SAWEA
South African Wind Energy Association

Wind Energy Market Intelligence Report

South Africa
2025

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Wind Energy Market Intelligence Report: South Africa 2025
Developed by South African Wind Energy Association (SAWEA)

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INTRODUCTION

The South African Wind Energy Association (SAWEA) is proud to present its inaugural South African Wind Energy Market Intelligence Report, a comprehensive overview of the current state, dynamics, and outlook of the country's wind energy sector. This publication represents an important milestone in our ongoing commitment to providing the industry, investors, policymakers, and broader stakeholders with reliable, data-driven insights that inform strategy, shape policy, and accelerate the country's energy transition.

As South Africa navigates a complex, dynamic and evolving energy landscape, marked by an imperative to diversify supply, decarbonise the power sector, and drive inclusive economic growth, wind energy continues to emerge as a central pillar of the national response. With a proven track record in delivering clean, cost-competitive, and scalable power. The wind industry is uniquely positioned to play a transformative role in achieving energy security and meeting South Africa's decarbonisation targets.

This report has been developed to respond to the growing demand for structured, accessible, and independent information on the wind energy market. It consolidates market data, project pipelines, investment trends, policy developments, and emerging risks and opportunities. It also reflects the lived realities of our members and partners, all of whom are shaping the sector from the ground up.

This Market Intelligence Report offers a comprehensive overview of the sector's evolution. It also serves as a reference tool for decisionmakers, policymakers, and stakeholders, a platform for knowledge exchange, and a signal of transparency and confidence to the broader investment community. Importantly, it also marks SAWEA's strengthened role as an authoritative voice in the renewable energy discourse – driving collaboration, advocating for policy certainty, and championing sector excellence.

WHERE IT ALL BEGAN...

South Africa's wind energy journey began with Klipheuwel demonstration project in 2002/2003 and the 5.2 MW Darling Wind Farm in 2008, which was a national demonstration project developed by the Oelsner Group. It received a generating license on 21 February 2002, signed a wheeling agreement with Eskom in May 2005, signed a Power Purchase Agreement with the City of Cape Town in June 2006 and started generating electricity in May 2008.

These early initiatives marked the country's first practical step toward integrating wind power into the national grid and laid the foundation for future large-scale development. A major turning point came in 2011 with the launch of the Renewable Energy Independent Power Producer Procurement Programme (REIPPPP). Since then, the sector has grown to 40 operational wind farms with a combined installed capacity of 3,897 MW and an additional 2.7 GW under construction by 2025.

Klipheuwel Demonstration Project

The Klipheuwel demonstration project (not to be confused with the later Klipheuwel Wind Farm from REIPPPP BW1) was completed and began generating power in 2002/2003. This project allowed Eskom to acquire information on how the technology interacts with the environment, operational performance and other factors, all to determine its economic viability as an electricity generation source for South Africa.

Klipheuwel was transferred to Eskom's peaking division in 2006 once the research was completed and was kept in operation for 13 years until 2016 when it was decommissioned.

Darling Wind Farm

The 5.2 MW Darling Wind Farm was developed by the Oelsner Group. Powered by four Fuhrländer 1.3 MW turbines, Darling Wind Farm remains in operation today providing energy to both Power X and the City of Cape Town.

CHAPTER 1

SOUTH AFRICAN ELECTRICITY MARKET

South Africa's electricity market is undergoing a profound transformation. Currently managed by a single, state-owned utility and heavily reliant on coal-fired generation, the system is moving towards a more decentralised, diversified, and sustainable model. This evolution is driven by the twin imperatives of energy security and climate change, underpinned by strong policy direction and increasing private sector participation.

The White Paper on Renewable Energy (2003) laid the policy foundation for promoting renewable energy technologies such as solar, hydro, biomass, and wind. It set a 10-year target to diversify the energy mix and secure cleaner, more sustainable energy sources.

Current Energy Mix and System Status

As of October 2024, South Africa's total nominal installed electricity generation capacity stood at 53.9 GW, with coal continuing to dominate the energy mix – accounting for approximately 72% of total capacity. Solar PV and Wind energy has grown steadily and now contributes 11.9%, with wind energy representing 6.4% of total generation capacity as indicated in the figure below. Nuclear, gas, hydro, and pumped storage make up the remainder of the country's capacity.

Despite growing renewable energy uptake, the system faces continuous challenges. Eskom's ageing coal fleet, declining energy availability factor (down from 94% in 2002 to ~67% by 2020), delayed new-builds, and grid infrastructure bottlenecks have all contributed to persistent loadshedding. These pressures have accelerated the need for structural reform and supply diversification.

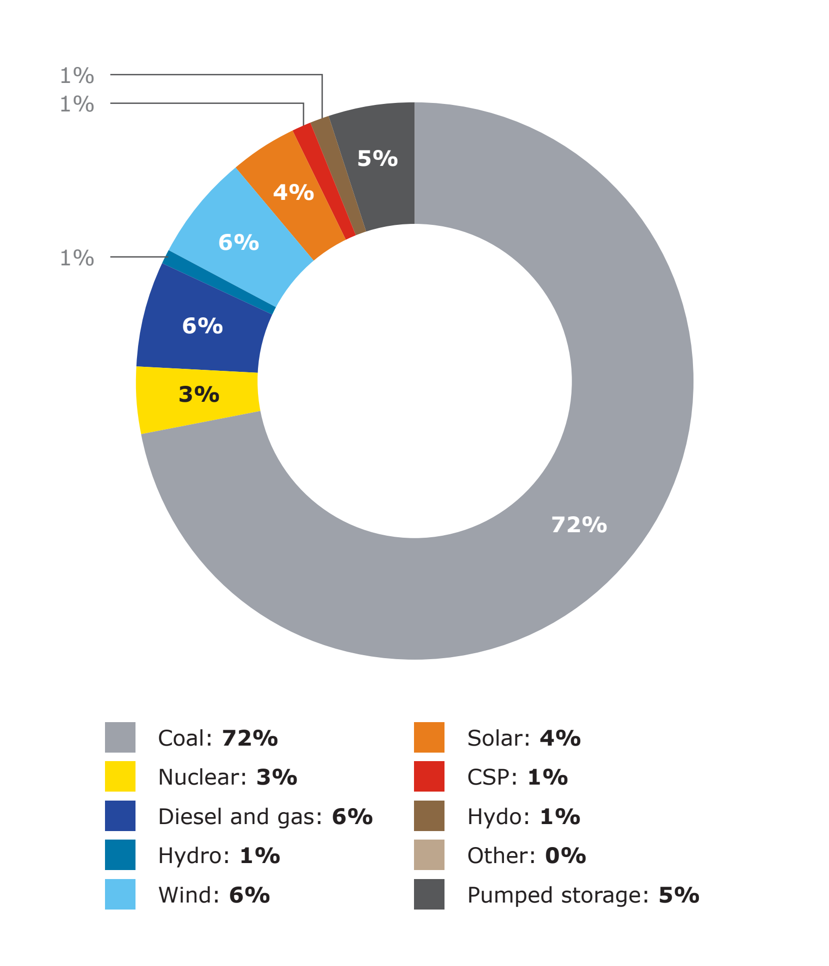


FIGURE 1 South African Energy Mix as of Oct 2024

To date, wind farms have delivered over 74 256 GWh of clean energy, enough to power 22 million average households thereby contributing meaningfully to national energy security and emissions reduction efforts. For 2024, renewable energy has contributed 17980GWh, with 62% coming from wind energy. **In 2025 wind energy has contributed 9265 GWh year to date**.

Wind farms have delivered over **74 256 GWh** of clean energy

In 2024, renewable energy contributed **17 980 GWh**, with wind accounting for 62%.

Commitment to a Low-Carbon Energy Transition

South Africa has committed to achieving net-zero greenhouse gas emissions by 2050, anchored in its Nationally Determined Contribution (NDC) under the Paris Agreement. The country's Just Energy Transition (JET) framework, adopted by Cabinet in 2023, outlines a path toward decarbonisation, energy equity, and economic transformation – placing renewable energy at the heart of the national strategy.

To finance this shift, the Just Energy Transition Investment Plan (JET IP) sets out a R1.5 trillion investment roadmap (2023–2027), targeting the replacement of coal with renewables, expansion of grid infrastructure, and support for vulnerable communities and workers. There are many aspects of JET which will be monitored and managed according to individual processes though the ultimate responsibility for overseeing implementation and monitoring outcomes lies with the Just Energy Transition Project Management Unit (JET-PMU).

The Just Energy Transition Investment Plan (JET IP) sets out a **R1.5 trillion investment** roadmap (2023–2027), targeting the replacement of coal with renewables, expansion of grid infrastructure, and support for vulnerable communities and workers.

Future Energy Mix and Planning Instruments

The Integrated Resource Plan (IRP) is South Africa's central electricity planning tool. It determines the long-term composition of the energy mix and guides new capacity procurement. The IRP 2019 had set a target of 25.5 GW of new renewable capacity by 2030 (38% of the energy mix), of which 57% was to come from wind energy[1] – meaning 15.7 GW of new wind energy was expected.

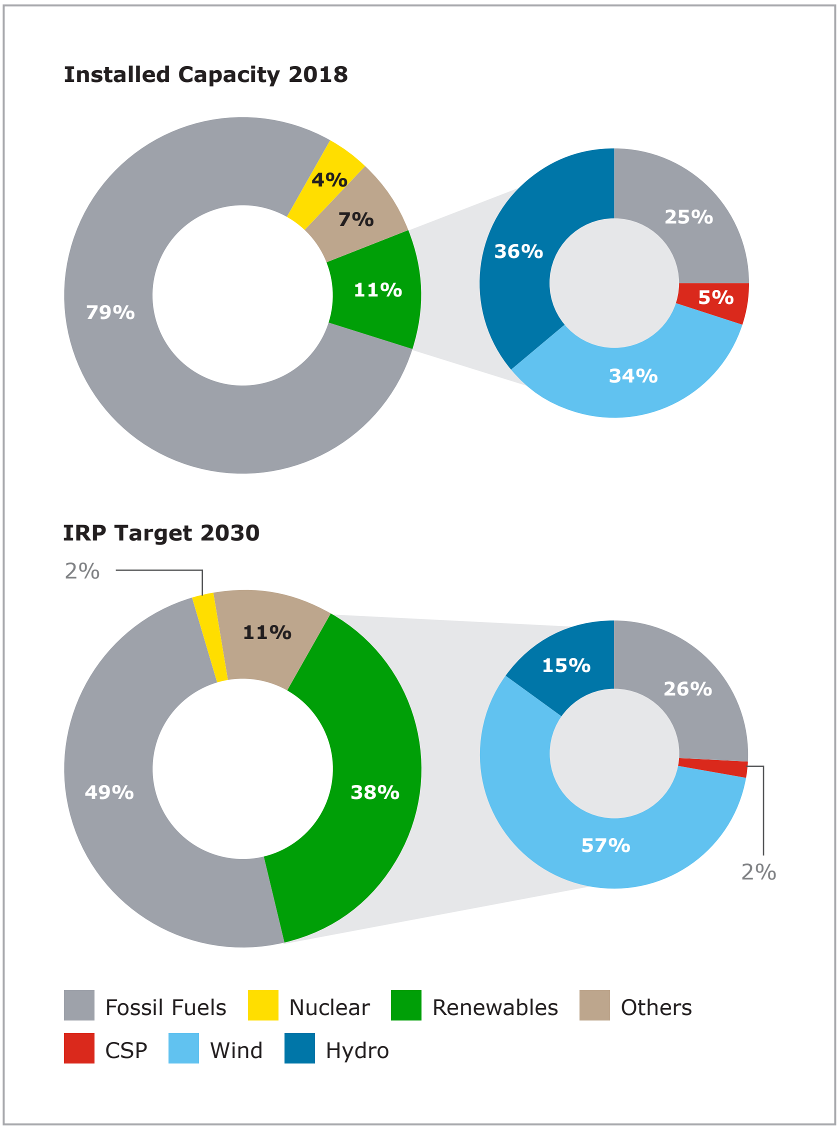


FIGURE 2 IRP2019 Installed Capacity and Forecasted Renewable Contributions

1 IRP 2019

The recently finalised IRP 2025 goes further – envisaging up to 43 GW of new wind energy capacity by 2042 thus constituting 49% of the renewable energy component and 30% of the total energy mix. The modelling done has proven that wind energy will feature prominently in the future energy mix no matter the policy intervention. This signals the increasing strategic importance of wind in achieving the country's decarbonisation and energy resilience goals[2].

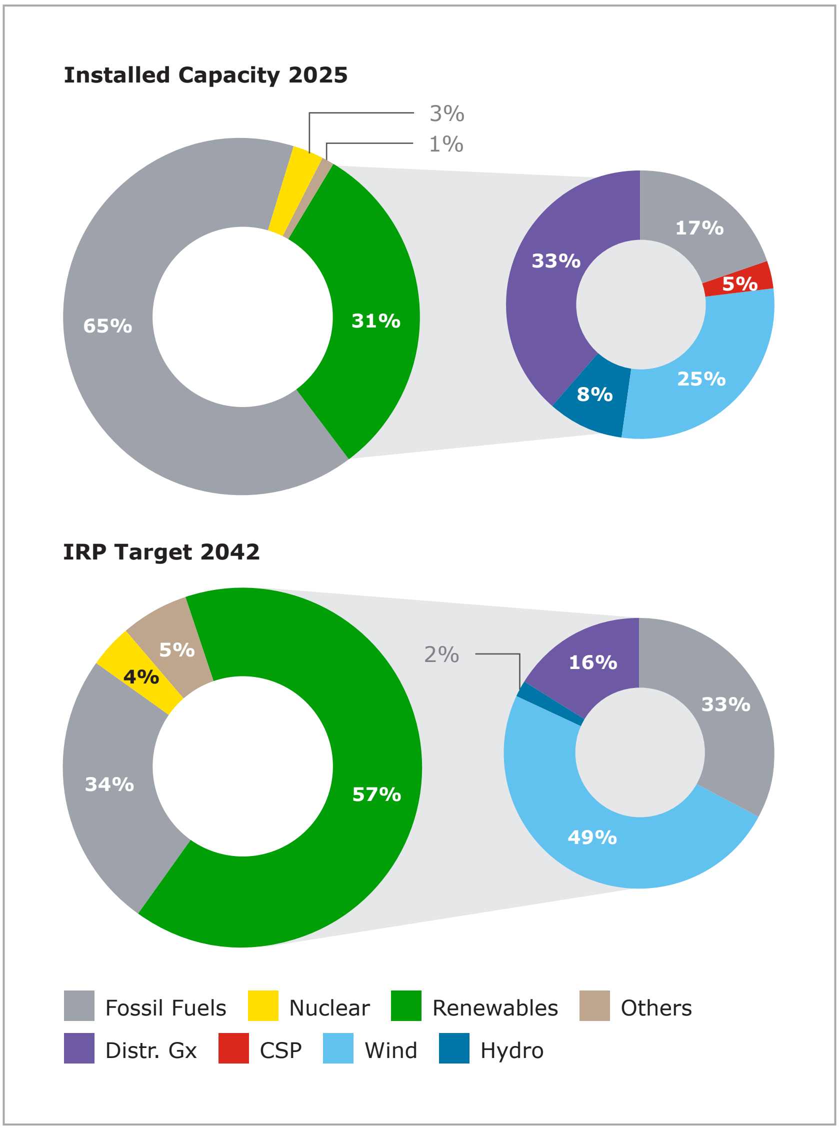


FIGURE 3 IRP 2025 Installed Capacity and Renewable Contributions

2 Latest, final approved IRP recommended IRP 2025

Policy and Regulatory Framework

Building on the foundational policies that established the vision for renewable energy in South Africa, subsequent policy developments have focused on creating an enabling environment for market participation, investment, and infrastructure development. These efforts have aimed to transition the energy sector from a centralised, monopolistic model to a more open and competitive market. As the demand for clean, affordable, and secure energy grew – alongside the need to decarbonise the economy – policymakers responded with targeted reforms to remove barriers and encourage private sector involvement in electricity generation and distribution.

South Africa's electricity market reforms are supported by an evolving policy and legislative framework designed to liberalise the market, promote investment, and ensure fair access to transmission infrastructure. Key policy and regulatory instruments include:

Electricity Regulation Act (2006)	• Establishes licensing and regulatory oversight. • Schedule 2 of the Act was amended in 2021 and again in 2022 to allow for unlicenced (due to threhshold lift), yet registered embedded generation, now fully deregulated. • Licensing Exemption and Registration Notice: Published in terms of section 9(1) of the Electricity Regulation Act, the Notice provides the specific categories of generation facilities exempted from licensing and prescribes their registration procedures with NERSA.
National Energy Act (2008)	• Supports diversification of energy sources, energy efficiency, and infrastructure investment.
Carbon Tax Act (2019)	• Introduces a price on emissions, reinforcing the business case for renewable energy and energy efficiency.
Climate Change Act (2024)	• Creates a legal basis for South Africa's climate response, including the establishment of the Presidential Climate Commission (PCC) as an oversight and advisory body.
Electricity Regulation Amendment Act (2024)	• Establishes the Transmission System Operator (TSO) and the National Transmission Company South Africa (NTCSA) to promote competition and open market access – locally and regionally.

Strategic Plans Supporting the Market Transition

Transmission Development Plan (TDP)	• Outlines Eskom's plans to upgrade and expand transmission infrastructure to integrate 56 GW of new generation capacity, primarily from renewables, over the next decade. • Inputs toward the TDP planning include the IRP, in its latest approved form, as well as the South African Renewable Energy Grid Survey (SAREGS).
South African Renewable Energy Masterplan	• A cross-government industrial policy to maximise localisation and green industrialisation linked to renewables.
Nationally Determined Contribution	• South Africa's formal climate pledge, including ambitious GHG emission reduction targets of 350–420 $MtCO_2e$ by 2030, down from earlier baselines of 398–510 $MtCO_2e$.

CHAPTER 2

RENEWABLE ENERGY INDEPENDENT POWER PRODUCER PROCUREMENT PROGRAMME

The REIPPP Programme has been the cornerstone of South Africa's renewable energy transition. Launched in 2011 as a bold policy intervention to translate policy directives into tangible outcomes, the programme was designed to address critical electricity shortages, reduce carbon emissions, attract private sector investment, and stimulate socio-economic development.

© Noupoort Wind Farm

Over the past 15 years, REIPPPP has become globally recognised as a model for transparent, competitive, and inclusive renewable energy procurement, earning international acclaim for its design, execution, and socio-economic impact. It has successfully established South Africa as a leading destination for utility-scale renewable energy investment in Africa.

Programme Design and Objectives

REIPPPP is a competitive tender programme underpinned by public-private partnerships. It invites Independent Power Producers (IPPs) to bid for long-term Power Purchase Agreements (PPAs) with Eskom, the single buyer, under transparent and standardised procurement processes. The programme is unique in integrating price competitiveness with developmental objectives, including job creation, local ownership, skills development, enterprise and socio-economic development, and local content and industrialisation.

Achievements to Date

As of 2025, REIPPPP has concluded nine bid windows, with the first five resulting in the successful procurement of over 6.2 GW of renewable capacity, including more than 4 GW from wind energy. To date, 122 renewable energy projects have been awarded preferred bidder status, with 104 reaching financial close and 93 of these achieving commercial operation and already feeding into the national grid.

Key achievements of the programme include:

- Over R239 billion in private investment mobilised into South Africa’s energy sector.
- More than 88,000 job years created, contributing to local economic development.
- 38% black ownership and 8.4% community ownership across operational projects.
- Tariffs for wind and solar dropping by more than 70% since the first bid window, making renewables the most cost-competitive new-build option in the country.

The programme has not only delivered energy infrastructure at scale, but has also demonstrated the power of policy certainty, institutional coordination, and market-based mechanisms in unlocking long-term private investment.

The wind sector grew quickly in the first 10 years off REIPPPP with over 4GW of wind projects being procured. The recent procurement programmes have proved to be challenging as no wind projects have been awarded preferred bidder status for Bid Windows 6 and 7.

REIPPP BW1 (1 – 2011)

Launched: **4 November 2011**
Total projects awarded: **28**
Total capacity awarded: **1 426 MW**
Wind projects awarded: **8**
Wind capacity awarded: **639.34 MW**
Status: **All Operational**

REIPPP BW2 (2 – 2012)

Launched: **5 March 2012**
Total projects awarded: **19**
Total capacity awarded: **1 040 MW**
Wind projects awarded: **7**
Wind capacity awarded: **555.13 MW**
Status: **All Operational**

REIPPP BW3 (3 – 2013)

Launched: **19 August 2013**
Total projects awarded:**16**
Total capacity awarded: **1 457 MW**
Wind projects awarded: **7**
Wind capacity awarded: **785.31 MW**
Status: **All Operational**

REIPPP BW3.5 (3.5 – 2014)

Launched: **3 March 2014**
Total projects awarded: **2**
Total capacity awarded: **200 MW**
Wind projects awarded: **0**
Wind capacity awarded: **0 MW**
Status: **All Operational**

REIPPP BW4a (4a – 2014)

Launched: **17 August 2014**
Total projects awarded: **12**
Total capacity awarded: **1121 MW**
Wind projects awarded: **5**
Wind capacity awarded: **679 MW**
Status: **All Operational**

REIPPP BW4b (4b – 2014)

Launched: **17 August 2014**
Total projects awarded: **12**
Total capacity awarded: **1084 MW**
Wind projects awarded: **7**
Wind capacity awarded: **612 MW**
Status: **All Operational**

REIPPP BW5 (5 – 2021)

Launched: **16 August 2021**
Total projects awarded: **25**
Total capacity awarded: **2 583 MW**
Wind projects awarded: **6**
Wind capacity awarded: **780 MW**
Status: **2 Wind project Operational, 4 wind projects under construction, 6 projects did not reach financial close**

REIPPP BW6 (6 – 2022)

Launched: **6 April 2022**
Total projects awarded: **6**
Total capacity awarded: **1 000 MW**
Wind projects awarded: **0**
Wind capacity awarded: **0 MW**
Status: **No projects awarded for this bid wind**

REIPPP BW7 (7 – 2023)

Launched: **15 December 2023**
Total projects awarded: **14**
Total capacity awarded: **2 860 MW**
Wind projects awarded: **0**
Wind capacity awarded: **0 MW**
Status: **No wind projects have been awarded under BW7 yet, We understand that negotiations are underway with 4 wind projects.***

Total projects awarded: **136**
Total MW capacity awarded: **12 831 MW**
Wind projects awarded: **40**
Wind MW capacity procured: **4 138.3 MW**

FIGURE 4 Public Procurement History

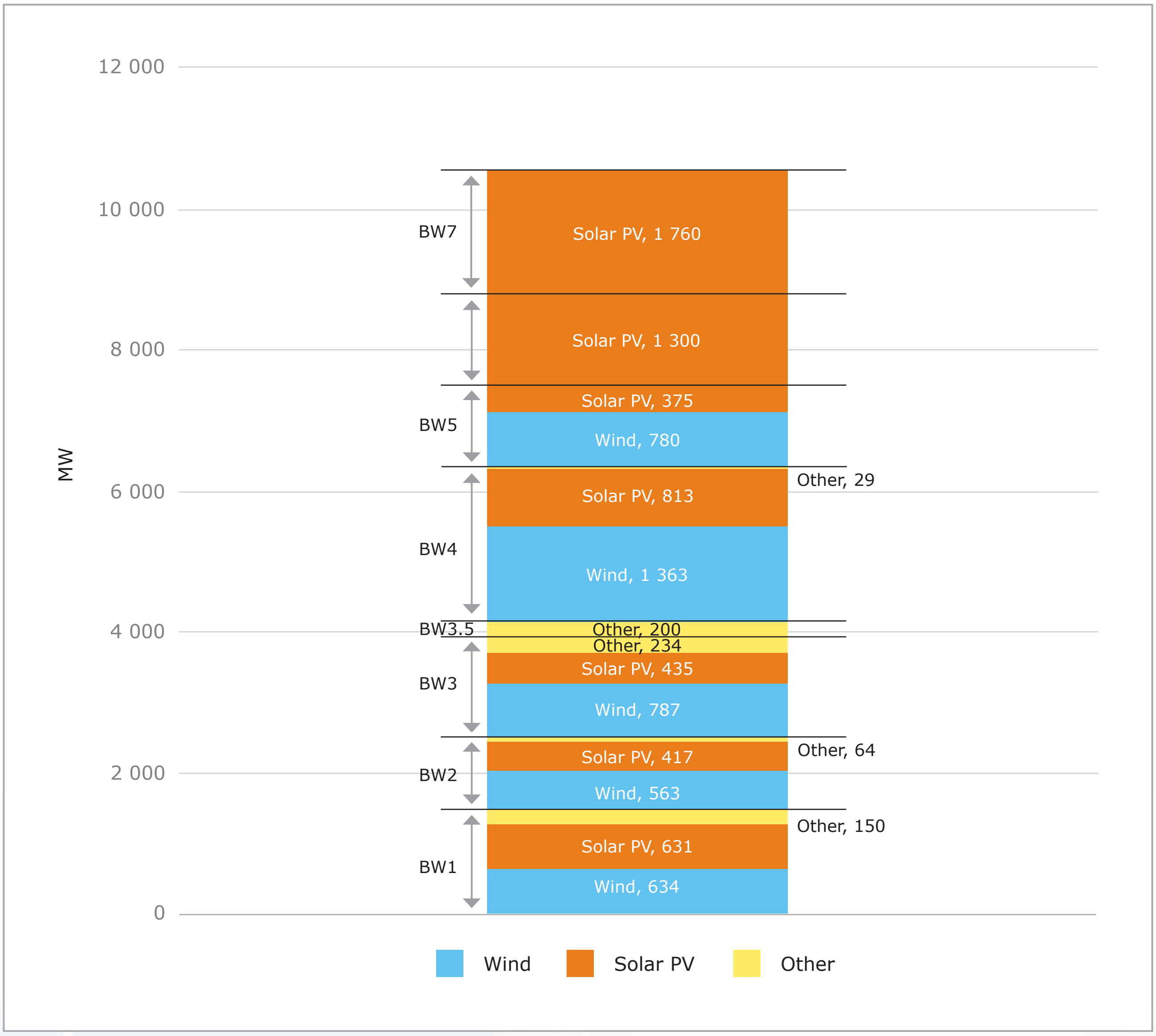


FIGURE 5 Total REIPPPP Projects Awarded

Challenges and Evolution

While the REIPPPP has been widely recognised as a pioneering and successful model for renewable energy deployment in South Africa, its evolution has not been without challenges. Over time, a combination of policy uncertainty, institutional misalignment, and infrastructure limitations has affected the programme's consistency and impact.

