

[9] Webber Wentzel, 27 January 2025, **The Electricity Regulation Amendment Act and South Africa's new era of electricity market transformation**

[10] Department of Mineral and Petroleum Resources, Republic of South Africa, 2025, **Integrated Resource Plan 2025: Charting South Africa's energy transition — towards security, sustainability, and economic resilience** (webpage, accessed 5 August 2026)

[11] Etienne Nel, Lochner Marais, and Zolile Mqotyana, 2023, **The regional implications for just transition in the world's most coal-dependent economy: The case of Mpumalanga, South Africa**, Frontiers in Sustainable Cities, 4, https://doi.org/10.3389/frsc.2022.1059312

the new sector, and how fast it can move. The challenge is thus one of political legitimacy: to build consent – in a polity where the state has long used Eskom as an instrument of public ownership, employment and development – for a transition that is broadly supported though widely seen as pushed at the scale and speed the international community expects, and before the country has resolved how to protect supply security and manage distributional impacts.[12]

The governance of transition finance, not merely its volume, is another key concern. Debate often centres on whether international public finance comes as loans or grants, yet the deeper challenge is how external finance interacts with domestic institutions and capacity. Indeed, South Africa has substantial domestic capital that is capable of financing much of the transition, including renewable energy, transmission and industrial investment.[13] Due to Eskom's financial crisis, the issue is revenue, not capital or even projects: it leaves the power sector without a creditworthy off-taker, so otherwise ready pipelines cannot reach financial close. Compounding this are two other gaps: one a packaging gap in suitable instruments and the other a conversion gap in delivery. Concessional finance has been slow to be allocated,[14] and grant funding disbursed to date has gone mainly to technical assistance and project preparation rather than large-scale implementation.[15] As a result, the groundwork is laid but is yet to be converted into investment-ready projects.

Recent LNG and gas-to-power proposals frame gas as a transition fuel complementing renewables and supporting grid flexibility, valued not only for electricity security but for protecting industrial users facing the decline of piped gas from Mozambique.[16] Because industry cannot afford imported LNG on its own, and private developers will not take gas-price risk in a competitive market, the model leans on committed power sector offtake to underwrite the import infrastructure; the bankability of private LNG assets rests on long-term Eskom commitments.[17] This places the chain's riskiest part on Eskom and, through tariffs, on consumers. Gas is embedded as a decades-long fixture rather than a short-term bridge, creating lock-in and stranded-asset exposure precisely where the risk has been socialised.

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[12] The reform impulse is itself internal to the state: parts of it, notably the Treasury, support liberalisation because they bear the fiscal cost of Eskom's failures. Thus, the contest is over pace and sequencing as much as direction.

[13] Winile Ximba, 1 April 2026, **South African Pension Funds Outshine $13 Billion Green Transition Funds**

[14] Nick Hedley, 8 February 2025, **As South Africa heads to the polls, voters await stalled 'just energy transition'**

[15] The Presidency: Republic of South Africa, August 2024, **The presidency publishes second instalment of the just energy transition grants register** (PDF)

[16] Eskom, 5 June 2026, **Joint Media Statement- Eskom and Zululand Energy Terminal sign Heads of Agreement to advance strategic gas-to-power development**; Energy Council of South Africa, 2026, **Toolkit 4: Gas** (webpage, accessed 27 Ocotber 2026)

[17] Terence Creamer, 19 June 2026, **Eskom signs agreement with Zululand Energy Terminal as it seeks to advance 3 GW Richards Bay gas-fired power project**

Summary of key domestic transition factors

- **The strongest enabling condition is South Africa's electricity crisis itself. Loadshedding and supply instability have made renewables, private generation, storage and transmission investment practical energy security solutions**, not just climate policy. This aligns well with the enduring political narrative of improving energy access and driving reforms based on public interest. The principles of a just transition and international support through the JETP are broadly accepted, provided they deliver industrial development, stronger worker protections, local ownership and community benefits.

- **The biggest constraining factors in South Africa are not the overall availability of capital but institutional and distributional: institutional capacity, project pipelines and the effective deployment of finance remain greater constraints.** The transition will struggle to gain broad support if it is perceived as market-led and externally driven rather than delivering tangible benefits for workers and communities. The growing role of gas in South Africa's long-term energy and industrial strategy could shape the discourse on energy security, favouring a slower approach to the transition. A critical even if challenging task will be to reform Eskom's monopoly while balancing energy security, market liberalisation and public legitimacy.

Opportunities for international collaboration

1. **Convert South Africa's growing pipeline of more than 250 JET projects[18] into bankable investments by unlocking domestic and international capital – to support not only the transition but also industrial development and energy security objectives.** Funding and matching platforms have been established to support project development. The JETP's growing role as an investment catalyst can help here by crowding in public and private finance, de-risking projects, and accelerating capital deployment as these registered projects enter implementation.

2. **Support the reforms that make transmission and storage investment financeable, targeting the institutions and markets that generate revenue.** Two conditions are pivotal: a well-capitalised National Transmission Company South Africa, fully separated from Eskom, able to borrow against a viable balance sheet to build most of the network; and a competitive electricity market that would give grid and storage projects a reliable revenue stream to finance against. International cooperation can help accelerate these domestically driven reforms. The EU can provide concessional finance and guarantees – working with South African development banks – that de-risk grid and transition investment, as well as technical assistance to support the design of market rules and regulatory architecture, strengthening local institutions.

[18] Parliamentary Monitoring Group, 21 August 2026, **Question NW4210 to the Minister of Electricity and Energy**

3. **Build on the Clean Trade and Investment Partnership[19] between the EU and South Africa, for example around specific minerals**, like platinum-group metals. green iron and steel, where the EU can support export-led green industrialisation. By facilitating investment deals under the partnership, the two partners can help convert a decarbonisation obligation such as CBAM into an export-industry opportunity and position South Africa further upstream in clean energy value chains.

[19] European Commission, 20 November 2025, **EU and South Africa sign first-ever Clean Trade and Investment Partnership (CTIP)**

ABOUT E3G

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We drive systemic action on climate by identifying barriers and constructing coalitions to advance the solutions needed. We create spaces for honest dialogue, and help guide governments, businesses and the public on how to deliver change at the pace the planet demands.

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