The period between Bid Windows 4 and 5 (2015–2021) marked significant delays, primarily driven by policy uncertainty – stalling the signing of BW4 PPAs. This disruption halted momentum in renewable energy implementation, seriously affecting investor confidence.

More recent bid rounds, notably Bid Windows 5 and 6, have demonstrated renewed investor appetite and achieved record-low tariffs. However, they have also exposed a new set of structural and systemic challenges that threaten the sustainability of the programme's success.

Insufficient Grid Capacity	Limited grid connection capacity has become a major bottleneck for wind energy projects. In BW6, no wind projects were awarded due to the unavailability of grid capacity in high-resource areas, constraining the sector's growth potential.
Structural and Institutional Misalignment	The lack of coordination between procurement authorities and grid planning institutions has resulted in a disconnect between project awards and available grid infrastructure, undermining implementation efficiency.
Limited Visibility of Grid Availability	Developers face uncertainty due to the absence of transparent, realtime information on grid capacity and connection points, impeding informed investment and project planning.
Process and Procurement Delays	Frequent delays in the procurement process have created uncertainty in the market, weakened investor confidence, and disrupted project pipelines.
Unclear Procurement Outlook	The absence of consistent and predictable timelines and clear communication on future bid windows hinders long-term planning. Wind projects, which typically have longer development cycles, are particularly affected by this uncertainty period.
Economic and Financial Constraints	High tendering costs, combined with tariff structures that exclude the pass-through of grid connection costs, have increased financial strain on developers and reduced project bankability.
Unsustainable Tariff Competition	Excessive competition within the bidding process has led to tariffs that are unsustainably low, resulting in challenges at financial close and shifting focus away from project readiness and implementation quality.

These challenges underscore the need for a more coordinated and adaptive procurement framework. One that aligns grid expansion with procurement planning, enhances transparency, and balances affordability with sustainability. Without structural reforms and targeted grid infrastructure investment, the REIPPPP risks losing momentum and failing to deliver on its long-term contribution to South Africa's energy transition.

Current Status and Future Outlook

Bid Window 7 was launched in late 2023 with a renewed focus on grid access, energy storage integration, and localisation. As of October 2025, 14 solar PV projects have already been awarded as preferred bidders and we understand that value-for-money negotiations are underway between the IPPO and four wind bidders.

While REIPPPP represents one of South Africa's most successful models of policy-driven market creation, its failure of recent bid rounds to procure wind projects has created uncertainty around the effectiveness and future of the programme and signals the need for reform. The structure and processes of future rounds will need to be revised to account for the challenges outlined in the previous section including but not limited to visibility of grid constraints, sustainability of tariffs and ability of projects to reach financial close.

A reformed REIPPPP is expected to remain a central driver of large-scale renewable energy deployment alongside emerging private procurement markets and wheeling frameworks.

As the energy landscape liberalises, REIPPPP has a specific role to support the country's energy procurement and should continue to complement the growth of private PPAs, bilateral agreements, and embedded generation, ensuring that the energy transition remains inclusive, socially beneficial, and aligned with national policy goals.

CHAPTER 3

SOUTH AFRICAN WIND ENERGY SECTOR

South Africa's wind energy sector has grown from a modest pilot initiative in the early 2000s to become the leading wind energy market on the African continent, with over 3.8 GW of installed capacity across 40 operational wind farms. The country has successfully transitioned from early demonstration projects to large-scale commercial deployment.

The full wind energy footprint includes 4138.34 MW of publicly procured wind energy through REIPPPP (653 MW still in construction), 149 MW of wind capacity realised through RMIPPPP still in construction, 2495.2 MW of privately procured wind energy (2332 MW still in construction), and Eskom's own Sere Wind Farm adding 100 MW to the overall wind capacity of 6882 MWs (2985 MW still in construction) from 63 wind farms.

The first private offtake project was essentially the 5.2 MW Darling Wind Farm and remained the only private project until the flurry of projects reached financial close (and hence began construction) from 2022–2025 due to the liberalisation of the market as an outcome of the Electricity Regulation Amendment Act. With the establishment of Eskom Green, more than 32 GW of renewable energy is expected to be procured by 2040 according to Eskom's JET strategy.

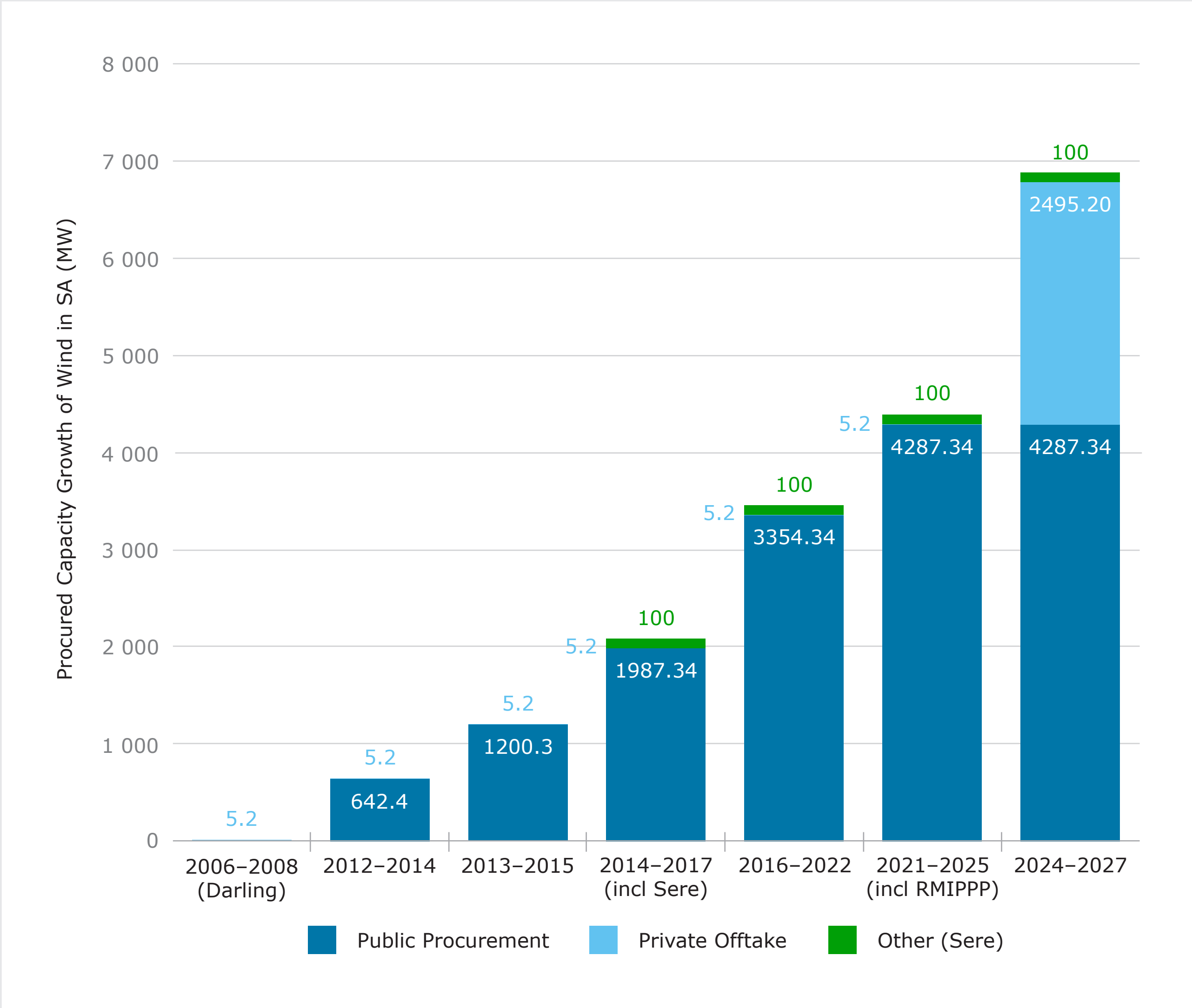


FIGURE 6 Capacity Growth of Wind in SA Over Time

63 wind
farms procured

6882 MW of wind
energy procured

2985 MW still in
construction

Wind energy is now a vital component of South Africa's energy transition strategy, offering a low-cost, scalable solution to address both climate and energy security challenges. The sector's growth has been largely enabled by the REIPPPP, high-quality wind resources, and a policy framework that balances investor certainty with socio-economic development.

Wind energy has contributed to numerous areas of the South African economy with the highlights below indicating 62 wind projects (operational and under construction) with a combined installed capacity of 6882 MW procured to date (excluding Sere Wind Farms).

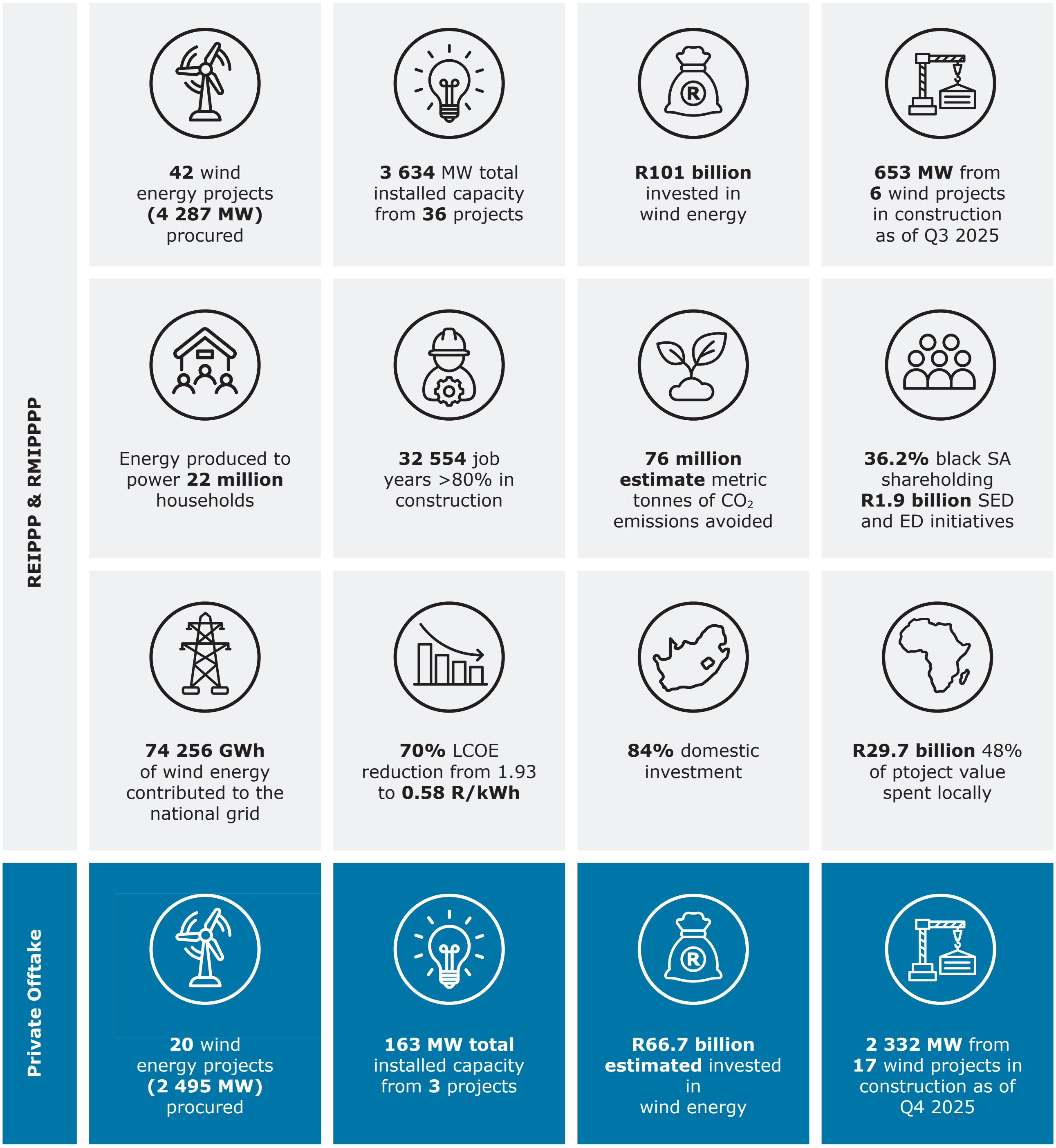


FIGURE 7 Wind Energy Achievements as of Oct 2025

SA Wind Resource

South Africa possesses world-class wind resources, with exceptional potential concentrated along the south and west coastlines, including the Western Cape, Eastern Cape, and parts of the Northern Cape. According to the Global Wind Atlas, large areas of South Africa register average wind speeds exceeding 8.5 m/s at 100 metres, comparable to high-yield regions in the United States and Europe.

According to the 2016 Wind and Solar PV Resource Aggregation Study, a study conducted by the Council for Scientific and Industrial Research (CSIR), South Africa is richly endowed with renewable energy resources, with an estimated 4.5 TW on-shore wind power potential.

Key characteristics of South Africa's wind resource:

Consistency: The Cape provinces experience strong and predictable wind patterns, especially during the evening peak hours – complementing solar output and supporting grid reliability.

Technical Potential: Estimates suggest onshore wind potential exceeding 80 GW, with offshore wind potential surpassing 900 GW, particularly along the south coast.

Geographic Distribution: While grid constraints currently limit development in high-resource areas, future transmission investments are expected to unlock further capacity.

The maturity of wind resource mapping tools (e.g., Wind Atlas for South Africa, WASA), combined with improved turbine design suited for medium-wind zones, has enabled the deployment of cost-effective projects across a broader geographic footprint. The primary objective of the Wind Atlas for South Africa (WASA) project was to develop, validate, and apply numerical wind atlas methodologies while building national capacity to support the large-scale development and deployment of wind energy across South Africa. This includes dedicated wind resource assessment and siting tools for planning purposes that can be used for feasibility studies in support of projects.

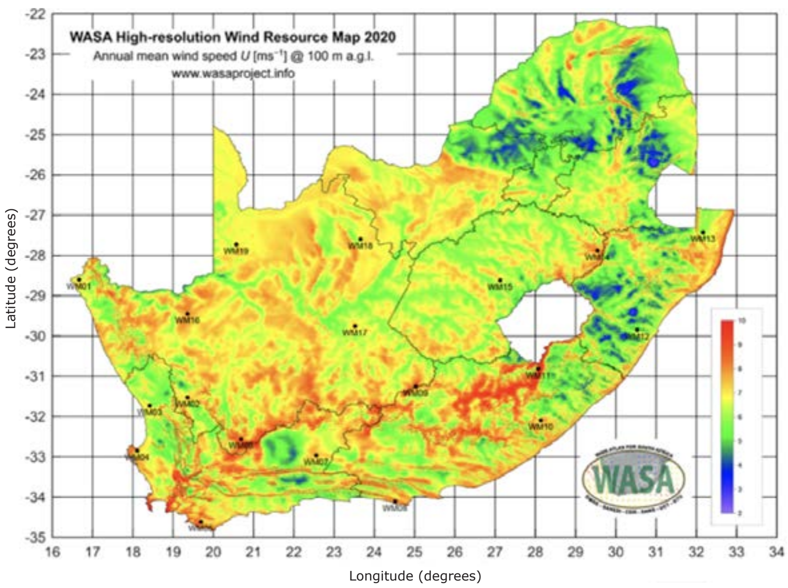


FIGURE 8 WASA Wind Resource Map, 2020

Wind Energy Market Size

South Africa's wind energy sector has made impressive strides over the past decade, evolving into a significant pillar of the country's electricity mix. As of October 2025, the sector boasts 6 882 MW of on-shore wind capacity across 63 utility-scale wind farms (operational and in-construction), with actual installed capacity often slightly higher than the maximum export capacity (MEC) due to design optimisations. Currently, more than 2.98 GW of new wind capacity is under construction (REIPPPP, RMIPPPP and Private).

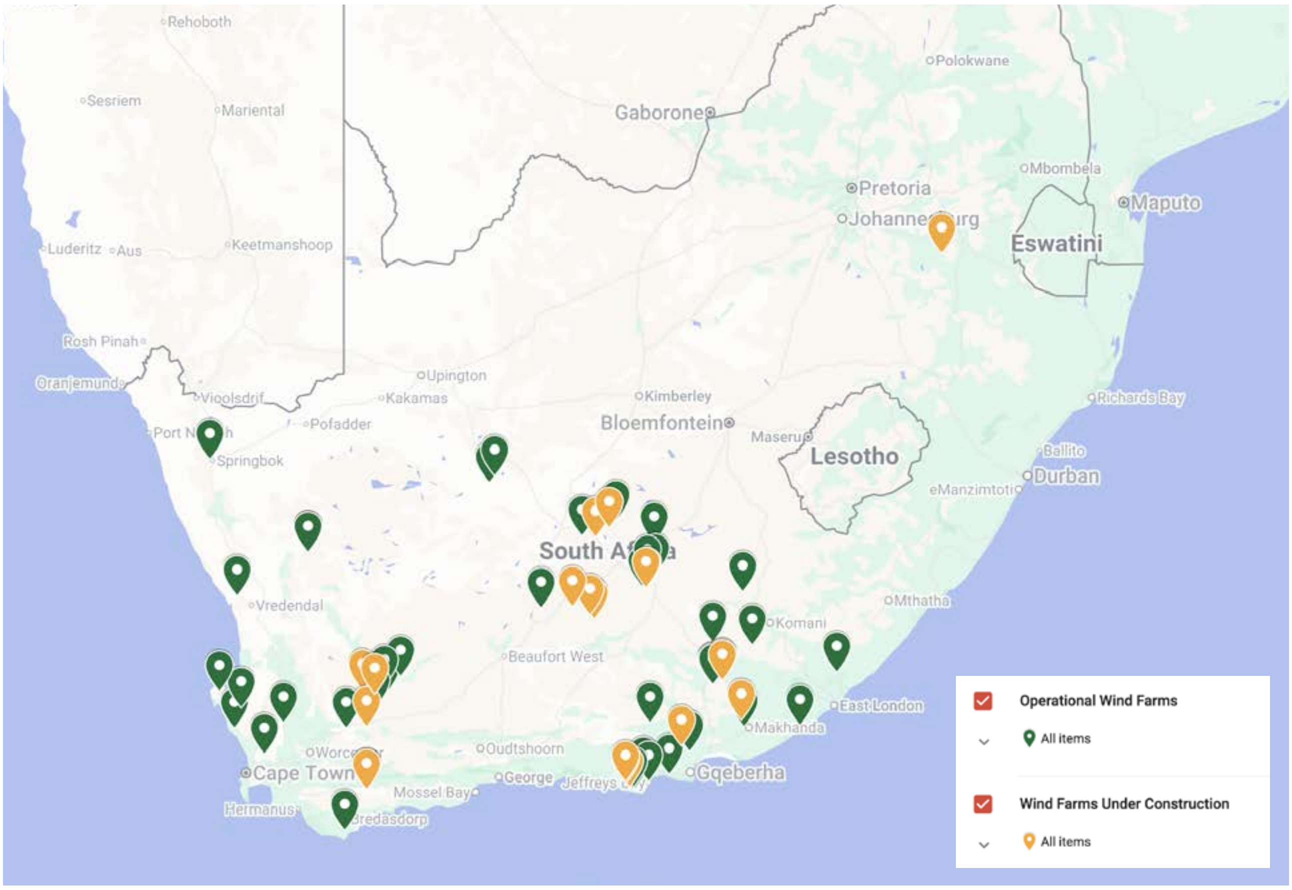


FIGURE 9 South African Operational and In-Construction Wind Farms

The growth momentum is set to continue. According to the SAREGS 2025, a remarkable 60 GW of wind and combined wind + BESS projects are in the broader development pipeline. This includes projects at various stages – from early feasibility studies to shovel-ready installations – highlighting strong investor appetite and long-term confidence in the sector. In line with this, the IRP2025 has laid out an ambitious trajectory for wind energy, targeting up to 43 GW of installed capacity by 2042.

For wind farms in operation and under construction (signed PPAs), the graph below indicates the allocation per province, with some individual projects bordering between two provinces. As reflected, many wind developments are concentrated in the Eastern Cape, Western Cape, and Northern Cape, where the country's strongest and most consistent wind resources are found. The clustering of these projects in the provinces with the highest wind resources is mirrored in the available grid capacity since the Cape provinces have the most immediate grid constraints. The subsequent section provides a detailed breakdown of these projects, together with their ownership structures and nameplate capacities, offering a comprehensive view of the sector's current footprint and growth pipeline.

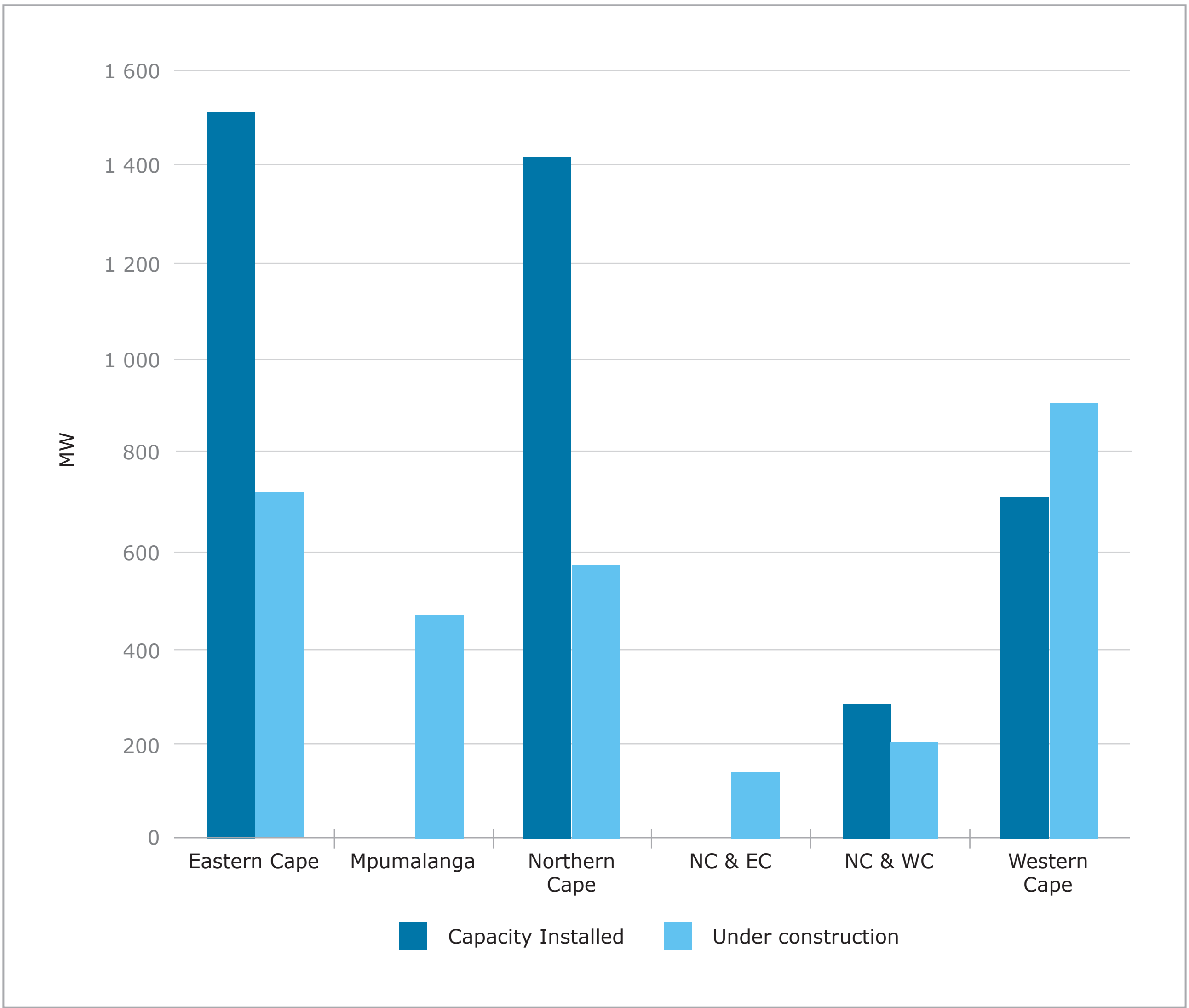


FIGURE 10 Overview of Wind Farms Installed per Province in SA

Below is the list of all operational projects and projects under construction as of October 2025. Wind projects typically have several shareholders including (though not always): the developer, a lead sponsor, a local partner, lenders (investment funds, commercial banks and/or development funds) and community trusts.

Considerations for reading this table:

- The Lead IPP is taken as the lead shareholder in the project hence all project shareholders are not indicated here.
- All projects which have reached financial close are assumed to have entered the construction phase.
- Only the wind energy component of hybrid projects under the Risk Mitigation Independent Power Producers Procurement Programme (RMIPPPP) have been included in the table below.

List of Operational Wind Energy Projects in South Africa

Name	Location	Capacity (MW)	Lead IPP	Offtaker
Amakhala Emoyeni (Phase 1)	Eastern Cape	131.1	Cennergi	Eskom
Aurora Wind Power	Western Cape	94	Engie	Eskom
Brandvalley Wind Farm	Northern Cape & Western Cape	140	Red Rocket Energy	Eskom
Castle Wind Farm	Northern Cape	89	Anthem (EIMS Africa)	Sibanye Stillwater
Chaba Wind Farm	Eastern Cape	20.6	EDF Renewables	Eskom
Cookhouse Wind Farm	Eastern Cape	135	Anthem (EIMS Africa)	Eskom
Copperton Wind Farm	Northern Cape	102	Elawan Energy	Eskom
Darling Wind Farm	Western Cape	5.2	Enertrag	PowerX
Dorper Wind Farm	Eastern Cape	97	Dorper Wind Farm	Eskom
Eskom Sere Wind Farm	Western Cape	100	Eskom	
Excelsior Wind Energy Facility	Western Cape	32	Engie	Eskom
Garob Wind Farm	Northern Cape	136	Enel Green Power SA	Eskom
Gibson Bay Wind Farm	Eastern Cape	110	Enel Green Power SA	Eskom
Golden Valley Wind Energy Facility	Eastern Cape	120	Engie	Eskom
Gouda Wind Farm	Western Cape	135.2	Acciona Energia	Eskom
Grassridge Wind Farm	Eastern Cape	59.8	EDF Renewables	Eskom
Jeffreys Bay Wind Farm	Eastern Cape	138	Globeleq	Eskom
Kangnas Wind Farm	Northern Cape	137	Infinity Power	Eskom
Karusa Wind Farm	Northern Cape	140	Enel Green Power SA	Eskom
Khobab Wind Farm	Northern Cape	137.7	Infinity Power	Eskom
Klipheuwel Wind Farm	Western Cape	26.2	Globeleq	Eskom
Kouga Wind Farm	Eastern Cape	80	Kouga Wind Farm	Eskom
Loeriesfontein 2 Wind Farm	Northern Cape	138.2	Infinity Power	Eskom

Name	Location	Capacity (MW)	Lead IPP	Offtaker
Longyuan Mulilo De Aar Maanhaarberg Wind Energy Facility	Northern Cape	96.48	Longyuan South Africa Renewables	Eskom
Longyuan Mulilo De Aar 2 North Wind Energy Facility	Northern Cape	138.96	Longyuan South Africa Renewables	Eskom
MetroWind Van Stadens Wind Farm	Eastern Cape	27	Metro wind van Stadens Wind Farm	Eskom
Msenge Emoyeni Wind Farm (Pty) Ltd	Eastern Cape	69	Anthem (EIMS Africa)	Sasol
Noblesfontein Wind Farm	Northern Cape	73.8	Noblesfontein Wind Farm	Eskom
Nojoli Wind Farm	Eastern Cape	86.6	Enel Green Power SA	Eskom
Noupoort Wind Farm	Northern Cape	79.1	Infinity Power	Eskom
Nxuba Wind Farm	Eastern Cape	140	Enel Green Power SA	Eskom
Oyster Bay Wind Farm	Eastern Cape	140	Enel Green Power SA	Eskom
Perdekraal East Wind Farm	Western Cape	108	Infinity Power	Eskom
Rietkloof Wind Farm	Western Cape	140	Red Rocket Energy	Eskom
Riverbank Wind Farm	Eastern Cape	33	EDF Renewables	Eskom
Roggeveld Wind Farm	Northern Cape & Western Cape	140	Red Rocket Energy	Eskom
The Soetwater Wind Farm	Northern Cape	139	Enel Green Power SA	Eskom
Tsitsikamma Community Wind Farm	Eastern Cape	93.8	Cennergi	Eskom
Umoya Energy (Hopefield) Wind Farm	Western Cape	65.4	Anthem (EIMS Africa)	Eskom
Waainek Wind Farm	Eastern Cape	23.4	EDF Renewables	Eskom

List of Wind Energy Projects under Construction in South Africa

Name	Location	Capacity (MW)	Lead IPP	Offtaker
Coleskop Wind Energy Facility	Eastern Cape	140	EDF Renewables	Eskom
Hartebeesthoek Wind Project – Korosun 2 Cluster	Northern Cape	147.5	EDF Renewables	Anglo American
Impofu East	Eastern Cape	110	Enel Green Power SA	Air Liquide/ Sasol
Impofu North	Eastern Cape	110	Enel Green Power SA	Air Liquide/ Sasol
Impofu West	Eastern Cape	110	Enel Green Power SA	Air Liquide/ Sasol
Ishwati Emoyeni Wind Farm	Western Cape	140	EIMS Africa	NOA Group
Karreebosch Wind Farm	Northern Cape & Western Cape	112	Cennergi	Northam Platinum
Khangela Emoyeni Wind Farm	Western Cape	140	EIMS Africa	Rio Tinto (RBM)
Mulilo De Aar 2 South Wind Farm	Northern Cape	140	Reatile	Air Liquide/ Sasol
Overberg Wind Farm	Western Cape	230	Red Rocket Energy	Rio Tinto (RBM)
Overberg Wind Farm (Phase 2)	Western Cape	150	Red Rocket Energy	Discovery Green
Oya Energy Facility	Northern Cape & Western Cape	86	Engie	Eskom
Phezukomoya Wind Energy Facility	Northern Cape	140	EDF Renewables	Eskom
San Kraal Wind Energy Facility	Northern Cape	140	EDF Renewables	Eskom
Ummbila Emoyeni (Phase 1)	Mpumalanga	155	Seriti Green	Seriti Resources
Ummbila Emoyeni Two (Phase 3)	Mpumalanga	155	Seriti Green	NOA Group Trading
Ummbila Emoyeni Three (Phase 2)	Mpumalanga	155	Seriti Green	EXSA
Umoyilanga	Eastern Cape	63	EDF Renewables	Eskom
Umsinde Emoyeni Wind Farm	Western Cape	140	EIMS Africa	Sibanye Stillwater
Umsobomvu Wind Project	Northern Cape & Eastern Cape	140	EDF Renewables	Anglo American
Wind Garden	Eastern Cape	94.5	NOA Group	NOA Group
Witberg Wind Farm	Western Cape	103	Red Rocket Energy	Sibanye Stillwater
Wolf Wind Farm	Eastern Cape	84	Red Rocket Energy	Eskom

Market Drivers

The growth of South Africa’s wind energy sector has not occurred in isolation; it is the result of a combination of structural, economic, policy, and developmental drivers that have aligned to create an enabling environment for investment and scale. Understanding these market drivers is critical to recognising why wind energy has emerged as a leading technology in South Africa’s energy transition.

These forces continue to shape the commercial viability, political support, and public acceptance of wind power, and will remain central to the sector’s trajectory in the coming decades. These market drivers will further play an increasingly influential role in determining the sector’s success as South Africa advances toward a more secure, sustainable, affordable, and low-carbon energy system.

Energy Security

Urgent need to restore stability to the national electricity system.

Chronic loadshedding – caused by the decline of Eskom's ageing coal fleet and years of underinvestment in new generation, has made new capacity a top national priority.

Projects can be developed and brought online relatively quick (within 30 months on average) compared to conventional coal-fired power stations, and with a high degree of predictability.

Additionally, wind generation tends to align well with South Africa's peak evening demand, making it an increasingly critical tool for grid balancing and resilience.

Affordability

Cost competitiveness has been another powerful catalyst for the growth of wind energy. From REIPPPP BW1–BW5, wind tariffs have fallen by more than 70%, making wind one of the cost-effective sources of new electricity in the country.

Affordability is particularly important since electricity tarriffs have risen by more than 450% over the past decade, placing pressure on households, municipalities, and energy intensive users.

Wind energy offers long-term price certainity and a hedge against volatile fossil fuel prices, helping to reduce inflationary pressures across the economy.

Policy Certainty

South Africa's wind energy success has been anchored in a coherent and forward-looking policy environment. Foundational instruments such as the IRP, REIPPPP, and the amendments to ERA have collectively created a stable and transparent investment climate.

These frameworks have not only enabled efficient procurement, licensing, and grid access – they have instilled policy certainity rarely seen in emerging markets.

As South Africa scales up its energy transition, the continued evolution and modernisation of these policies will be critical to unblocking further investment, accelerating deloyment, and maintaining the country's position as a continental leader in renewable energy governance.

Socio-Economic Development

SA's wind energy sector stands as a compelling example of how infrastructure investment can deliver measurable socio-economic value to local communities through employment, ownership and social investment.

Through REIPPPP, wind projects go beyond the construction period and ensure sustainable economic growth in small rural areas. These include meaningful job creation, broad-based community ownership, enterprise development, and sustained investment into local economies.

Over the past decade, this model has translated to billions of rands in community trust funds and thousands of direct and indirect jobs, particularly in rural areas, supporting the livelihoods of historically disadvantaged communities.

By embedding equity and development at the core of project design, this inclusive approach has not only fostered public supported but has also positioned the wind sector as a key contributor to South Africa's just energy transition.

FIGURE 11 Market Drivers for Wind Energy

Future Growth Drivers

While the current market drivers remain robust, a set of new and emerging forces is poised to shape the next wave of growth in South Africa's wind energy sector. These future growth drivers reflect the evolving role of renewable energy in a rapidly decarbonising and decentralising global energy system.

Electricity Market Reform

Recent Policy and Legislative Reforms

Electricity Regulation Amendment Act (2024)
Laying the groundwork for a more open, competitive electricity market.

South African Wholesale Electricity Market (SAWEM)
Will allow multiple buyers and sellers to trade elecricty, unlocking new opportunities for IPPs.

Shifts and Benefits

Ability to Wheel Electricty
IPPs can now sell electricty directly to private offtakers enabled through wheeling.

New Era of Electricity Supply
The shift in supply is already visible through the rise of bilateral Power Purchase Agreements (PPAs) between IPPs and large industrial users.

FUTURE GROWTH DRIVERS

Offshore Wind Development

Benefits
This emerging subsector could unlock new investment flows, enhance grid stability, and diversify the country's wind energy portfolio.

Offshore Potential
Preliminary assessments estimate over 900GW of technical offshore capacity and more than 2,300 TWh/year of generation potential in deeper waters.

Regulations and Planning
Government and industry stakeholders are actively exploring the policy, legal, and technical foundations required for offshore deployment.

Carbon Border Adjustment Mechanism

Competitiveness
Major trading partners (EU) begin to implement carbon taxes on imported goods hence the carbon intensity of SA's electricity supply becomes a competitiveness issue for domestic industry.

Access to Global Markets
Maintaining access to carbon-intensive exports (steel, mining, agriculture) requires SA to decarbonise its grid.

Wind's Role
Offers a proven and scaleable pathway to deliver low-carbon electricity. It will play a central role in enabling SA producers to remain globally competitive.

Green Hydrogen and Industrial Decarbonisation

Wind's Role in GH2
Wind will play a foundational role in the Green Hydrogen (GH2) economy. Production of GH2 via electrolysis requires high volumes of clean afforadable electricty hence wind is ideal.

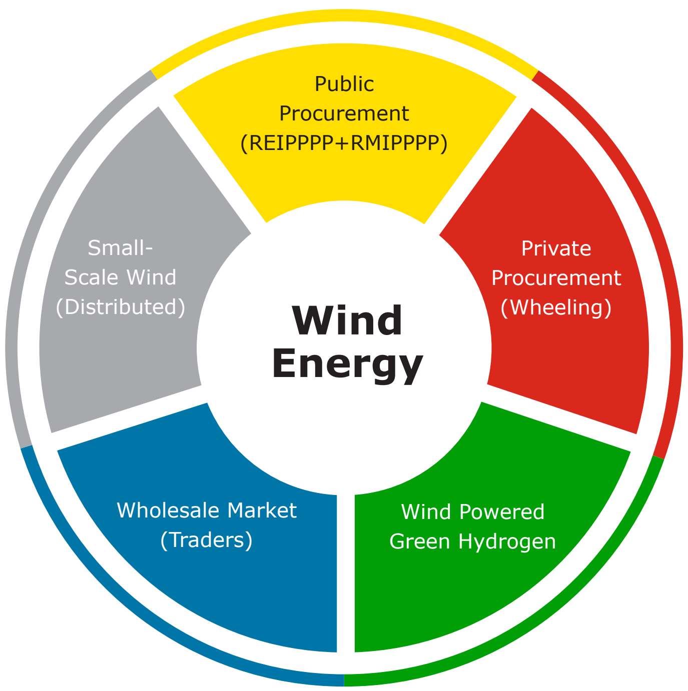
Demand
The development of Hydrogen export hubs, green industrial corridors and ammonia production facilities will create a new source of demand for large-scale wind projects – especially in regions with high wind resources such as the Cape and coastal regions.

FIGURE 12 Future Growth Drivers for Wind Energy

CHAPTER 4

MARKET STRUCTURE

South Africa's wind energy market continues to evolve as to transition to a low carbon economy. This transformation has been largely driven by a strong public procurement framework, increasing private sector participation, and structural reforms enabling new market models.



From the early stages of government-led tender programmes under the REIPPPP to the growing uptake of private Power Purchase Agreements (PPAs) and wheeling arrangements, the market structure is becoming more decentralised, competitive, and responsive to the needs of diverse buyers. This chapter provides an overview of the wind energy market components.

Public Procurement: Utility-Scale Wind under REIPPPP

The primary catalyst for wind energy deployment in South Africa has been the REIPPPP, a globally recognised public-private partnership launched in 2011 to attract private investment in large-scale renewable generation. The programme is based on competitive tendering through periodic Bid Windows, with allocation volumes aligned to the country's Integrated Resource Plan (IRP).

The REIPPPP has been instrumental in establishing a bankable, transparent, and inclusive wind energy market in South Africa. It required substantial reform to remain the foundational mechanism for new public procurement, with future rounds expected to be informed by transmission capacity, updated IRP targets, and private sector appetite. Below illustration guides the reader with a timeline of respective bid windows being launched, capacities allocated, and the hiatus experienced within REIPPPP, since inception[3].

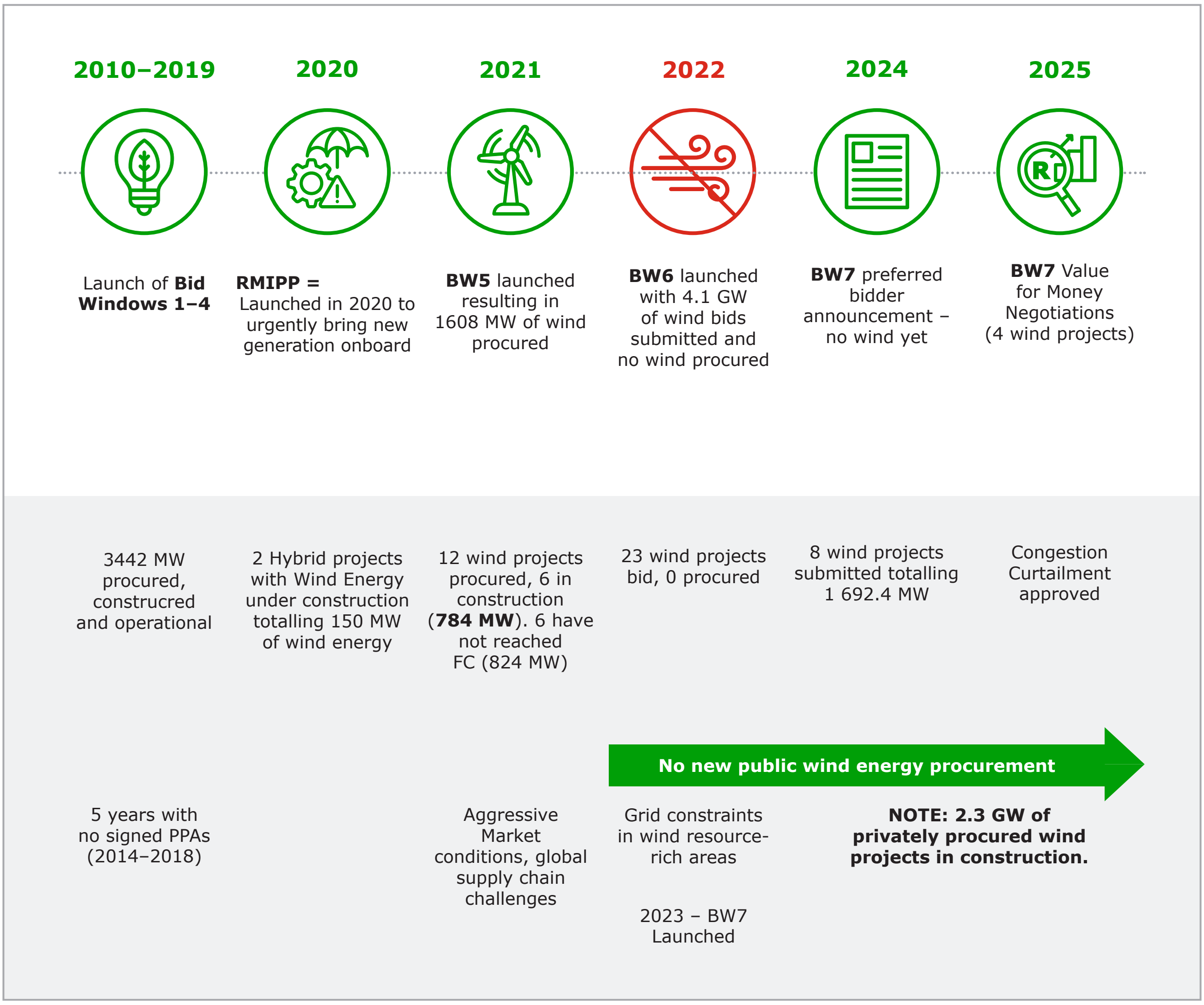


FIGURE 13 Timeline of Public Procurement in South Africa

3 The South African REIPPPP, UCT GSB

Public Procurement: Hybrid Under Risk-Mitigation

The Risk Mitigation Independent Power Producer Procurement Programme (RMIPPPP) was launched in 2020 to address near-term energy shortfalls using technology-agnostic solutions. While primarily intended to support dispatchable generation, wind has featured prominently in hybrid projects that combine wind, solar PV, and storage.

These projects represent an evolution in the market structure, demonstrating the versatility and value of wind when paired with complementary technologies.

Notable hybrid projects with wind projects:

Oya Energy Facility
Matjiesfontein, Western Cape
86.4MW Wind
155MW Solar PV
94MW / 242MWh BESS

Umoyilanga Energy Facility
Avondale, Northern Cape + Dassiesridge, Western Cape
63MW Wind
115MWp Solar PV
75MW / 205MWh BESS

Private Procurement: Wheeling Power

In parallel with public procurement, South Africa's wind market is experiencing a surge in private procurement. Driven by the liberalisation of electricity regulations and increasing demand for reliable, low-cost power from wind energy, IPPs are contracted to sell wind energy directly to commercial and industrial users. This is done through private PPAs and wheeling. Several energy-intensive users with historically high carbon emissions have set ambitious decarbonisation targets, in which the procurement of renewable energy plays a central role. The data presented below reflects SAWEA's understanding of these decarbonisation commitments, with the pipeline of offtakers expected to expand steadily.

Eskom	32 000 MW by 2040
AngloAmerican	5 000 MW by 2030
Sasol	2 000 MW by 2030 (includes Air Liquide)
Sibanye Stillwater	407 MW secured, 287 MW to be secured
RioTinto Richards Bay Minerals	500 MW capacity already contracted
Seriti	3 500 MW capacity to be developed by 2033
Northam	220 MW capacity already contracted
Exxaro	Deployment across operations and investments through Cennergi
Harmony	100 MW capacity already contracted

FIGURE 14 Energy Offtakers and Targets

Power Purchase Agreements (PPAs)

Private PPAs enable bilateral contracts between generators (IPPs) and buyers (offtakers). Contract negotiation could take between 6 months (for operational projects) to 5+ years (for projects under development). Private PPAs usually specify pricing, delivery terms, and production guarantees over multi-year periods, typically between 5 and 20 years.

Wheeling Arrangements

Wheeling enables privately generated wind power to be transmitted across the national grid to offtakers situated elsewhere, governed by grid-use agreements and subject to applicable wheeling charges. Wheeling facilitates the integration of renewable energy sources by allowing producers to sell electricity directly to consumers, thereby promoting a more decentralised and competitive energy market. Wheeling rules provide a framework for calculating and applying wheeling charges, ensuring transparency and fairness in the process.

A major regulatory milestone was reached when the National Energy Regulator of South Africa (NERSA) approved the regulatory rules on network charges for third-party wheeling of energy on 03 March 2025. This regulatory clarity enhances transparency and cost certainty, making it easier for renewable energy projects – especially wind farms – to expand market access and catalyse investment in sustainable energy infrastructure.

By removing barriers to market entry and enabling direct power transactions, wheeling is accelerating the scale-up of clean energy infrastructure across South Africa.

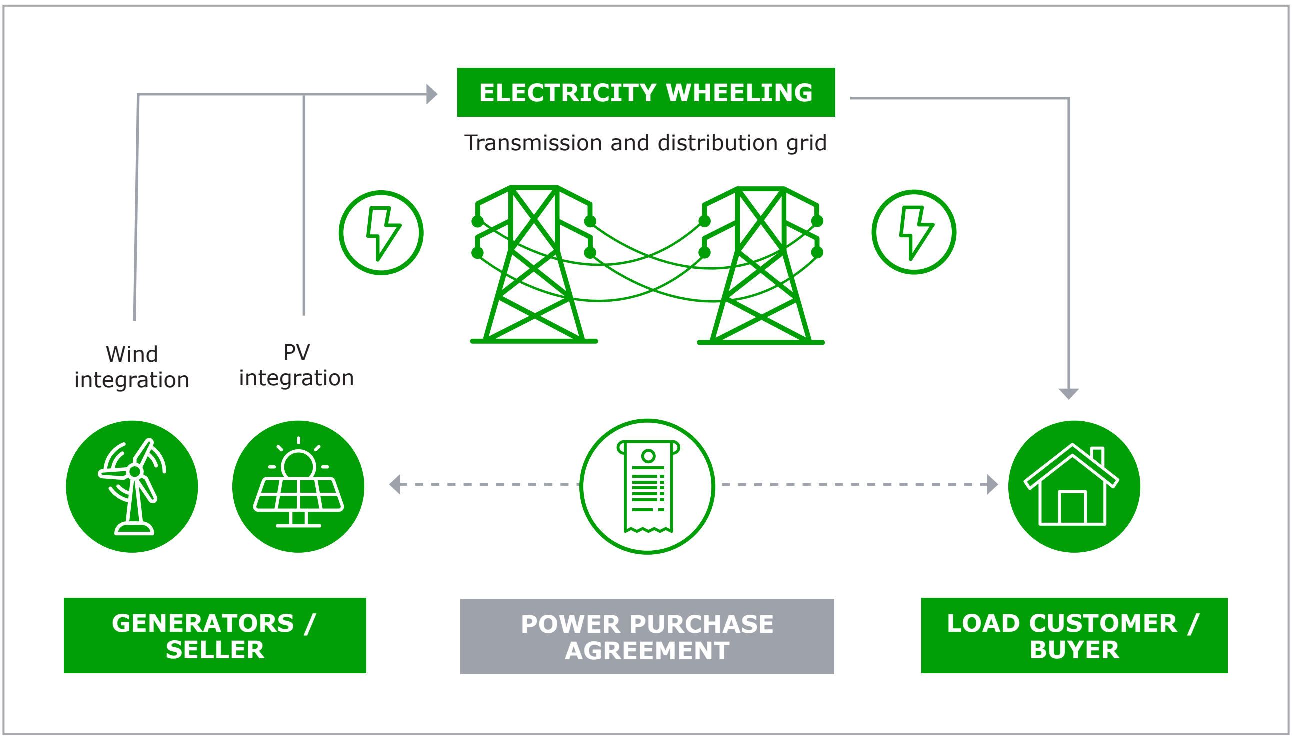


FIGURE 15 Eskom Wheeling Framework

Role of Electricity Traders/Aggregators

As South Africa transitions toward a more decentralised and competitive electricity market, the role of licensed electricity traders is becoming increasingly important to enable market access and flexibility. Traders act as intermediaries between IPPs and end-users, simplifying access to renewable electricity for a growing number of commercial, industrial, and municipal offtakers. By managing contractual complexities and balancing supply and demand, traders help unlock broader participation in the energy market. As of July 2025, at least eleven licensed electricity traders (aggregators) are registered with NERSA, namely:

FIGURE 16 Registered Traders/Aggregators in the SA Market

Small-Scale Wind

Although still limited, interest in small-scale wind is growing – especially in coastal zones and for remote agricultural applications. Early examples include pilot projects at the V&A Waterfront and in agricultural processing operations where hybrid wind-solar systems improve energy resilience. As equipment prices decrease and local manufacturing improves, this segment may offer future opportunities for distributed generation, particularly in off-grid rural areas.

FIGURE 17 V&A Waterfront LuvSide gmbH Turbines (left) and a Kestrel Small Wind Turbine (right)

Market Evolution and Future Pathways

The South African wind energy market is now structurally positioned at an inflection point. While REIPPPP remains the anchor of public procurement, private PPAs, wheeling, small-scale wind and hybrid systems are enabling a new wave of decentralised, investor-led development. This dual-track structure is likely to persist in the coming decade, creating multiple avenues for scale-up.

Key market evolution trends include:

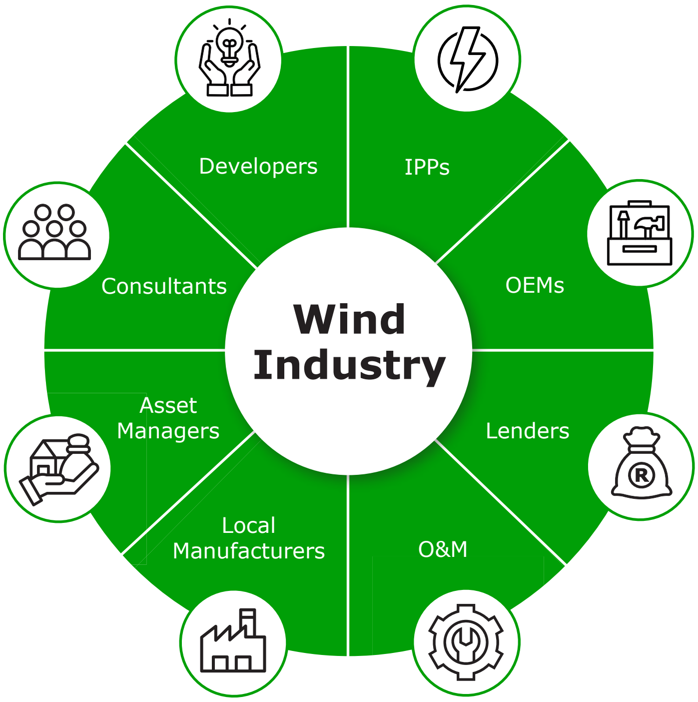
- Geographic diversification beyond the Cape provinces.
- Hybridisation of wind with battery energy storage systems (BESS).
- Emergence of a Wholesale Electricity Market (SAWEM) to support multi-buyer, multi-seller trading.
- Increased role for municipalities as offtakers and procurers.

South Africa's wind energy market structure reflects a transition from centralised procurement to a dynamic, multi-actor ecosystem. The public sector continues to play a strong enabling role, but the growth of private procurement, regulatory innovation, and investor interest is fundamentally reshaping the landscape.

With continued grid development, predictable procurement pipelines, and reform-driven liberalisation, South Africa is positioned to lead the continent not only in capacity but in the sophistication of its wind energy market structure.

Industry Players: Market Leaders

A key feature of a mature and growing energy sector is the presence of well-established market leaders who drive innovation, investment, and operational excellence. In South Africa, the rapid scale-up of wind energy has attracted a dynamic ecosystem of actors – ranging from global turbine manufacturers and experienced IPPs to agile local developers and forward-looking financiers. These entities are not only central to the deployment of projects but also to the broader transformation of the electricity sector.



This section provides an overview of the most influential players in South Africa's wind energy value chain. By identifying leading Original Equipment Manufacturers (OEMs), Independent Power Producers (IPPs), project developers, and financial institutions, the report offers a clear view of who is shaping the sector's present and future. Understanding the roles and market share of these key participants is essential for anyone looking to invest in, partner with, or regulate the wind industry in South Africa.

Beyond market presence, these organisations also reflect strategic priorities – localisation, socio-economic development, and technical advancement – that underpin South Africa's just energy transition. As the industry moves toward scale and complexity, the leadership of these actors will be critical in ensuring the sector remains competitive, inclusive, and sustainable.

Original Equipment Manufacturers (OEMs)

OEMs are responsible for designing, manufacturing, and supplying wind turbines and related components. Their technology choices directly impact the efficiency, reliability, and cost-effectiveness of wind projects. Leading OEMs include:

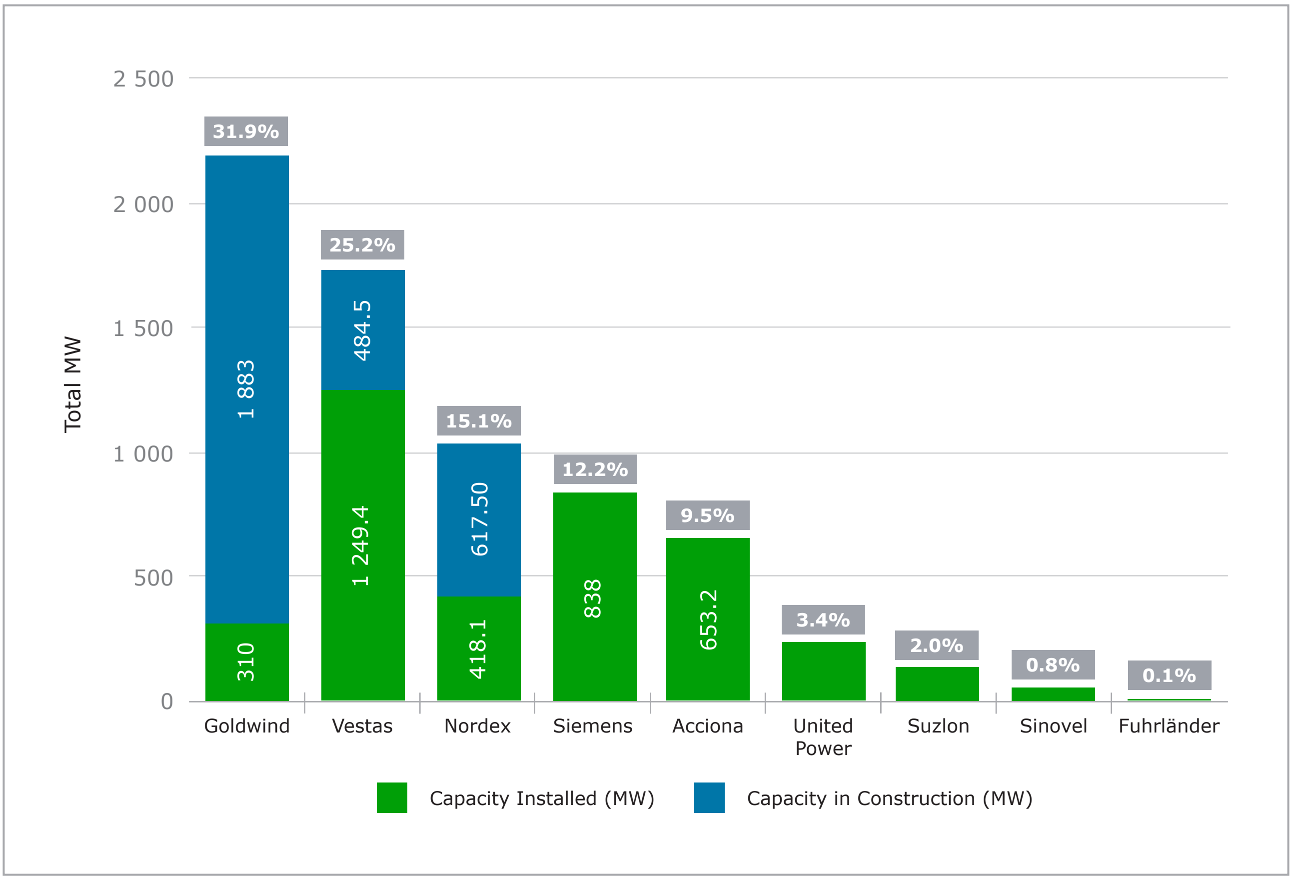


FIGURE 18 Wind Turbine OEM Capacity and Market Share in SA

Local Manufacturers in South Africa

South Africa has attempted to develop the local manufacturing capabilities for wind energy, particularly through the stringent local content requirements in the REIPPPP. Due to policy uncertainty and market challenges, the wind sector's local capabilities – although once set up – have decreased and has since limited manufacturing capacity development in the country. While concrete and steel tower manufacturing facilities lead the local supply chain, there are established and growing concerns in balance of plant components and services required by wind farms. GRI Towers South Africa, located in Cape Town, and Nordex Energy South Africa's manufacturing facility in Jeffreys Bay are examples of local manufacturing enterprises supporting the country's wind energy value chain.

The table below shows a list of components and key equipment of a wind energy facility that are manufactured locally as well as their suppliers. This list is not exhaustive and is merely the list of manufacturers that SAWEA is aware of.

Transformers	Towers	Cables	Primary Steel	Tower Internals	Fasteners
Zest WEG	GRI Towers	CBI African Cables	ArcelorMittal South Africa	Modetech	SA Bolt Manufacturers
ACTOM Power Transformers	Concrete Units	M-tech	SCAW Metals		
Powertech Transformers	Nordex/WBHO Copperton	Aberdare			
SGB-SMIT POWER MATLA	*Colossus				
Matlakse					

FIGURE 19 Local Manufacturers in the Wind Energy Value Chain

**Feasibility studies underway to establish a concrete tower manufacturing facility.*

Independent Power Producers (IPPs)

An IPP is a privately owned entity that usually owns, finances, builds, and operates power generation facilities to produce electricity for sale to an offtaker (in South Africa typically Eskom and more recently a private offtaker or Trader). IPPs assume commercial and operational responsibility for the generation asset over its lifespan and derive revenue primarily from the sale of electricity. Below we have listed IPPs who have shareholding in the existing fleet of wind farms – for this exercise, we have excluded community trusts and financial institutions.

Considerations for reading this table:

- Shareholders are typically regarded as IPPs hence the table illustrates all shareholders which have equity in wind farms (except community trusts and investment funds which are typically excluded)
- The table reflect the involvement of an IPP in a project (total capacity) not percentage ownership.
- There are multiple shareholders per project hence a project may be counted towards multiple IPPs.
- Private offtake projects and RMIPPPP hybrid projects with wind components have been included in this table.

Independent Power Producer	No. Projects Involved In (Capacity in MW)		
	Operational	Under Construction	Total
H1 Holdings	8 (1080)	3 (420)	11 (1500)
Enel Green Power SA	7 (891.6)	3 (330)	10 (1221.6)
Pele Green Energy	7 (883.6)	2 (287.5)	9 (1171.1)
Red Rocket Energy	3 (420)	4 (567)	7 (987)
EDF Renewables	4 (136.8)	6 (770)	10 (906.8)
Reatile	3 (182)	5 (649)	8 (831)
EIMS Africa	4 (358)	3 (420)	7 (778)
Thebe Investment Corporation	6 (639.7)	–	6 (639.7)
Infinity Power	5 (600)	–	5 (600)
Seriti Green	–	3 (465)	3 (465)
Venn Energy	–	3 (465)	3 (465)
Gibb-Crede	–	3 (420)	3 (420)
Mulilo	2 (235.4)	1 (140)	3 (375.4)
Jade Sky	2 (280)	1 (84)	3 (364)
Cennergi	2 (224)	1 (112)	3 (336)
Engie	3 (246)	1 (86)	4 (332)
Envusa	–	2 (287.5)	2 (287.5)
Arep	2 (245)	–	2 (245)
Longyuan Renewables	2 (235.4)	–	2 (235.4)
G7 Energies	–	2 (198)	2 (198)

Independent Power Producer	No. Projects Involved In (Capacity in MW)		
	Operational	Under Construction	Total
Globeleq	2 (164.2)	–	2 (164.2)
Perpetua Energy	–	2 (149)	2 (149)
Total Energies	–	1 (140)	1 (140)
Acciona Energia	1 (135.2)	–	1 (135.2)
Celanex (Pty) Ltd	1 (135.2)	–	1 (135.2)
Soul City Broad Based Empowerment Company	1 (135.2)	–	1 (135.2)
Matselo Energy 8 (Pty) Ltd	1 (120)	–	1 (120)
Okovango Biology SA (Pty) Ltd	1 (120)	–	1 (120)
Elawan Energy	1 (102)	–	1 (102)
Dorper Wind Farm Pty (Ltd)	1 (97)	–	1 (97)
Sumitomo Corporation Africa Pty Ltd	1 (97)	–	1 (97)
NOA Group	–	1 (94.5)	1 (94.5)
KTH Pty (Ltd)	1 (94)	–	1 (94)
Meadows Energy	–	1 (86)	1 (86)
Kouga Wind Farm Pty (Ltd)	1 (80)	–	1 (80)
Noblesfontein Pty (Ltd)	1 (73.8)	–	1 (73.8)
Metro Wind van Stadens Wind Farm Pty (Ltd)	1 (27)	–	1 (27)
African Pioneer Energy	1 (27)	–	1 (27)
TEWA Power	1 (27)	–	1 (27)
Spilled Water Renewable Energy (SWRE)	1 (27)	–	1 (27)
Overberg Wind Power (Pty) Ltd	1 (26.2)	–	1 (26.2)
Doricap (RF) (Pty) Ltd	1 (26.2)	–	1 (26.2)
Enertrag	1 (5.2)	–	1 (5.2)

Project Developers

While project developers are often responsible for originating, designing, and developing renewable energy projects – and this includes site identification, permitting, and securing financial closure, they may not always own or operate the final asset. Developers can transfer or sell a project at any stage of development to an IPP or investor who then proceeds to finance, construct, and operate the facility. Many of the IPPs listed above may also have project development capabilities. The list below are additional wind energy project developers with vested interests in South Africa.

Engineering, Procurement and Construction (EPC)

EPC companies are usually responsible for the design, supply, and construction of renewable energy projects. They deliver the project from detailed engineering and equipment procurement through to installation, commissioning, and handover to the owner or operator. In the renewable energy value chain, EPCs play a critical role in turning project designs into operational assets, ensuring technical quality, cost control, and timely delivery.

Several Wind OEMs also serve as EPCs in the sector including Vestas, Siemens Gamesa, Nordex and Goldwind. There are also non-OEM companies which take up the entire EPC contract or part of it. Certain companies will take up only construction or balance of plant (BOP) related activities such as Consolidated Power Projects and WBHO.

Asset Managers

Asset managers oversee the operational, financial, and contractual performance of renewable energy projects once they are operational. Their role includes monitoring energy production, managing revenues and expenses, ensuring compliance with PPAs, coordinating maintenance activities, and optimising the asset's long-term value and returns for owners or investors.

Many IPPs such as Enel Green Power, EDF Renewables and Engie usually retain the role of asset management though there are specialist asset managers such as Mainstream Asset Management SA (MAMSA) and Greenstreet Management Services which manage many of the wind projects in South Africa.

Operations and Maintenance (O&M)

O&M service providers are responsible for the day-to-day operation, performance monitoring, and upkeep of renewable energy assets after commissioning. Their services include routine inspections, repairs, equipment servicing, and performance optimisation to ensure the plant operates safely, efficiently, and at maximum availability throughout its lifecycle.

To retain the OEM warranties, many of the wind turbine OEMs will sign O&M contracts with the wind farms for a significant proportion of the duration of the PPA. In addition, many of the IPPs have also trained their own O&M teams. Other O&M companies include Rubicept, Swire Renewable Energy and TÜV SÜD South Africa.

Financial Institutions

Financial institutions provide the necessary capital for the development and construction of wind energy projects. Their involvement is critical for project viability and success. Many of the financiers are commercial and corporate banks with several other development bank funders being involved in the wind energy market. Wind facilities are not typically financed by a single entity, but rather a combination of financing structures from the different commercial banks like Absa, Nedbank, Standard Bank and Rand Merchant Bank.

Developmental financing is usually combined with the financial instruments from commercial sources to support job creation, key development banks include Development Bank of Southern Africa (DBSA) and the Industrial Development Corporation (IDC).

Key Market Challenges

While South Africa's wind energy sector has demonstrated some growth and resilience, its continued expansion is not guaranteed. Several critical challenges – both longstanding and emerging – threaten to constrain development, delay project execution, and undermine investor confidence. These challenges exist across the project lifecycle, from planning and procurement through to grid connection and operations. Recognising and addressing these barriers is essential to maintain the sector's momentum and realise its full contribution to a secure, affordable, and sustainable electricity system.

Grid Infrastructure Constraints

One of the most pressing challenges facing the wind industry is the limited availability of transmission grid capacity, particularly in high-resource areas such as the Eastern, Northern and Western Cape. Inadequate investment in transmission infrastructure over the past decade has led to congestion and bottlenecks, resulting in no new wind projects being allocated in REIPPPP Bid Window 6 despite competitive bids. The current grid build-out pace is not aligned with renewable energy procurement targets and threatens to stall future growth.

Regulatory and Permitting Delays

Wind energy developers often face lengthy and complex permitting processes, including environmental impact assessments (EIAs), land-use approvals, and grid connection agreements. These regulatory hurdles can introduce multi-year delays and create uncertainty for investors. While progress has been made through the development of the Batched Generation Connection Framework (BGCF), formerly referred to as the Gated Generator Connection Process (GGCP), the Strategic Infrastructure Projects (SIP) programme, and the establishment of the Energy One Stop Shop (Energy OSS); the permitting environment remains fragmented and slow-moving.

Unpredictable Procurement Schedules

The success of the REIPPPP has been undermined at times by irregular procurement timelines and policy inertia, most notably between 2015 and 2021 (see figure 13 on page 29) when no new capacity was procured. These gaps weaken supply chain continuity, disrupt project pipelines, and erode confidence among developers and financiers. The absence of a published, binding long-term procurement schedule remains a major risk to project planning and industrial development.

Supply Chain and Logistics

South African ports, particularly Coega (Eastern Cape) and Saldanha (Western Cape), serve as primary entry points for imported wind turbine components. However, these ports often face congestion, customs clearance delays, and insufficient handling capacity for abnormal or oversized loads. Delays at the port level can cascade through the entire supply chain and potentially increase storage fees, demurrage costs, and project lead times. Supply chain and logistics challenges are further exacerbated by the lack of integrated planning and coordination between the wind energy sector, transport authorities, and port operators, which has led to systemic inefficiencies across the logistics chain.

Land and Spatial Planning Challenges

As wind energy scales up, land availability and land-use conflicts are becoming more prominent. Wind projects must compete with agriculture, conservation, mining, and urban development interests, often within jurisdictions that lack integrated spatial energy planning. This has resulted in project rejections or delays, especially in areas where local government capacity is limited or traditional authority systems are in place.

Skills Gaps and Workforce Development

Despite efforts to build local expertise, the sector still faces a shortage of skilled professionals in key technical areas such as turbine operation and maintenance, grid integration, and environmental compliance. This skills gap can delay project delivery and limit the long-term sustainability of community benefits and localisation.

Underdeveloped Local Manufacturing Base

Although localisation requirements are a central part of REIPPPP, the local manufacturing ecosystem for wind components remains limited. The absence of large-scale nacelle, and blade manufacturing plants means that most critical components are still imported, reducing the economic multiplier effects of new projects and making the sector vulnerable to global supply chain disruptions.

Financial Market Constraints

While the South African wind sector has attracted significant investment, macroeconomic conditions such as rising interest rates, currency volatility, and constrained liquidity can increase the cost of capital and affect project bankability. Smaller developers, community trusts, and emerging IPPs often struggle to access affordable finance under current market conditions.

Public Perception and Social Licence to Operate

Maintaining public support and securing social licence remains essential, particularly as new projects move into previously untouched regions. Misinformation, unmet expectations, or a lack of meaningful community engagement can lead to resistance or legal challenges, especially where socio-economic benefits are not clearly communicated or realised.

CHAPTER 5

OUTLOOK: SCALING WIND ENERGY

South Africa's wind energy sector stands at the threshold of transformative growth. With over 60 GW of wind capacity in various stages of development, the sector is poised to become one of the country's most significant contributors to energy security, economic development, and decarbonisation over the next two decades. The convergence of policy reform, infrastructure expansion, technological innovation, and market liberalisation is setting the stage for wind power to scale faster and more strategically than ever before.

SAREGS 2025 PIPELINE

WIND ONLY

Definition: Projects with only Wind
Capacity: 34 621 MW

WIND + BESS

Definition: Projects with Wind and battery storage
Capacity: 25 300 MW

WIND HYBRID

Definition: Projects with Wind + PV and/or Wind + PV + BESS
Capacity: 50 500 MW

At the heart of this evolving landscape are the insights from the 2025 South African Renewable Energy Grid Survey (SAREGS) – the fourth annual edition of this collaborative initiative by SAWEA, SAPVIA, and the NTCSA. Released in October 2025, the survey provides the most detailed snapshot yet of South Africa's renewable energy pipeline, with a particular focus on grid integration, battery storage, and project readiness. **The latest edition of the survey outlines over 220 GW of renewable and hybrid projects in the pipeline.**

SAREGS 2025 showed an overall shift to hybrid projects accounting for 50% of the total survey result. From the total 110 GW of hybrid projects in the pipeline, 75.8 GW have a wind component. It is unclear how much is actually wind energy.

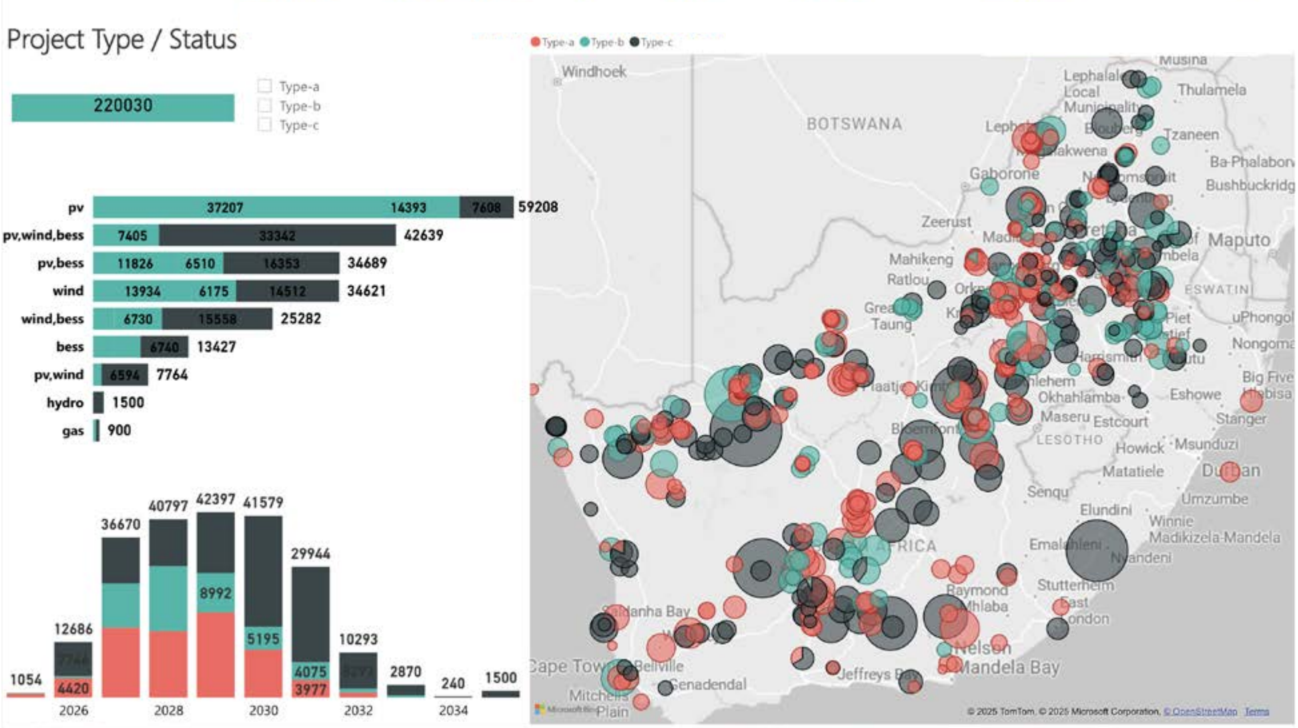


FIGURE 20 SAREGS 2025 Overall Project Pipeline

For wind energy, the pipeline includes 34.6 GW of wind only projects, 25.3 GW of wind with battery storage and 50.5 GW of hybrid projects including some level of wind power. Whilst most projects are still clustered in the Cape region, there has been a geographical diversification of projects into the northern areas of the country, predominantly into Mpumalanga in the short term. Hybrid projects and BESS projects are increasingly being concentrated in new regions such as KwaZulu-Natal and the northern zones of the Eastern Cape. This reflects an industry-wide effort to work around grid constraints in the historically saturated corridors with BESS also being used to flatten out the power delivery profile and provide ancillary services to the System Operator.

The figures below also show a surge in projects expected to connect to the grid from 2028–2031 should grid capacity be available hence the implementation of such a large number of projects will require industry to scale up readiness.

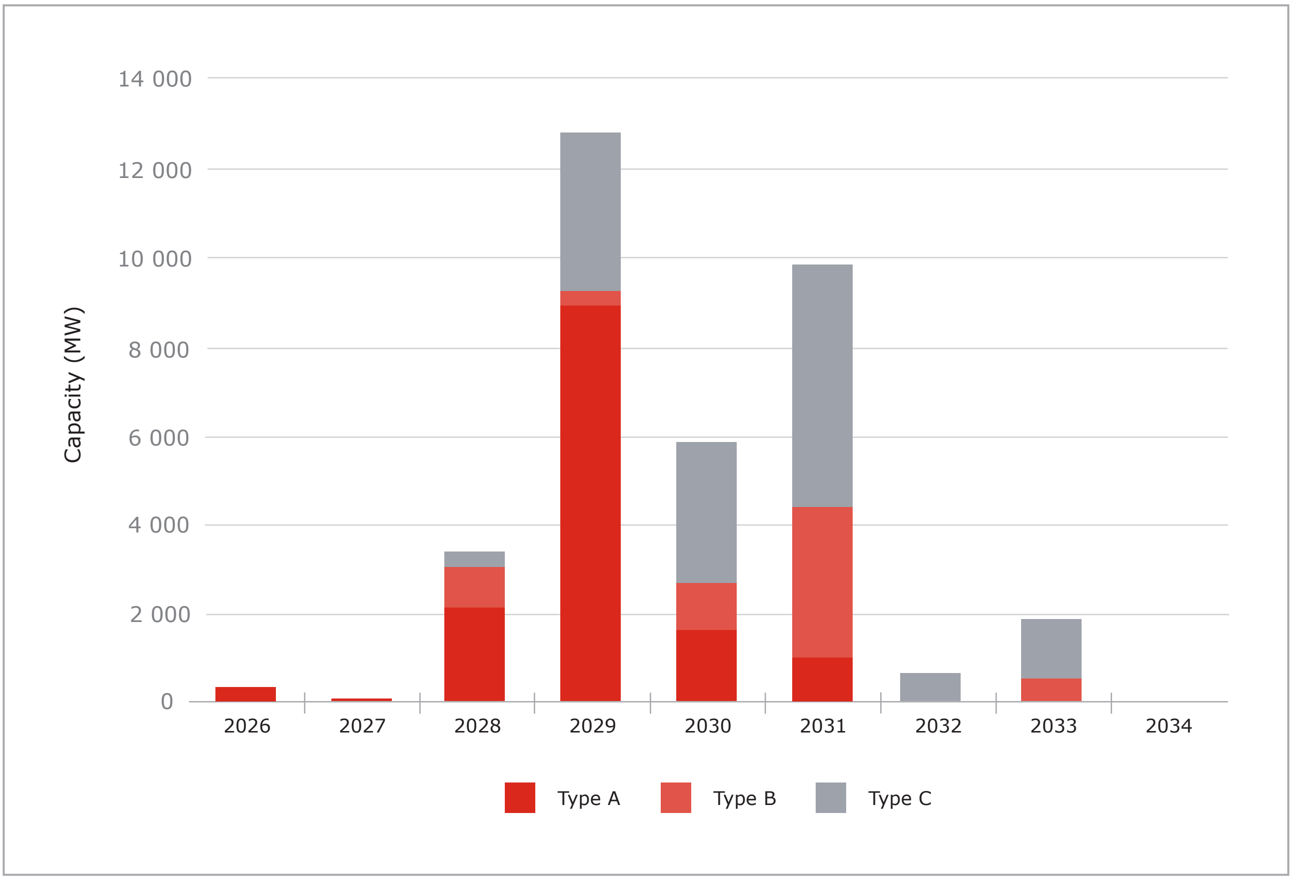


FIGURE 21 SAREGS 2025 Wind Projects

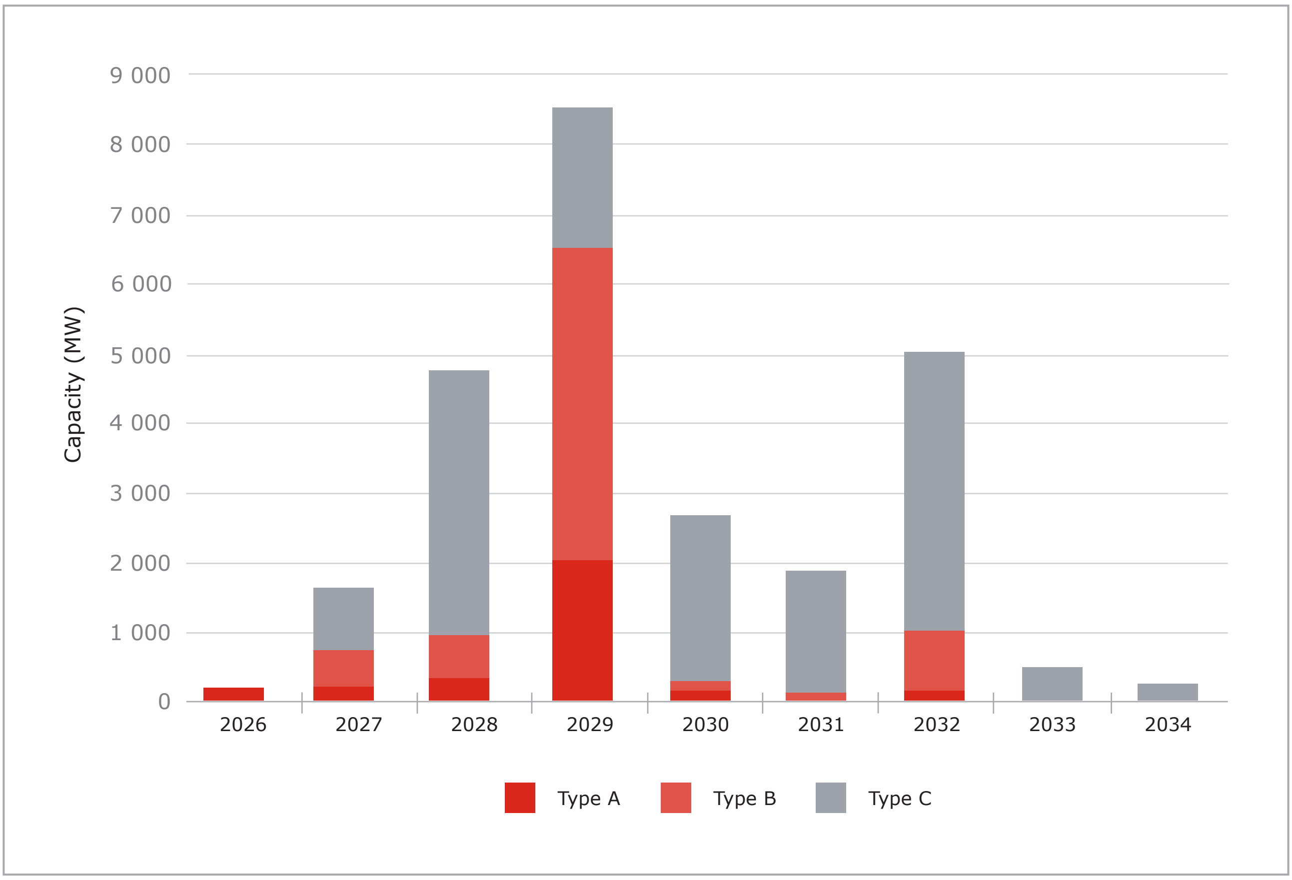


FIGURE 22 SAREGS 2025 Wind and BESS Projects

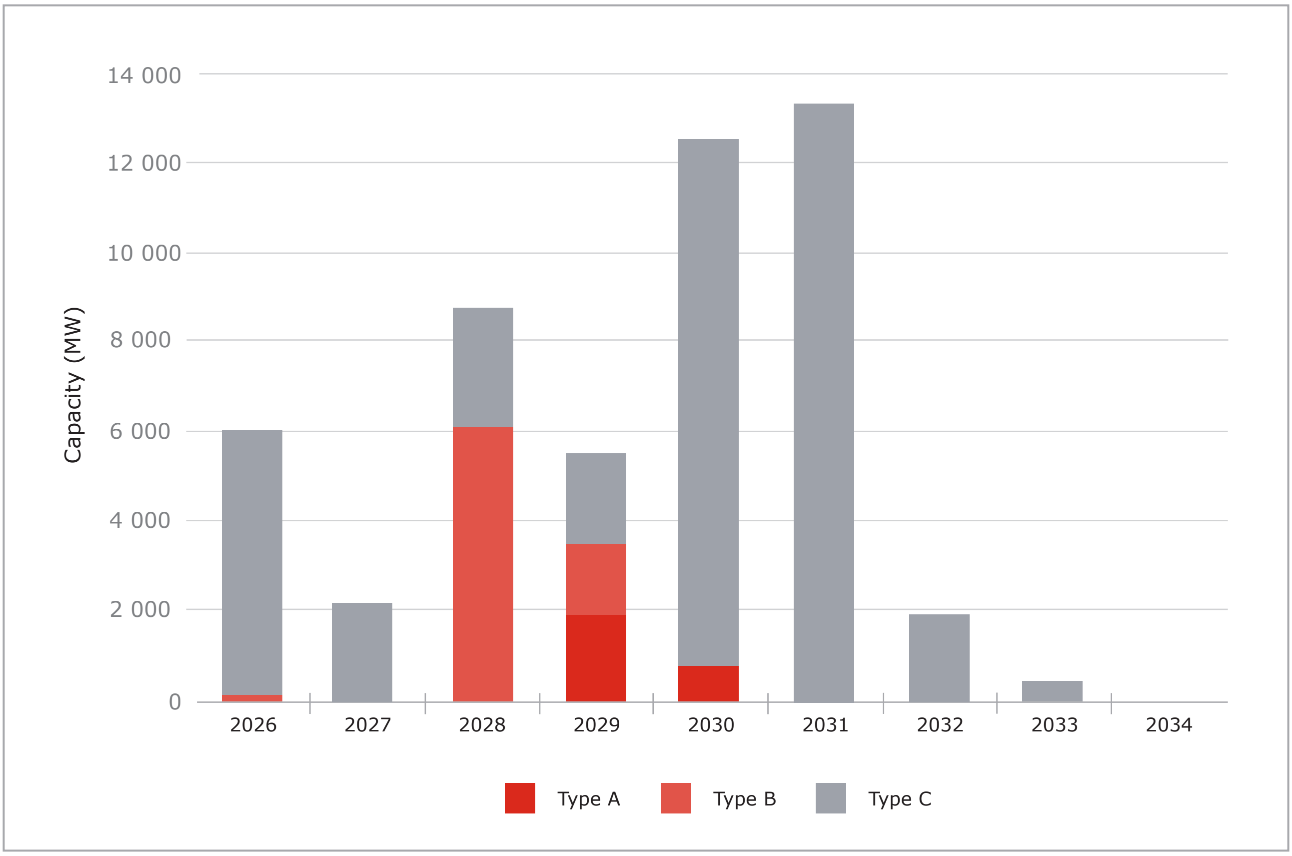


FIGURE 23 SAREGS 2025 Wind Hybrid Projects

This extensive pipeline, combined with emerging market mechanisms such as private PPAs and the anticipated launch of SAWEM, indicates that wind energy will play an increasingly central role in both public and private sector power procurement. The enabling policy environment is also aligning with investor sentiment and infrastructure planning to create a virtuous cycle of growth.

Looking to the 2030 horizon and beyond, wind energy is expected to meet multiple national priorities. The road ahead will not be easy with the various market challenges and recent failures. With robust policy support, a mature and growing pipeline, and strong private sector appetite, the wind sector is well-positioned to lead South Africa's energy transformation, providing clean, affordable, and inclusive power for generations to come.

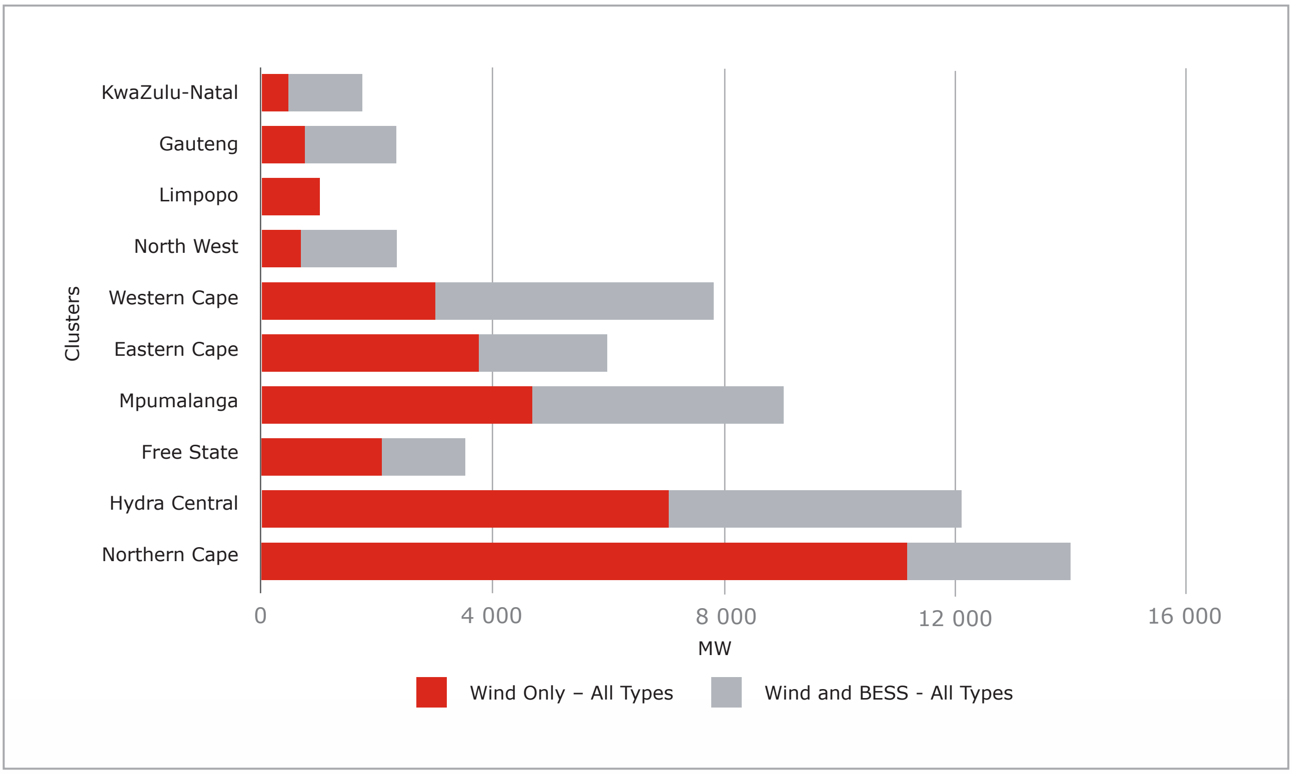


FIGURE 24 SAREGS 2025 Pure Wind, Wind + BESS, Wind Hybrid Projects per Province

With the introduction of Congestion Curtailment and Independent Transmission Projects (ITPs), many of the stranded projects which were being developed in the historically grid constrained regions may have access to the grid sooner than contemplated in the Transmission Development Plan (TDP). The project pipeline illustrated in SAREGS is being used to assist in identifying hotspots for skills planning as well as part of the implementation of the South African Renewable Energy Masterplan (SAREM).

NERSA Registered Projects

The NERSA-registered capacity data offers insights into the private generation landscape, including the number, type, location, and capacity of licensed facilities. While solar PV currently accounts for majority of the new registrations, the data is also critical for understanding the scale and growth of wind generation, regional deployment trends, and investment patterns.

As of October 2025, NERSA reported 16.5 GW of registered projects and wind energy accounts for 28% of them. There registered projects, generally for distributed generation, include wind, solar PV, gas, hydro, co-generation, biogas, BESS, bagasse and coal projects. Investors, developers, and policymakers can use the data to gauge market opportunities, anticipate integration challenges, and monitor the evolving competitive landscape in South Africa's renewable energy sector.

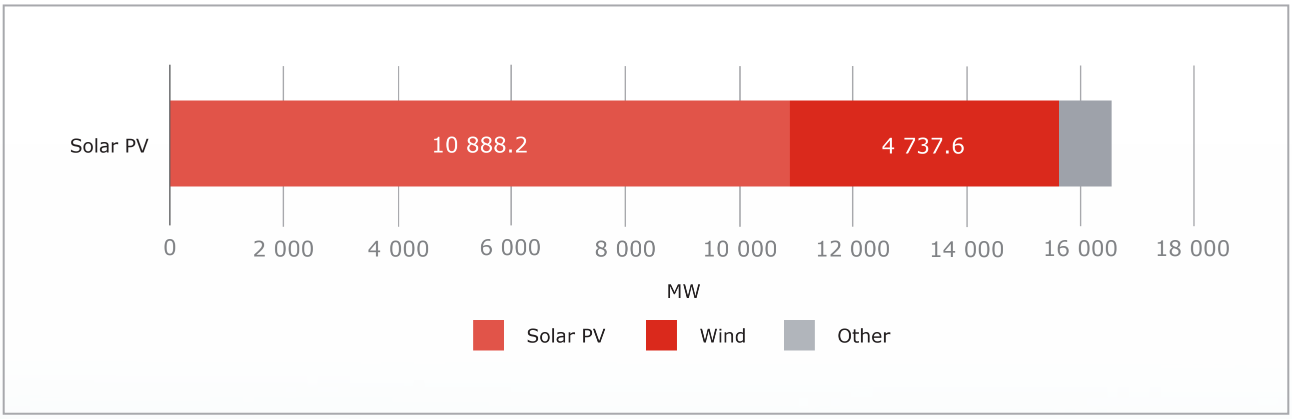


FIGURE 25 NERSA Electricity Registration Data, up to October 2025

South Africa in the Global Context

Understanding how South Africa's wind energy sector compares globally is critical to evaluating its competitiveness, maturity, and role within the broader energy transition. While South Africa is not among the top global wind energy producers by installed capacity, it punches well above its weight in several key areas: policy innovation, cost competitiveness, and socio-economic impact. These factors have made South Africa a reference case for other emerging markets and a standout performer on the African continent.

Global Ranking

As of February 2025, South Africa ranked within the top 30 countries globally for installed wind capacity, with just over 3.8 GW online as per the Global Energy Monitor. This is modest in absolute terms when compared with leading global markets. South Africa remains the largest wind market in sub-Saharan Africa, and one of the fastest growing among developing economies. Below figures indicating South Africa's position compared to the top countries, by installed capacity:

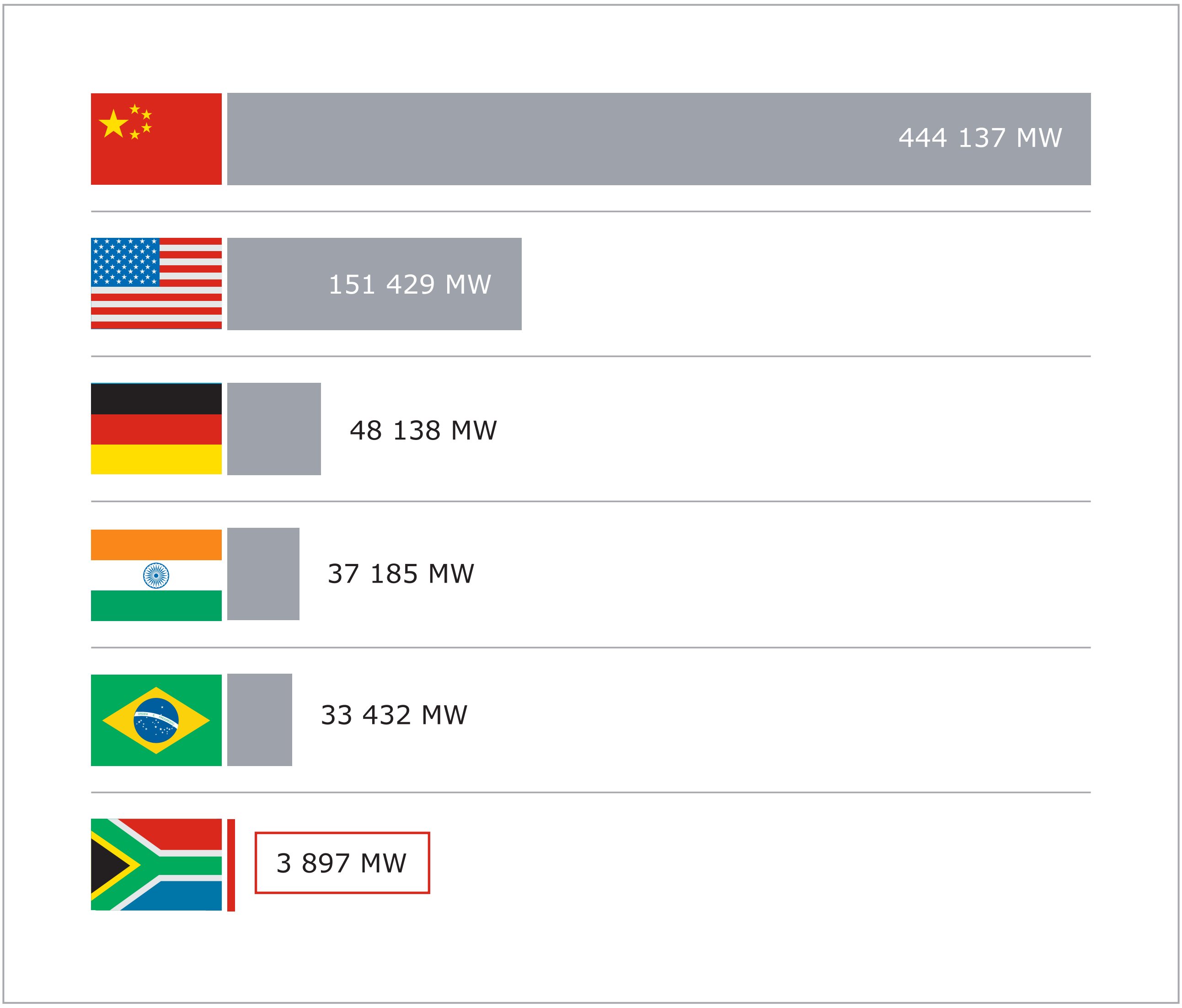


FIGURE 26 Global Leaders in Installed Wind Capacity (and SA)

South Africa: Continental Leader in Wind Energy

South Africa stands at the forefront of Africa's transition to renewable energy, not only leading in installed capacity but also setting benchmarks in policy innovation, investment mobilisation, and socio-economic integration. While other nations like Egypt, Morocco, and Kenya are making significant strides, South Africa's comprehensive approach positions it as a continental leader in wind energy deployment.

South Africa accounts for over 30% of the continent's total installed wind energy capacity with a significant future pipeline. South Africa's leadership in wind energy serves as a model for other African nations, demonstrating how comprehensive policy frameworks, investment in infrastructure, and community engagement can drive the successful integration of wind into the energy mix. As the continent continues to embrace renewable energy, collaboration and knowledge sharing will be key to realising Africa's vast wind energy potential.

While Egypt, Morocco, and Kenya have emerged as frontrunners respectively in wind energy development, following South Africa's lead as of end October 2025, other African nations – including Ethiopia, Senegal, Tunisia, Nigeria, and Tanzania – are progressing at various stages. Despite Africa's immense technical wind potential exceeding 59 TW, only a fraction has been tapped – highlighting both the opportunity and the urgent need for coordinated investment, policy support, and infrastructure expansion.

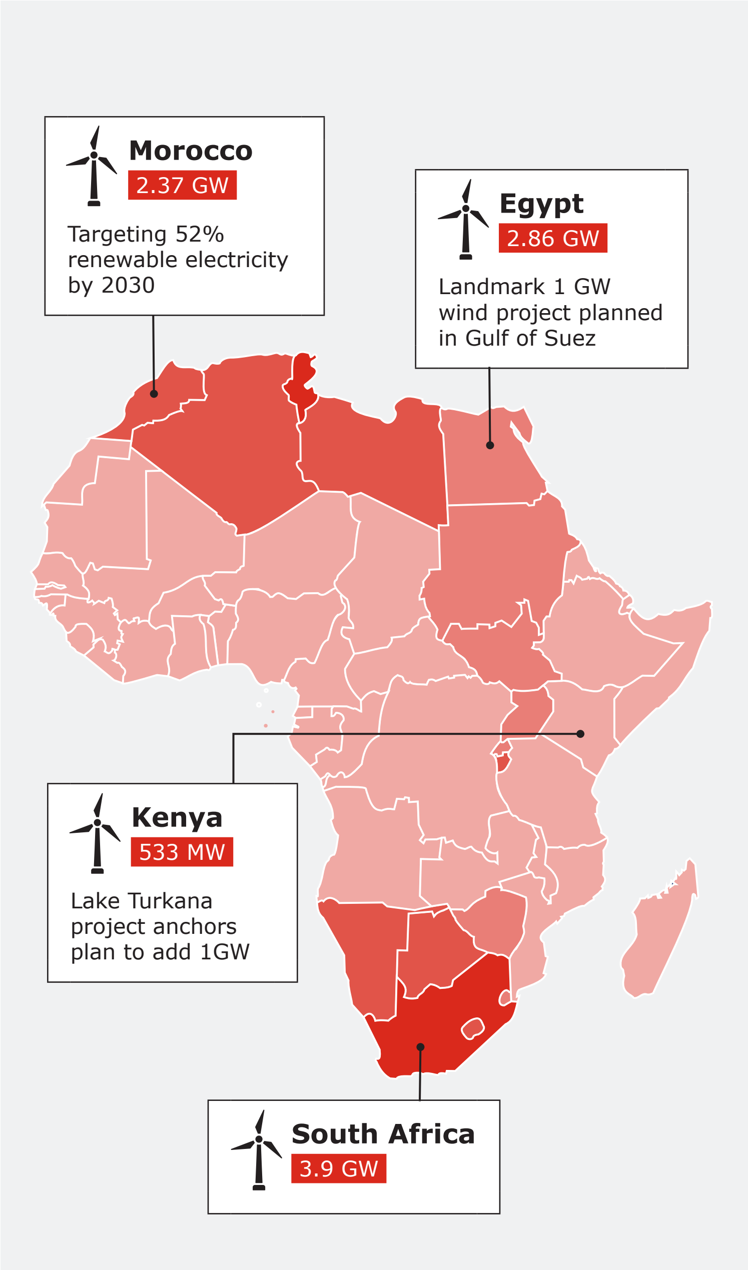
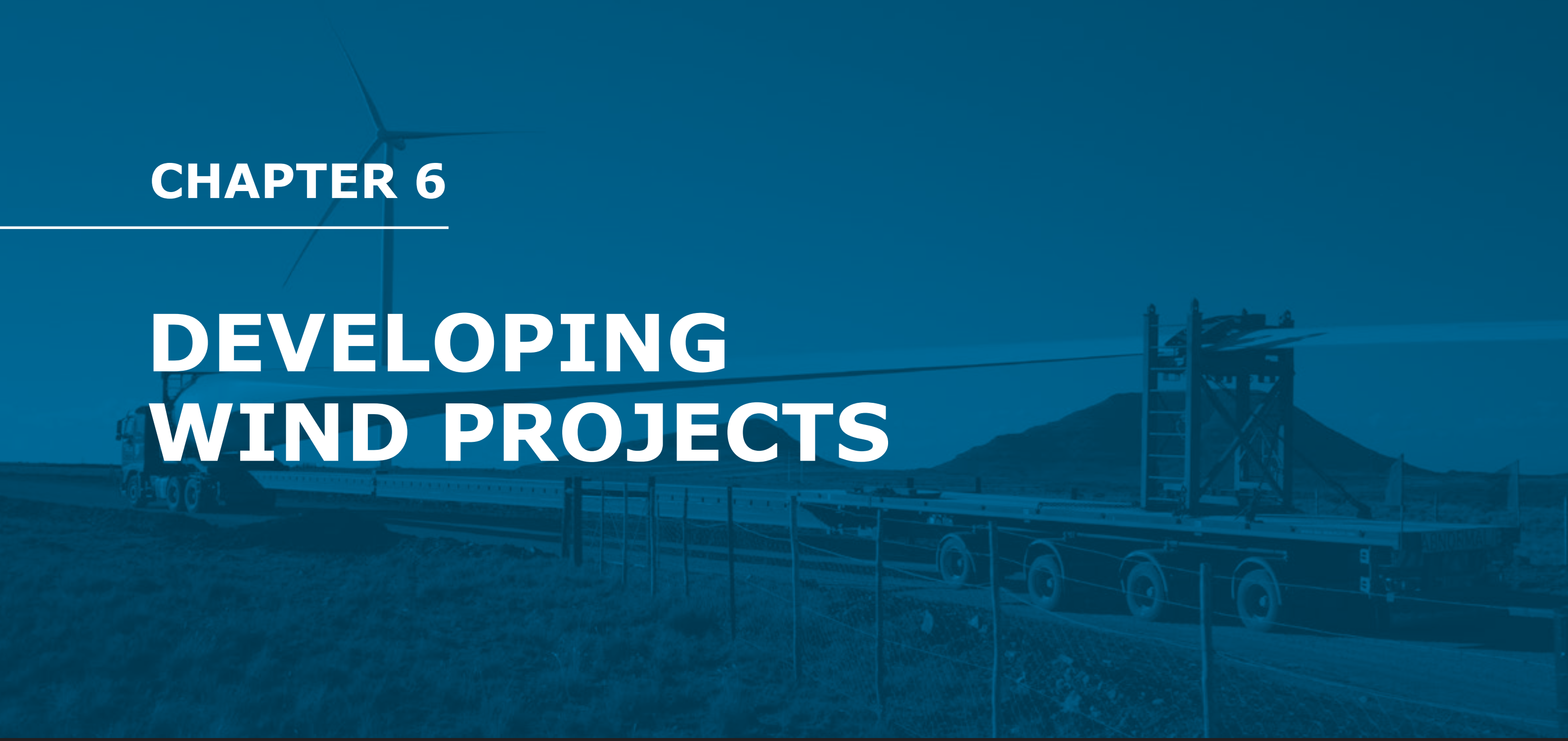


FIGURE 27 Africa's Installed Wind Capacity 2025



CHAPTER 6

DEVELOPING WIND PROJECTS

South Africa's wind energy sector is entering a pivotal phase of accelerated growth, with installed capacity forecasted to rise between 2024 and 2035.

This chapter is a high-level summary of the Wind Energy Project Development Guidelines, as released by SAWEA at Windaba 2025 which provides a more detailed and structure approach to project development and its key considerations.

Development Process

The development process for wind projects in South Africa involves several key aspects and can take approximately 18 to 24 months or longer depending on the obstacles identified on site. A high-level diagram outlining the development process is provided below:

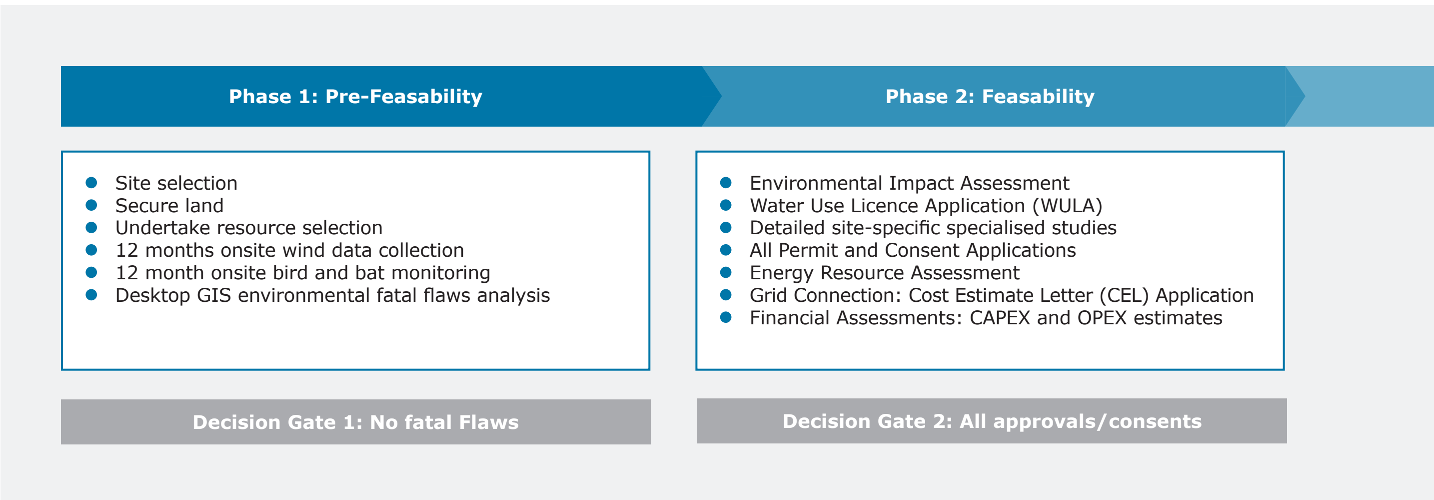


FIGURE 28 Wind Energy Project Development Process

Pre-Feasibility: Is the first step in the development process and allows developers to evaluate the technical, environmental, social and economic viability of a potential site prior to investing significantly more resources into development. This stage involves primarily desktop assessments which are data driven such as evaluating the wind resources, grid availability, land availability and environmental screening.

Additionally, risk identification and mitigation are key at this stage since depending on the developers' risk appetite, there may be challenges that are dealbreakers such as valid land claims, high environmental sensitivities, conflicting mineral rights, lack of grid connection or public pushback. Early applications for meteorological (met) masts can be submitted to the South African Civil Aviation Authority, as the data collected from these masts will inform the yield analysis during the project feasibility stage.

Phase 3: EPC Tender and Procurement

- Preliminary layouts for EPC RfP
- Preperation of employers requirements (Minimal functional specification)
- EPC tendering and evaluation
- Grid Connection: Budget Quote acceptance
- Financial modelling
- Project contracting
- Obtain Project Finance

Phase 4: Construction

- Risk allocation completed
- Financing drawdowns
- Logistics and civils commence
- Staff hiring
- Electrical works
- Grid code testing and commissioning – COD
- Handover to IPP at COD and activation of O&M contracts

Feasibility and Project Development: The bulk of project development occurs in this stage. Once a site has passed the pre-feasibility stage, more detailed investigations take place which will underpin the technical, financial, environmental and social viability and bankability of the project. Multiple specialists are appointed under each of these areas to conduct assessments and provide due diligence reports. Strategic engagement with key stakeholders such as landowners, communities, local authorities, regulators, financiers and offtakers should be conducted.

This stage also involves applying for all necessary permits and authorisations with the longest lead time items being applied for first.

Land is typically acquired with lease or servitude agreements. Technical surveys of the land such as topographical and geotechnical surveys are conducted by professionals with soil and rock samples collected and tested.

A full Environmental Impact Assessment (EIA) process is undertaken, and permit applications will be submitted to authorities. Site designs are developed together with detailed energy yield analysis using simulation and collection of site data from a met mast.

Grid connection designs must be created, grid impact studies done and applications for Cost Estimate Letters (CEL), and thereafter Budget Quotes (BQ), must be submitted to Eskom's Grid Access Unit according to the requirements of the Interim Grid Capacity Allocation Rules (IGCAR).

Deeper stakeholder engagement and community engagement also occur to inform the community of the potential upcoming project and set expectations for job opportunities, socio-economic development and community upliftment projects.

EPC Tendering, Procurement and Project Financing

This phase primarily involves securing and activating the necessary finance for a project, finalising due diligence processes, and signing the necessary contracts with contractors, financiers, suppliers and others to effectively allocate the risk for the project.

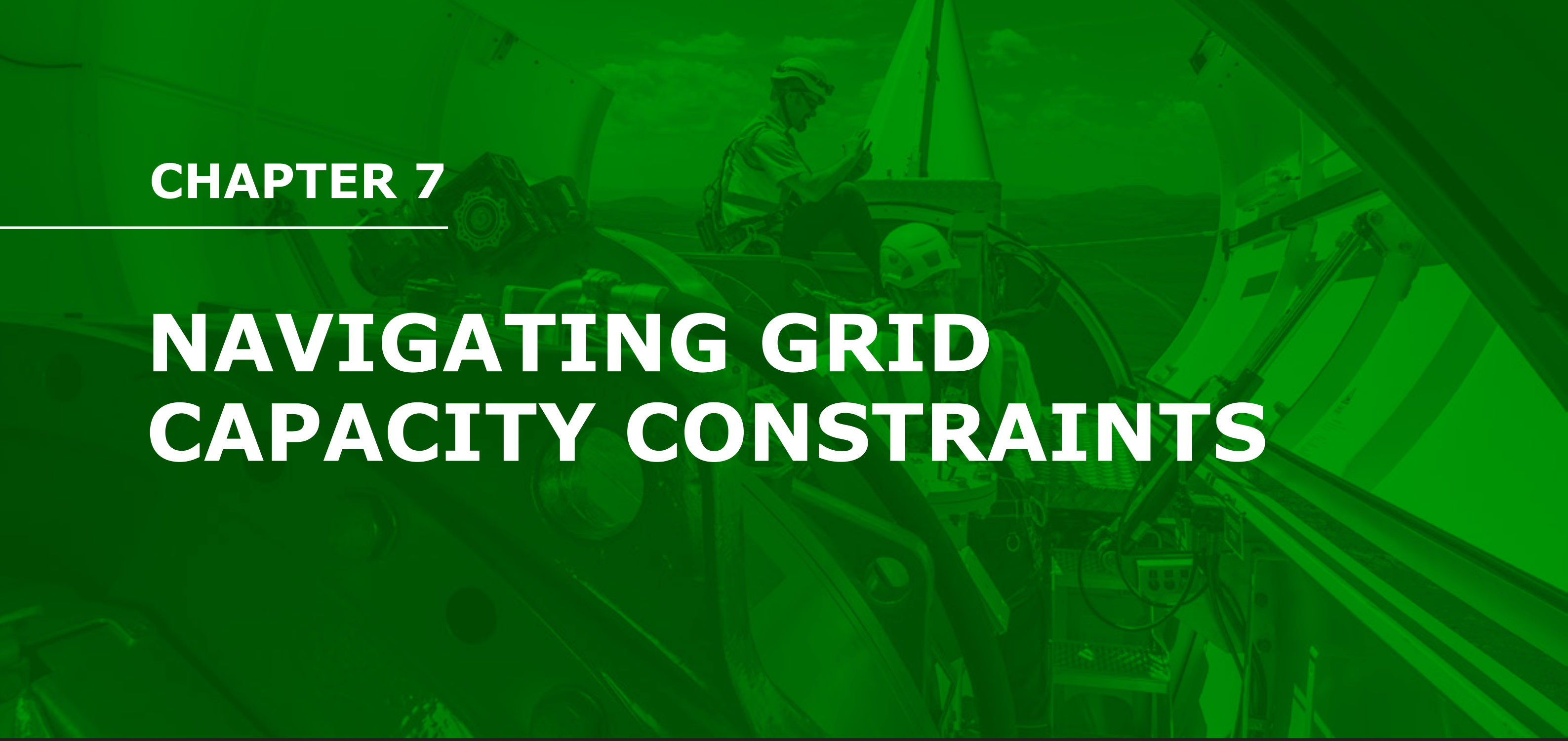
Additionally, offtakers can be selected and PPAs and wheeling agreements signed to effectively take the project to financial close. Following this stage, the project moves into the construction phase with all contracts being activated.

Construction: Once risks have been fully allocated through contractual agreements and the Notice to Proceed instruction is issued to the EPC contractor(s) by the developer, construction works begin. It is at this stage that financing drawdowns are activated, which allows for procurement and logistics to begin, staff to be hired and the commencement of civil works.

Electrical works will occur in tandem with civil works and turbines are commissioned in stages. Once all electrical infrastructure is completed, the plant is tested according to grid code requirements.

Construction is only regarded as complete once the Commercial Operation Date (COD) is reached, the site is fully connected to the grid and the plant is handed over the IPP/asset owner.

From this point forward, Operation and Maintenance contracts are activated as well as project commitments during operations such as socio-economic and enterprise development initiatives as well as conservation and operational phase avifaunal mitigation.



CHAPTER 7

NAVIGATING GRID CAPACITY CONSTRAINTS

As more utility-scale wind and solar projects reach completion, the ability to connect them to the national grid has become a major constraint. Grid congestion in renewable-rich provinces like the Eastern and Western Cape is slowing project rollouts, with Eskom's transmission infrastructure largely saturated in key zones. Unlocking further access will require significant investment, process reform, and improved coordination.

This section outlines the current grid capacity landscape – covering challenges, interim measures, and reforms to build a fair, transparent, and future-ready grid for South Africa's expanding wind energy sector.

Grid Capacity: Current Status

Grid connection capacity refers to the amount of generation that the national transmission system can accept at a given location and point in time without compromising reliability. The Eskom Grid Connection Capacity Assessment (GCCA) 2024, released in October 2023, shows that four of South Africa's ten transmission zones currently have zero available connection capacity. This includes prime wind resource areas like the Eastern and Western Cape, where grid capacity has been fully allocated due to prior REIPPPP rounds and private PPA projects.

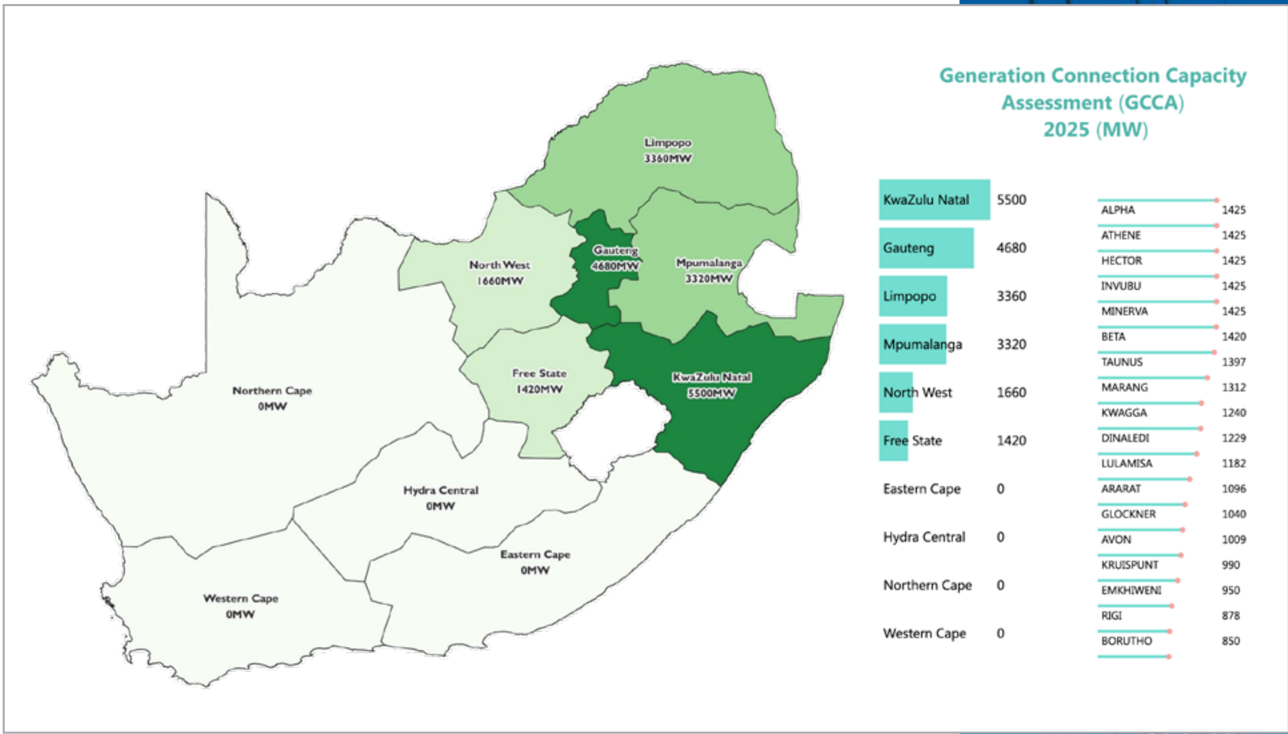


FIGURE 29 Eskom Grid Connection Capacity Assessment (GCCA) 2025.

A GCCA 2025 update published in October 2025 outlines the unlocked capacity through congestion curtailment following NERSA's approval of a 4% curtailment level. This has resulted in 1580 MW of additional grid connection capacity for wind projects being available with 1180 MW thereof in the Western Cape and 400 MW in the Eastern Cape.

Grid Capacity Allocation Processes

Applying for Grid access in South Africa follows a two-step process, with the initial step being the Cost Estimate Letter (CEL) as the first formal application, followed by a Budget Quote (BQ), to assess feasibility and secure connection capacity. The outline of the grid application process is provided in the figure below.

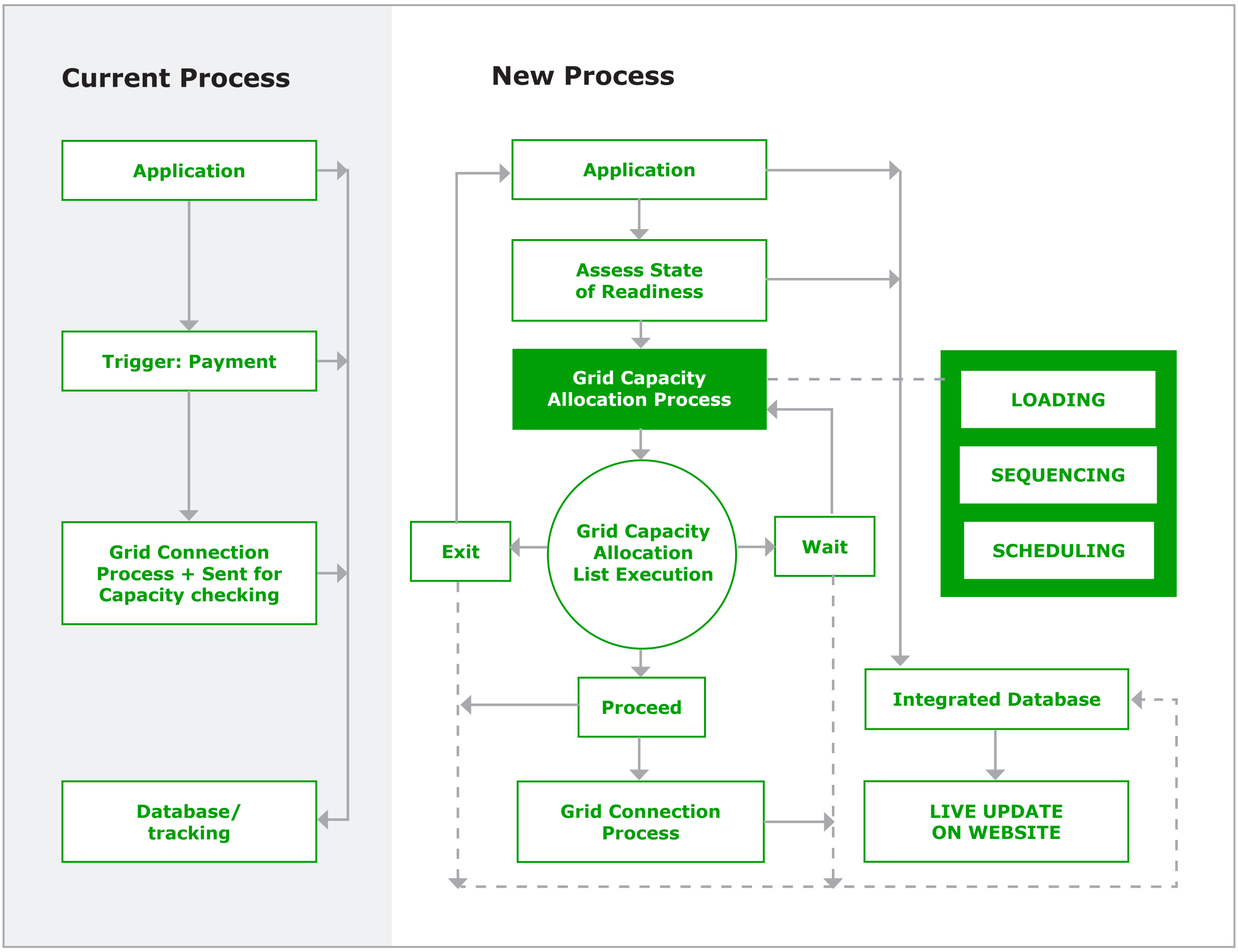


FIGURE 30 Eskom GAU Grid Application Process

Cost Estimate Letter Applications

The CEL is the initial formal application submitted to Eskom's Grid Access Unit. It provides a preliminary, high-level cost estimate of connecting a renewable energy project to the grid. The CEL assesses the technical viability of the proposed grid connection and provides indicative costs for basic planning.

Outcome: Eskom provides a non-binding cost estimate and indicates whether the grid can accommodate the proposed project at the chosen location.

Budget Quote Applications

If the CEL confirms viability and the project proceeds, the developer submits a Budget Quote (BQ) application. This is a detailed, binding quotation that provides the full technical scope, cost, and conditions of connection. The BQ establishes final technical design, timelines, and contractual costs for the grid connection.

Outcome: Eskom provides a binding connection offer valid for a limited time (typically 3–6 months) for acceptance.

Grid Capacity Allocation Reforms

To ensure that limited grid connection capacity is allocated equitably, efficiently, and to projects that are most ready to proceed, Eskom and the broader energy sector have initiated a suite of reforms aimed at reconfiguring the grid allocation process. These reforms seek to replace the legacy "first come, first served" model with a "first ready, first served" approach that prioritises project readiness, encourages transparency, and makes optimal use of limited grid capacity; to move towards fairness, readiness and transparency.

Interim Grid Capacity Allocation Rules (IGCAR)

To further address grid access bottlenecks, Eskom introduced the Interim Grid Capacity Allocation Rules (IGCAR) in 2023, shifting to a "first ready, first served" model that prioritises project maturity over application timing. Projects that fail to meet these within set timeframes risk losing reserved capacity, allowing more advanced projects to proceed. IGCAR is widely seen as a positive step toward a fairer, more efficient grid allocation process. Whilst these Rules have not been codified in regulation, they have been implemented by Eskom GAU for all applications since 2023. The implementation process for the IGCAR is presented in the figure from Eskom Grid Access Unit below.

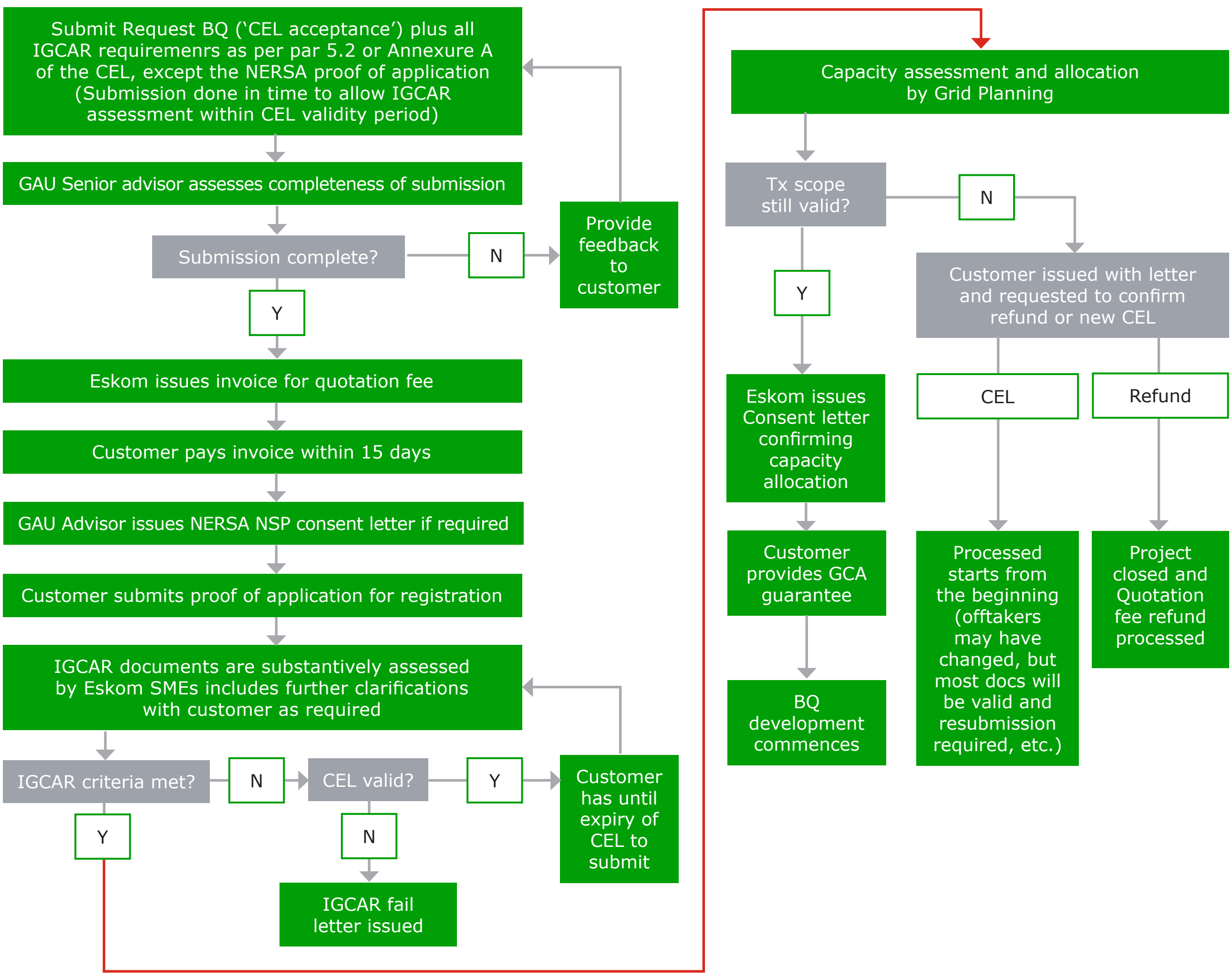


FIGURE 31 IGCAR BQ Assessment Process (Eskom GAU)

Proposed Batched Generation Connection Framework (BGCF)

Building on IGCAR, Eskom has proposed a more permanent and structured reform: the Batched Generator Connection Framework (BGCF), which evolved from the Gated Generator Connection Process (GGCP). This model intends to introduce a multi-stage review and approval system designed to synchronise generation readiness with the availability of grid infrastructure. The Proposed BGCF process is presented below though has not been approved nor implemented.

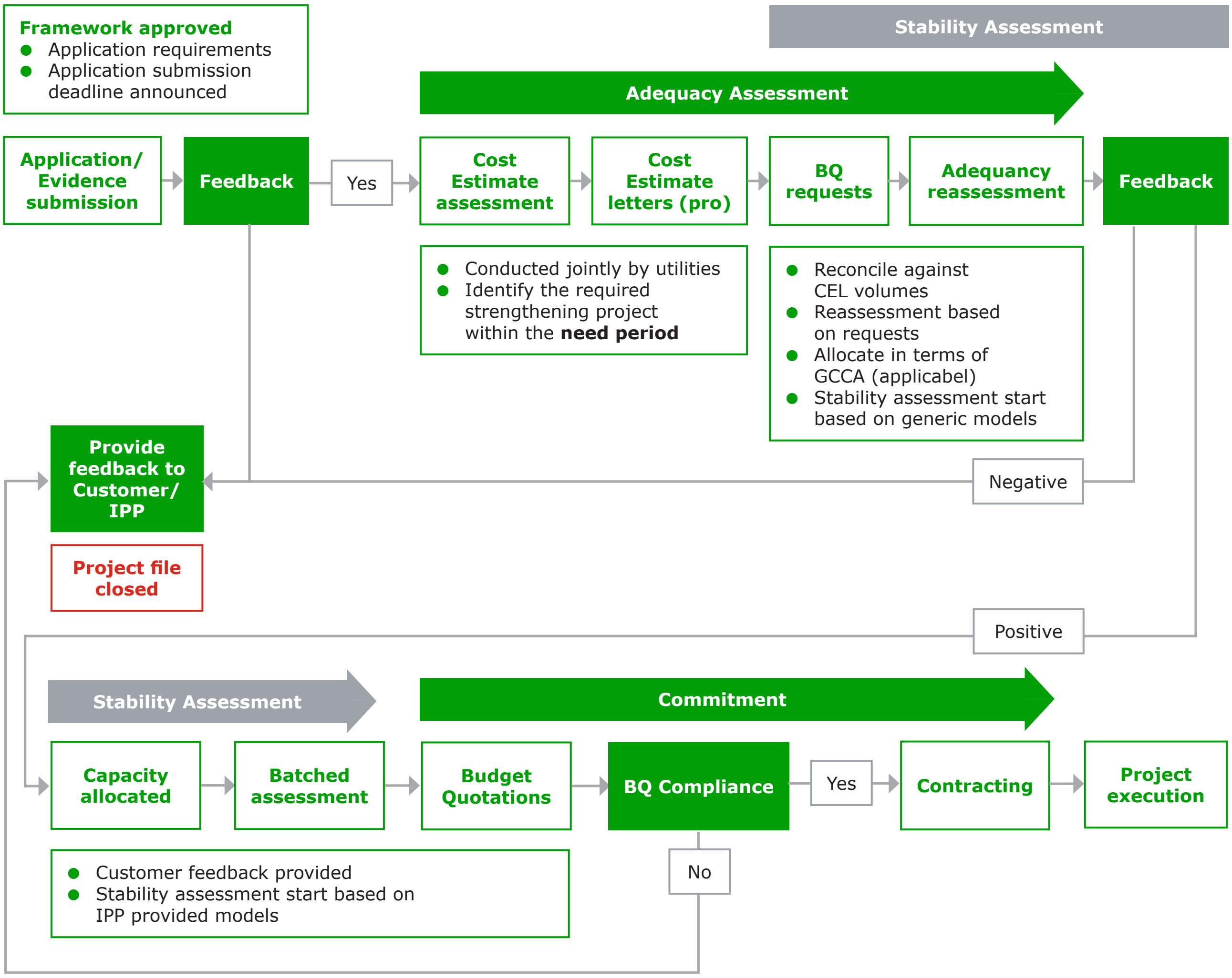


FIGURE 32 Proposed BGCF Process (NTCSA)

The Case for Transparent Grid Queue Management

A central demand from the private sector has been greater transparency in the grid allocation process. While IGCAR and BGCF will improve project prioritisation, developers still face uncertainty about:

- How many other projects are in the queue.
- What stage of readiness they have achieved.
- The actual available capacity at key substations.

To address this, Eskom and the NTCSA need to work towards improved public visibility into the grid allocation queue, potentially through a central registry of CELs and BQs with regular publication of queue statuses and project milestones and possibly integrated within a project dashboard.

Improved transparency is vital not only for fair competition but for better system planning, avoiding duplication, and increasing investor confidence. Through IGCAR and BGCF, Eskom is laying the groundwork for a more efficient, fair, and scalable approach to connecting renewable energy projects to the grid.

These reforms are not just bureaucratic improvements, they are essential enablers of the wind industry's growth. Without them, even the most cost-competitive, socially beneficial wind projects cannot reach the grid. But with them, South Africa can unlock the next wave of investment, innovation, and energy security.

Grid Expansion Planning

Expanding transmission infrastructure is not only a technical necessity but a strategic imperative for enabling energy security, economic competitiveness, climate ambition and one of the most critical priorities for sustaining the growth of the wind energy sector.

Grid expansion has evolved into a multi-layered strategy that combines short-term operational interventions with long-term infrastructure planning, alongside institutional and regulatory innovations to facilitate private investment in the grid.

Grid Access Status

From the 2025 IPP Conference, hosted by Eskom Distribution, some essential data has been shared. It is understood that 9.35 GW of installed capacity has been grid-connected, ~4GW attributed to wind energy. Roughly 305 GW of CELs have been issued, 72.3 GW of this for wind energy. Lastly, 22.52 GW of BQs have been issued of which 6.6 GW is attributed to wind energy.

Grid Connected	CELs Issued	BQs Issued
Total: 9.35 GW	Total: 305 GW	Total: 22.52 GW
Wind: ~4.00 GW	Wind: 72.3 GW	Wind: 6.6 GW

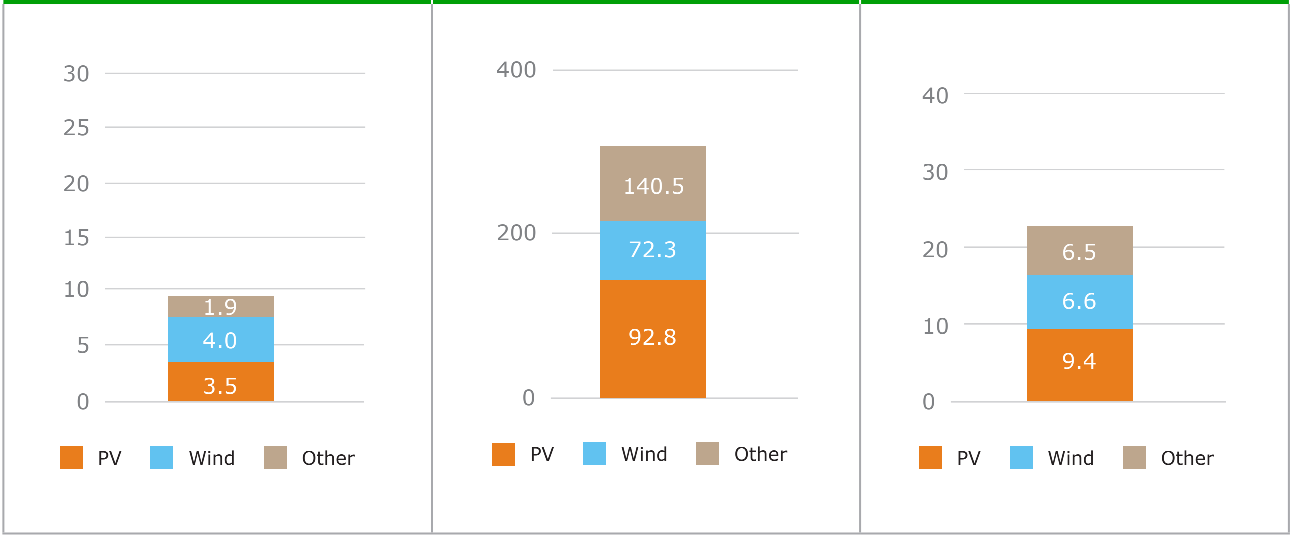


FIGURE 33 Grid Access Status – Eskom IPP Conference 2025

Short-Term Measures: Curtailment as a Strategic Grid Solution

In response to grid constraints, congestion curtailment (the controlled reduction of power output during network congestion) has emerged as a short-term measure to enable new generation in high-resource areas like the Eastern and Western Cape. Eskom's framework allows projects to connect to fully subscribed grid nodes, with curtailment applied as needed to maintain system reliability.

While curtailment poses revenue risks for IPPs, it offers faster grid access and addresses supply shortfalls. In a landmark decision on 29 April 2025, NERSA approved congestion curtailment as a constrained generation ancillary service, unlocking additional capacity exclusively for wind projects in constrained provinces.

This directly resulted in the GCCA 2025 Update: Integrating Congestion Curtailment Capacity document published in October 2025. This update outlines the capacity that will be unlocked through congestion curtailment following NERSA's approval of a 4% curtailment level.

This regulatory approval is a strategic win for the sector, signalling increased system flexibility and improved integration of renewables. Implementation will require close coordination, robust forecasting, and a clear cost recovery framework – but marks a welcome step forward in advancing South Africa's energy transition.

Medium–Long-Term Planning: The Transmission Development Plan (TDP)

The Transmission Development Plan (TDP) 2025–2034 outlines the national roadmap for building the grid backbone that will carry renewable energy into South Africa's demand centres for decades to come.

Key TDP Highlights:

- 14,200+ km of new high-voltage power lines (400 kv and 765 kV)
- 47 priority projects aimed at unlocking 37 GW of access
- 170 new transformers, adding over 105,000 MVA of capacity
- R122 billion in planned investment over the next 5 years
- System reinforcements concentrated in renewable-rich provinces and key economic corridors

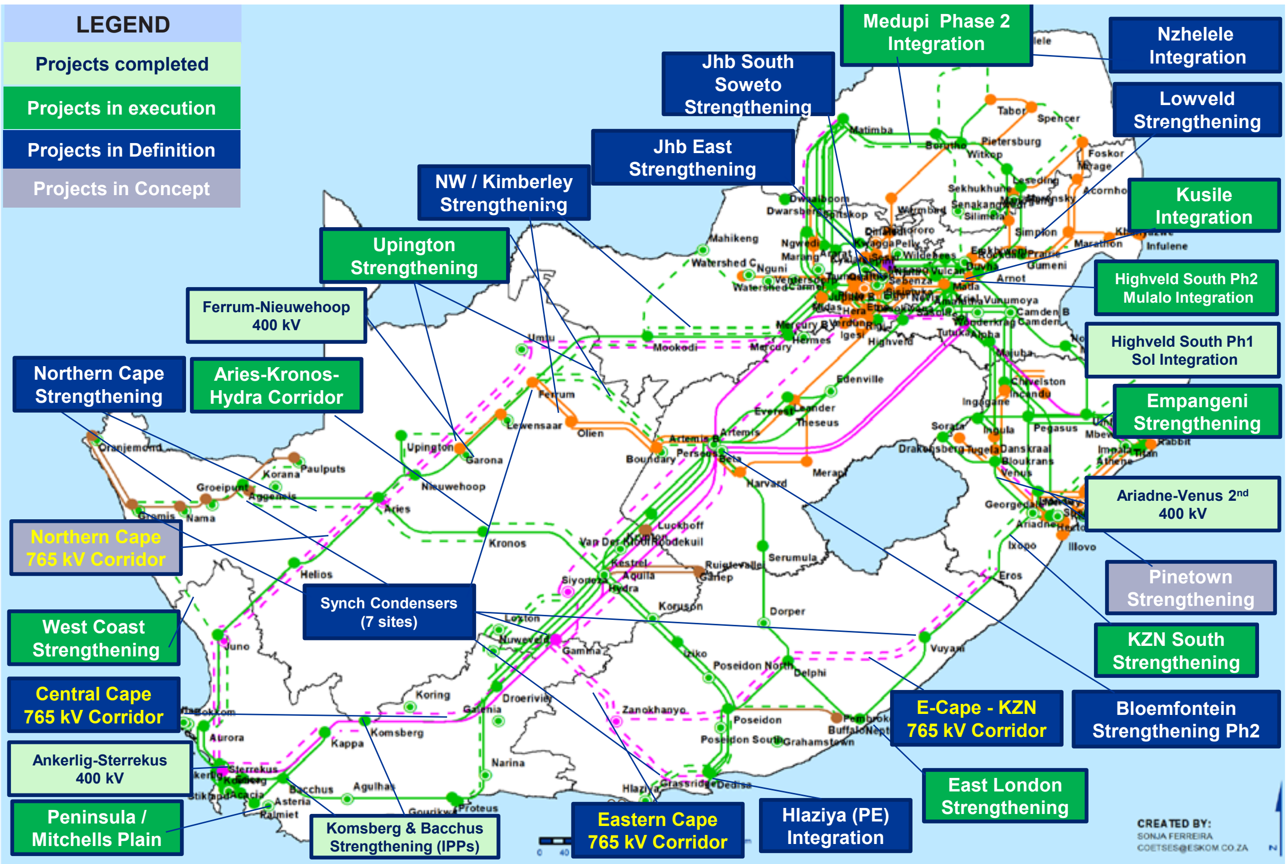


FIGURE 34 TDP (2025–2034), NTCSA

The TDP is not only focused on capacity, but also on grid stability. The increasing integration of non-synchronous renewable energy sources, such as wind and solar, into South Africa's power system, combined with the planned decommissioning of large base-load synchronous generators, poses challenges to grid stability. These challenges include potential impacts on voltage and frequency stability, reduced system inertia, and lower short-circuit current levels. To mitigate these issues, advanced power system studies have identified the need for the installation of synchronous condensers (SCs) at key nodes across the transmission grid.

Independent Transmission Projects (ITPs): Unlocking Private Investment

To address Eskom's financial and delivery constraints, the Independent Transmission Projects (ITPs) programme is being developed to allow private investment into grid infrastructure. ITPs represent a landmark shift in South Africa's electricity market – transforming the transmission sector from a public monopoly to a regulated, competitive space for infrastructure delivery. It is expected that ITPs could take the form of public-private partnerships (PPPs) for shared-risk transmission projects, privately financed lines serving clusters of new renewable energy projects or merchant transmission lines where cost recovery is based on access charges from connected generators.

While the Government seems to be moving with pace having already conducted a market sounding exercise, the determination of 1164 km of new transmission lines and the release of the draft ITP regulations, there are more national strategic benefits of ITPs, which include:

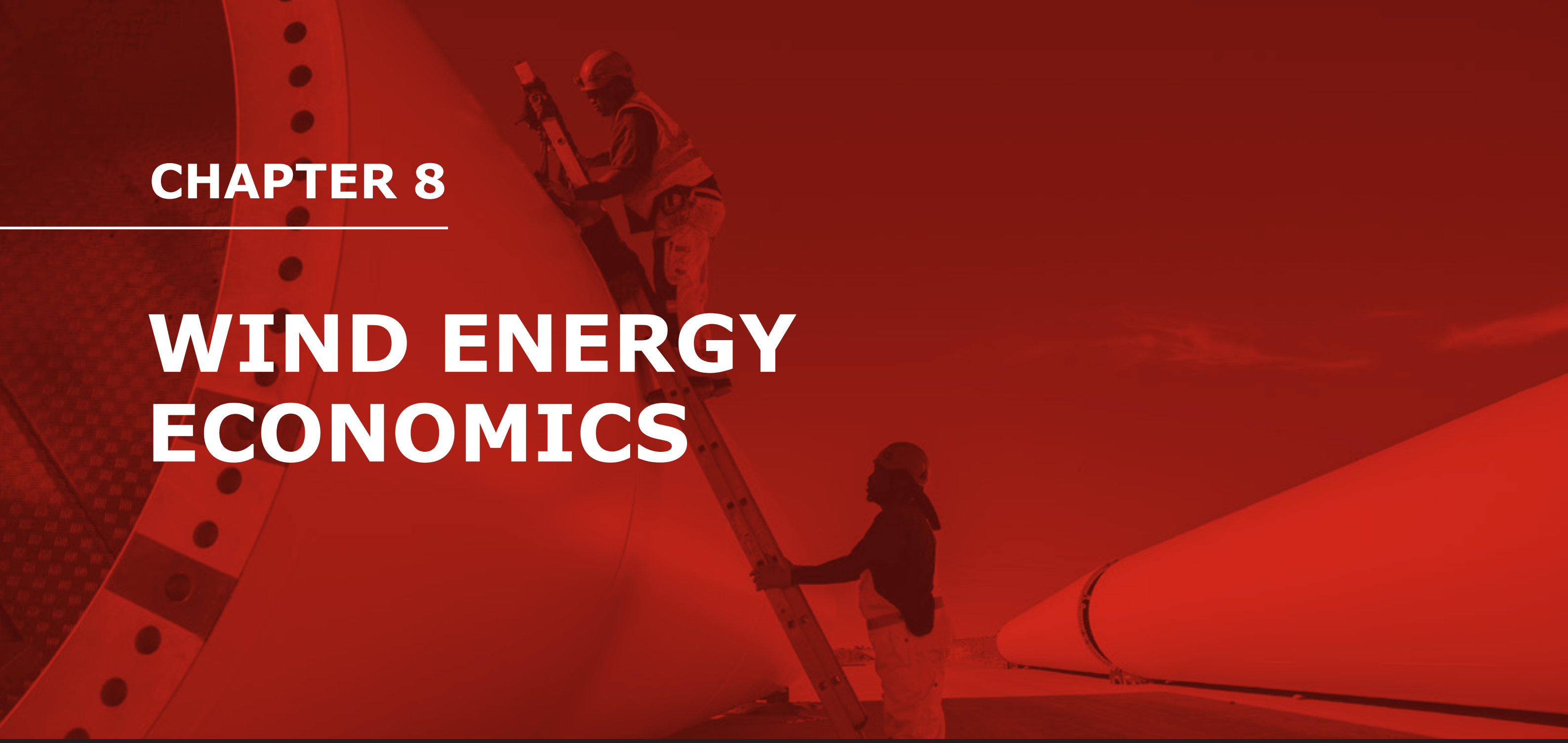
- Accelerated infrastructure deployment in priority corridors
- Reduced fiscal burden on Eskom and government
- Enabled developer-led infrastructure planning, especially for large-scale IPPs
- Creating a new asset class for infrastructure investors

Work is currently underway between the NTCSA, Eskom, the Department of Electricity and Energy (DEE), and the IPP Office to develop the legal and regulatory framework for ITPs. Alignment with NERSA's grid code and licensing regime will be essential.

As grid expansion efforts unfold, it will be critical for IPPs and developers to align project siting with TDP corridors and substation plans, municipalities and large offtakers to coordinate load forecasts and grid requirements and private funders and aggregators to explore blended finance models for ITPs.

Grid expansion must become a shared national effort supported by strategic planning, transparent data, and a willingness to innovate across the public and private sectors. While curtailment offers breathing room in the short term, only through sustained investment in transmission infrastructure and the unlocking of private capital via ITPs can the country realise its full renewable energy potential.

Through coordinated investment, reform, and collaboration between Eskom, the NTCSA, IPPs, and regulators, South Africa can unlock the full potential of its exceptional wind resources and meet its energy, economic, and climate objectives. A future-fit grid will not only enable more wind power, but it will also build the backbone of a competitive, decarbonised, and inclusive energy economy.



CHAPTER 8

WIND ENERGY ECONOMICS

The economics of wind energy are central to understanding its viability, competitiveness, and role in South Africa's evolving energy mix. As the sector has matured, so too have the financial, regulatory, and operational frameworks that shape investment decisions and influence project development. Wind energy, once considered a niche and relatively costly technology, is now increasingly cost-competitive, driven by advancements in turbine technology, scaling of supply chains, and more efficient financing mechanisms.

The economic considerations underpinning wind energy deployment in South Africa includes the evolution of PPA structures, financing models, refinancing mechanisms, and tariff dynamics, with an emphasis on the transition from public procurement to private market solutions. It also situates South Africa's experience within global cost trends, illustrating how local challenges such as grid congestion and policy uncertainty interact with broader economic forces shaping the future of wind power.[4]

Investment Impact of Wind Energy in South Africa

Since the inception of the REIPPPP, wind energy has attracted an estimated R101 billion in investment through public procurement, making it a major driver of South Africa's renewable energy transition. This investment has stimulated local economic activity, created thousands of jobs, supported industrial participation, and delivered community and social benefits in rural areas surrounding these projects.

4 Large-scale Renewable Energy – Market Intelligence Report 2024, GreenCape

Looking ahead, the sector is set to attract an additional R300–R400 billion over the next decade. This growth has the potential to contribute 1.5–2% to South Africa's GDP, while further driving job creation, skills development, industrial diversification, and energy security. Wind energy investment demonstrates the transformative potential of public–private partnerships in promoting sustainable development and advancing the country's just energy transition.

The continued expansion of wind energy investment represents not only a pathway to cleaner power but also a strategic lever for economic recovery and resilience. By aligning procurement, grid expansion, and industrial policy.

Wind Energy Tariffs

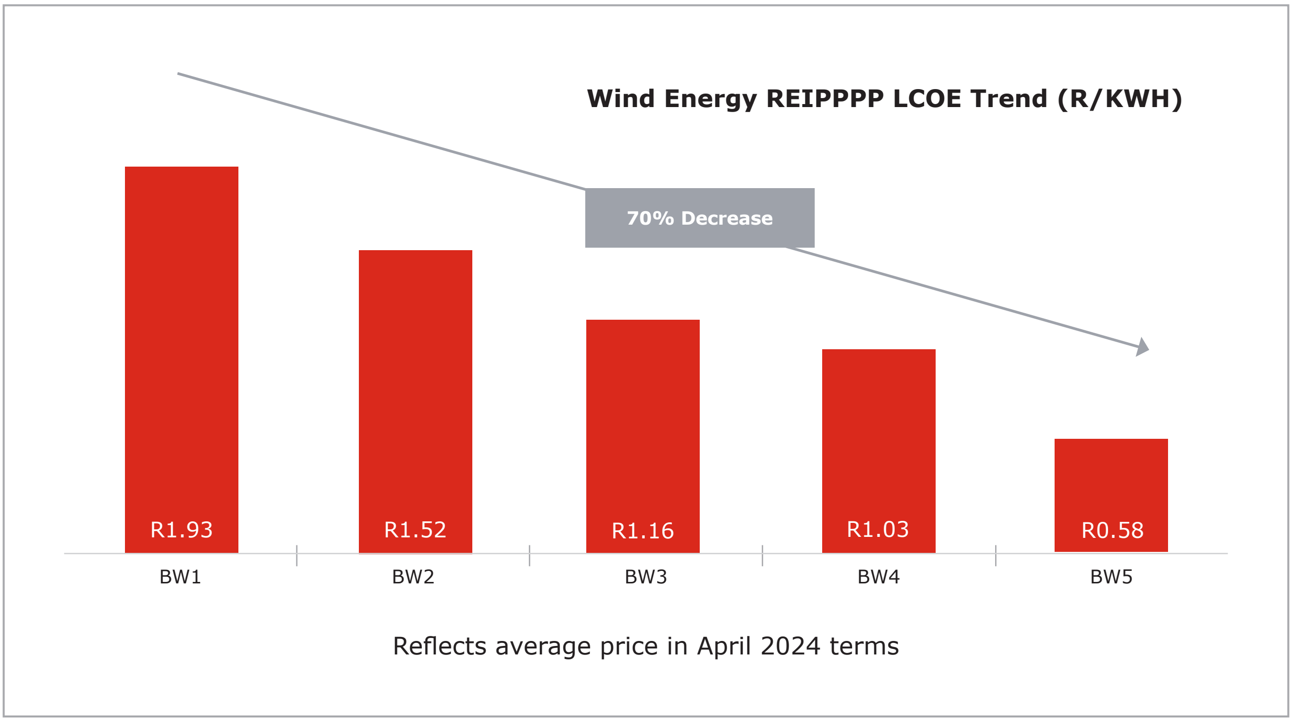


FIGURE 35 Wind Energy Public Procurement LCOE Trend

Levelised Cost of Energy (LCOE) is the price of developing, operating and funding a renewable energy project averaged across generation, over its lifetime. South Africa's onshore wind energy is among the most cost-competitive in the world. The tariffs or LCOE for wind energy under the REIPPPP has declined from over R1.93/kWh in Bid Window 1 to R0.58/kWh by Bid Window 5, and new projects are increasingly competitive with fossil-based alternatives. Internationally, the LCOE for wind is projected to fall below USD 0.03/kWh by 2030, in line with global best performers.

The emergence of the private market introduces a new dimension to tariff formation. In this model, tariffs are determined through bilateral negotiations between IPPs and private offtakers, allowing for greater flexibility and responsiveness to market conditions. This shift enables tailored solutions that can accommodate specific risk profiles and project requirements, potentially leading to more competitive pricing and diversified investment opportunities.

Still, the sector faces structural challenges that impact tariff viability. Grid constraints have led to increased curtailment of renewable energy, with a reported 300% rise in curtailed energy in the first half of 2025 compared to the same period in the previous year. These limitations not only affect the financial performance of wind projects but also influence tariff negotiations and the overall attractiveness of investments in the sector.

Through our market intelligence, private offtake wind projects in South Africa currently exhibit tariffs in the range of R0.85–0.95 /kWh on average, notably higher than the decreasing trend observed in public procurement rounds. Several factors contribute to this difference; projects are increasingly located in diverse corridors, with some further inland or in regions with limited port accessibility, requiring nuanced transport solutions. Additionally, grid congestion has become a significant consideration, with many developers needing to construct main transmission substations (MTS) to secure connections.

Despite appearing high relative to public procurement benchmarks, these tariffs remain competitive for corporate offtakers. Private PPAs provide energy-intensive users with reliable access to renewable electricity, supporting decarbonisation objectives and ESG compliance. From a market perspective, the observed price range reflects both the evolving geographic and infrastructure landscape of wind development and the growing value placed on securing long-term renewable energy supply.

PPA Structures

Power Purchase Agreement (PPA) structures have evolved alongside the growth of the renewable energy sector, providing a critical foundation for investment and project bankability. Traditionally, PPAs have been secured through REIPPPP, where long-term (typically 20-year) agreements are signed between IPPs and Eskom as the single buyer. These government-backed PPAs offer tariff certainty and creditworthy offtake, which has been key to attracting both local and international financing.

REIPPP vs Private PPA Structures

More recently, the market has begun shifting toward private or bilateral PPAs, driven by regulatory reforms that allow large energy users to procure power directly from IPPs without going through Eskom. This has opened new opportunities for customised contract terms, price negotiation, and shorter tenures, appealing to corporate buyers seeking energy cost savings and sustainability commitments. As the private PPA market gains traction, it is expected to play an increasingly important role in diversifying procurement pathways and accelerating renewable energy deployment in South Africa.

Financing Wind Energy Infrastructure Projects

Financing is an essential component in developing wind energy projects. These projects are capital-intensive which necessitates substantial upfront investment. There are three primary options or sources to acquire project financing such as: Self Financing, Commercial Bank Financing and Development Financing as presented below:

Self-financing

This form of financing involves the company using its own capital to fund the project without relying on external debt or equity financing. Larger companies or utility-scale developers with significant cash reserves opt for this form of financing.

Self-financing is not a common method of financing for large scale wind projects; here, the scale of investment typically requires external financing although some developers or companies with strong cash reserves may use self-financing for smaller projects.

Commercial Bank financing

Commercial bank financing remains the most common method of funding utility-scale wind energy projects in South Africa. Developers typically secure structured project finance loans from commercial banks to cover a substantial portion (usually 70-80%) of the project's capital requirements, with the remaining balance financed through equity contributions. This model relies on the project's future cash flows as collateral, making it a well-established approach for large-scale renewable developments.

Several leading commercial banks have played a critical role in financing South Africa's wind energy sector. Rand Merchant Bank (RMB), Standard Bank, Investec, Nedbank, and ABSA are among the primary lenders offering project finance solutions. These institutions have developed significant expertise in structuring complex renewable energy deals and continue to support the sector's growth by providing both debt and advisory services. Their sustained involvement has contributed to the maturation of the wind energy market, enabling the delivery of competitive, bankable projects under programmes such as REIPPPP.

Development Finance and Institutional Financing

Development Finance Institutions (DFIs) and institutional investors play a pivotal role in financing renewable energy projects in South Africa, particularly in de-risking early-stage developments and enabling long-term infrastructure growth. Key DFIs such as the Industrial Development Corporation (IDC), and Development Bank of Southern Africa (DBSA), have been instrumental in supporting wind energy initiatives, offering concessional finance, loan guarantees, and blended finance structures. International DFIs, including Norfund (Norway), Copenhagen Infrastructure Partners (CIP) and British International Investment (BII, UK), have also been active in cofinancing utility-scale renewable energy projects, often in partnership with local banks and private developers.

On the equity side, institutional investors such as Old Mutual, Stanlib, and Revego Africa Energy Limited have increasingly allocated capital to renewable assets, viewing them as stable, long-term investments aligned with environmental, social, and governance (ESG) mandates.

Financial Models

All projects require a financial model to optimise parameters to arrive at a financially viable project which will consolidate all key inputs, including CAPEX, operational expenditure (OPEX), construction and development costs, revenue forecasts, investment structures, debt servicing requirements, and contingency allocations. A robust and dynamic financial model is critical to assess and optimise the financial viability of the wind project.

The financial model will be designed to forecast cash flows over the full life of the project, enabling the calculation of the LCOE or tariff required for the project to remain financially sustainable and meet all obligations. The model will also incorporate sensitivity analyses to assess the impact of key risk variables such as wind resource variability, cost overruns, interest rate fluctuations, and tariff changes.

The outcome will be a flexible, transparent, and auditable model that supports decision-making, stakeholder engagement, and financing efforts.

Exploring Refinancing Options

Refinancing under the REIPPPP provides a mechanism for projects to restructure debt or secure more favourable financial terms, post-financial close. This can include reductions in interest margins, restructuring of debt repayment schedules, extension of loan maturities, release of cash reserves, or changes in debt instruments. To date, 32 refinance applications have been approved under REIPPP, resulting in R6 billion in nominal savings over the remaining terms of the PPA[5].

The then DMRE and the IPP Office have established a comprehensive Refinancing Protocol to ensure these transactions are transparent and equitable. Under the protocol, any financial gains from refinancing are shared, typically with at least 50% allocated to the Department. This ensures that refinancing not only benefits the project sponsors but also provides value to the public sector and, ultimately, South African consumers by helping maintain or lower tariffs where possible. Early bid window projects have successfully used refinancing to leverage lower interest rates and extended loan terms, demonstrating how strategic refinancing can improve project sustainability and financial outcomes[6].

5 PCEE Meeting, REIPPPP and RMIPPPP Project Update, 13 November 2024
6 Revised Refinancing Protocol – IPPO, Jan 2023

How does the REFI Process Work?

	TIMING
The Seller submits a Refinancing Notice to the Department aligned to the requirements of the Refinancing Protocol and; The Seller submits required information to NERSA to start their process for approval of the tariff reduction.	T + 0 BD
Initial assessment done and responses received to further information requested by Department.	T + 15 BD
Assessment Completed and recommendation to DMRE for approval and to NERSA confirming the tariff reduction.	T + 25 BD
Approval of Refinancing and amendment to IA by DMRE Bid Adjudication Committee (BAC) and signoff by DG.	T + 48 BD
NERSA approvals for amendment to licence.	T + 55 BD
Financial Close of Refinancing.	T + 65 BD
Eskom sign off for the amendment to PPA.	T + 75 BD

T = Refinancing Request Submission Date; BD = Business Day

Rules	Details
Consent Requirement	REIPPPP project developers need to submit a detailed refinancing proposal to the DMRE which outlines the reasons for refinancing and the terms of the refinancing arrangement and the benefits. This written approval is required prior to seeking refinancing.
Maintaining Economic Value	The proposed restructuring needs to demonstrate that it will not negatively impact the economic value originally offered under the initial terms of the PPA. This refers both to the State and other stakeholders.
Distribution of Refinancing Gains	The restructuring should not result in excessive profit extraction by the sponsor at the expense of the financial well-being of the project. The benefits of refinancing are therefore for the overall project and stakeholders rather than for short-term gain.
Compliance with Initial Project Commitments	The refinancing should not breach initial commitments made under the bid submission to the programme. These include the Development costs for the community.
Transparency and Reporting	Developers will need to maintain transparency throughout the refinancing process and provide detailed reports to the DMRE and to their stakeholders. This includes full disclosure of the new financing terms and the impact on project cashflow.

CHAPTER 9

WIND ENERGY ECONOMIC DEVELOPMENT IMPACT

The expansion of South Africa's wind energy sector has already made a substantial contribution to economic development at the local, regional, and national levels – and is poised to continue doing so. The nature and magnitude of these benefits vary across the different phases of project development, from planning and construction to operation and maintenance. Importantly, this growth has also delivered meaningful social benefits, particularly in communities near wind energy projects.

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Within the context of the REIPPPP, wind energy has attracted over R101 billion in investment. This has catalysed the creation of approximately 32 554 job years, with over 80% of these generated during the construction phase – highlighting the sector's role in short-term employment stimulation and infrastructure development.

A summary of the impact of wind projects is presented below according to the six pillars of Economic Development with five of these pillars being further unpacked in the following sections. Skills development and gender diversity, also contributing to overall social impact, have been included for a more complete view.

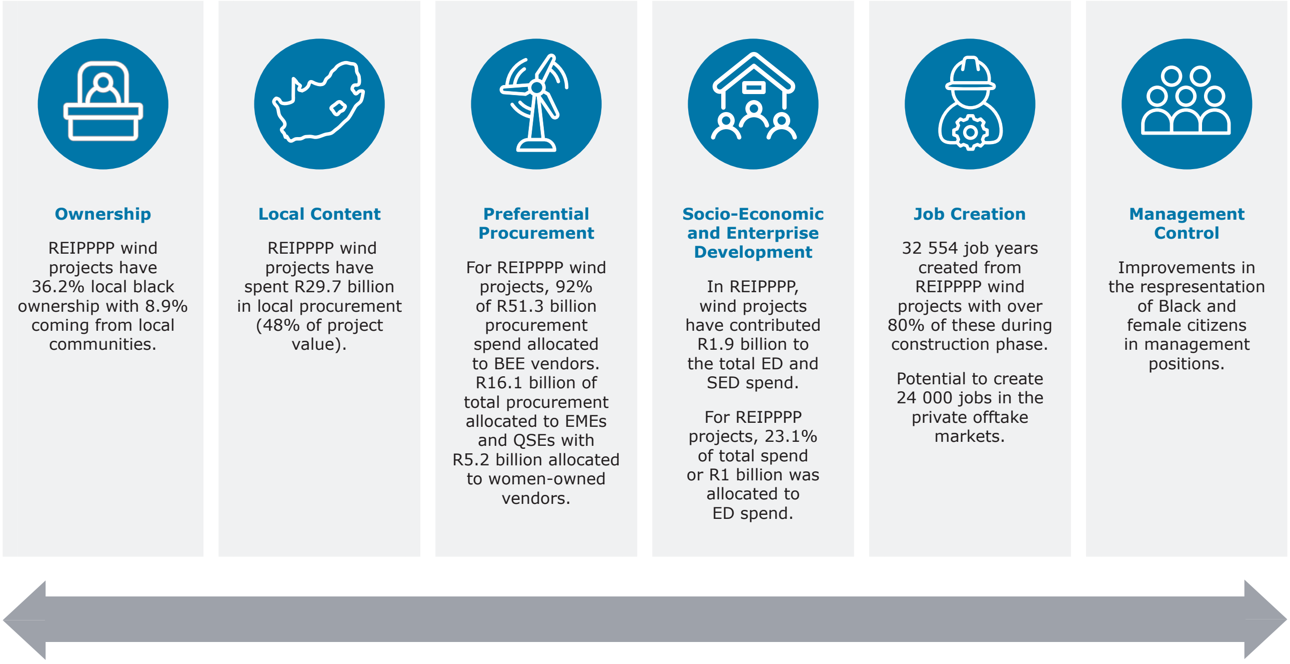

FIGURE 36 Wind Energy Impact Summary in SA

Ownership Structures

The development of wind projects provides an opportunity to diversify and localise ownership in the sector. Ownership can take a variety of forms due to the various investment and shareholding structures. Typically, projects have shareholders which include: the primary equity partner (that may be an international entity), local investors, community trusts and other project partners obtaining smaller interests in the project[7].

Local Ownership

REIPPPP recognises the importance of retaining shareholding in IPPs for South Africans and therefore sets the procurement conditions for ownership achieving 54% local ownership against a target of 40%.

Of the 40 wind projects in REIPPPP with a combined capacity of 4 138 MW, the average shareholding by black South Africans is 36.2% thus exceeding the 30% target.

7 Maximising the Socio-Economic Gains of Africa's Energy Transition, RES4Africa

Community Ownership

Community ownership is a key initiative under REIPPP since this is when local communities gain direct financial and operational benefits from the wind energy projects in their locality. Its goal is to combine renewable energy development with social and economic upliftment of the local communities. Community ownership is achieved through equity (2.5–5%) typically through a Trust. The bidding criteria states that the prospective owners of the Trust should live within a 50 km radius of the project. Local communities have 8.9% shareholding ownership in the REIPPP wind projects exceeding the 5% target.

Ownership in the Value Chain

The REIPPPP has played a crucial role in advancing economic transformation within South Africa's renewable energy sector. Notably, it has facilitated meaningful participation by black South Africans across the value chain.

While the private offtaker market does not currently enforce standardised ownership requirements, there is growing anticipation that the trend of promoting local ownership will continue. This aligns with broader national objectives and practices in other sectors, reinforcing the importance of equitable participation in South Africa's energy transition.

Local Content

Stimulating economic growth can be achieved using foreign direct investment as well as local investment into goods and services. The REIPPPP has consistently incorporated minimum local content thresholds, which have been progressively increased across successive bid windows to strengthen domestic industrial participation.

It is estimated that R51.3 Billion is the total procurement spend on wind projects in REIPPPP. Of this R29.7 billion is spent locally, accounting for 48% of the total project spend.

Preferential Procurement

For wind projects in REIPPPP, 92% (R47.4 billion) of the R53.13 billion procurement spend was allocated to Broad Based Black Economic Empowerment (BBBEE) vendors. Of this, 31% (R16.1 billion) of the total procurement was allocated to Exempted Micro Enterprises (EMEs) and Qualifying Small Enterprises (QSEs) and R5.2 billion allocated to women-owned vendors. This illustrates the wind industry's commitment to supporting local enterprises consisting of small and women-owned vendors.

R47.4 billion
was directed to BBBEE vendors

R5.2 billion
directed to women-owned vendors

R16.1 billion
of the total procurement was allocated to EMEs and QSEs

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Socio-Economic and Enterprise Development

Enterprise Development (ED) is important in the South African market to support the growth of small and emerging businesses through incubation on enterprise development.

Socio-Economic Development (SED) involves the direct investment in community upliftment initiatives such as supporting basic services including healthcare, education and infrastructure development. Wind projects typically operate in rural areas due to the wind resources and availability of land hence these large infrastructure projects provide the opportunity to improve the quality of life for the people in the local community by assisting local communities in the provision of services.

As of October 2025, REIPPPP wind projects have contributed R1.9 billion to the total SED and ED spend[8]. Education and skills development are a particular focus area for these communities with tailored initiatives supporting:

- Early Childhood Development and Basic Education
- Bursaries and Scholarships
- Vocational Training Programmes

Job Creation

The monitoring of job creation typically uses equity categories aligned with national regulations. For REIPPPP, these equity categories include employment secured for South African citizens, black South African citizens and local communities. Women, people with disabilities and rural communities are also usually collected yet not mandatory.

The figure below, shows the job creation under the REIPPPP programme. **Wind energy has contributed over 32 554 job years as part of this programme** with a further breakdown compared the other technologies indicated below.

8 The socioeconomic impacts of wind energy in the context of the energy transition, KPMG, October 2019

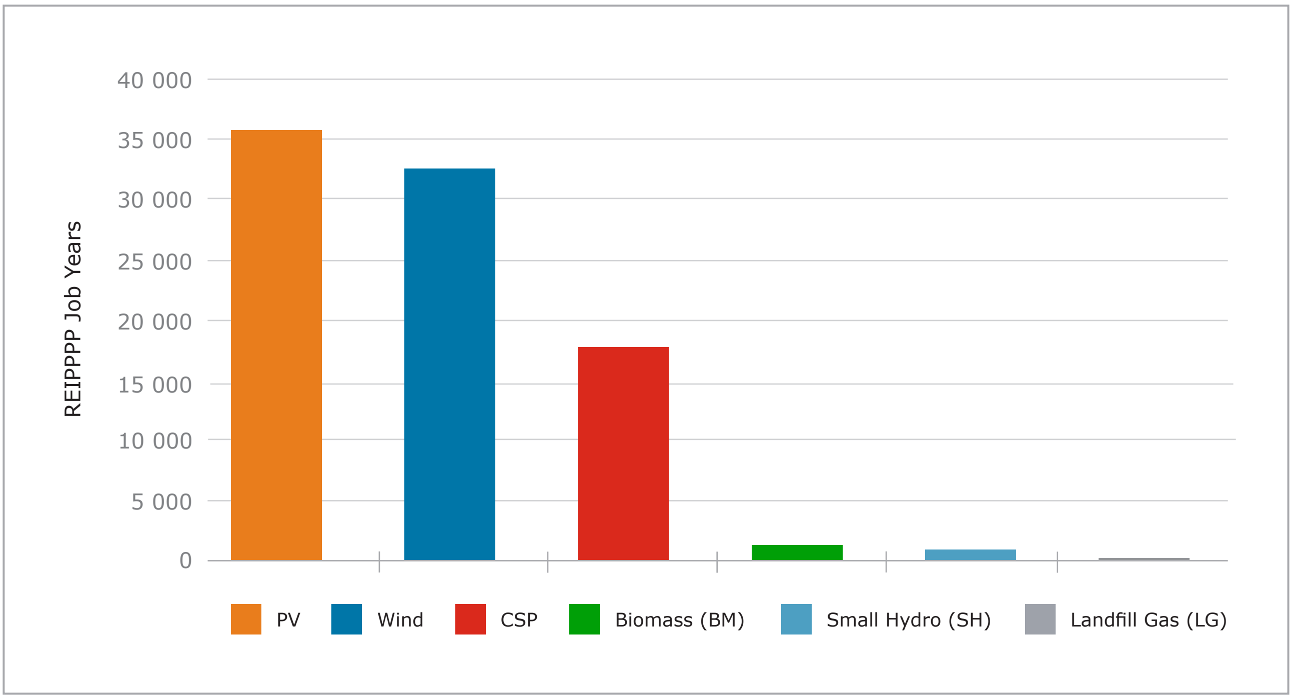


FIGURE 37 Comparison of Job Years Created in REIPPPP by Technology (March 2022–March 2025)

When considering the job years created, it is important to measure how these jobs are contributing to the national imperatives of fostering local employment for South African citizens as presented in the figure below.

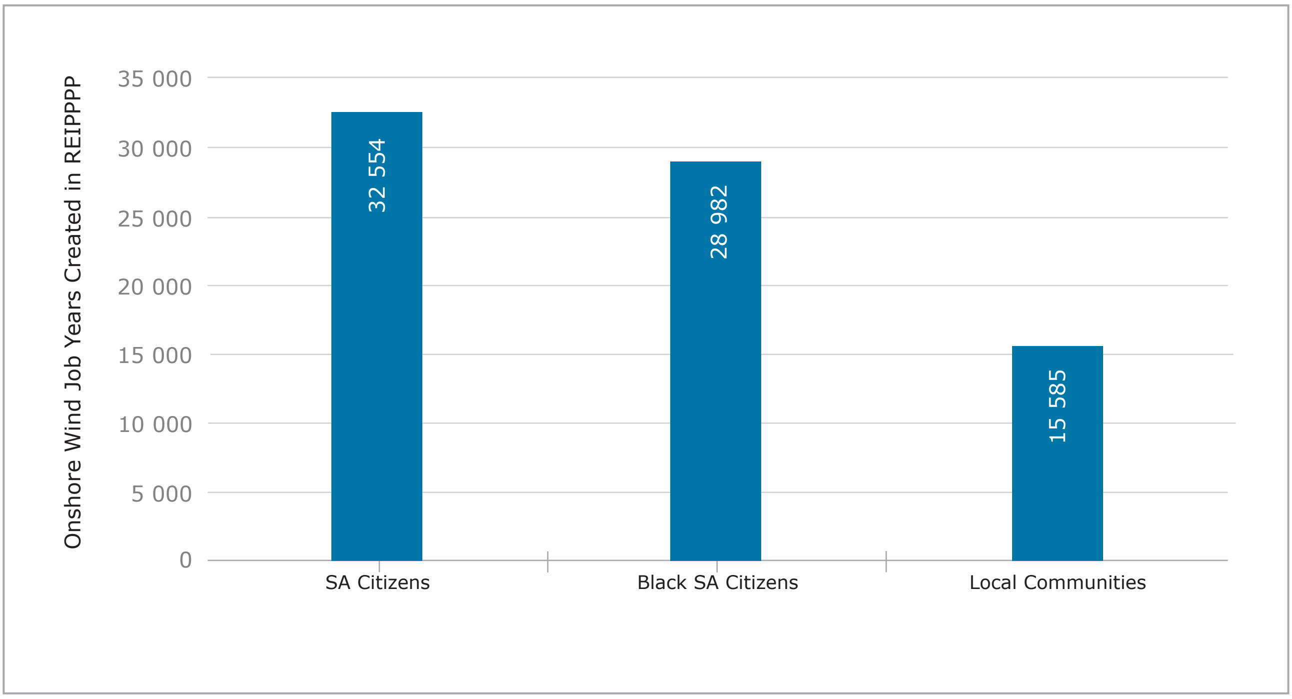


FIGURE 38 Onshore Wind Job Years Created In REIPPPP

Due to the acceleration of renewable energy deployment and in line with government policy targets for the incorporation of wind energy as a core technology in the energy mix, there are several job creation opportunities at the various occupation and skill levels which could be created in the coming years.

The National Business Initiative (NBI) has conducted research as part of the Just Energy Transition Skilling for Employment Programme (JET-SEP) to evaluate the number of jobs, types of occupations and skills required during the various project phases. Typically, most of the employment in the sector constitutes trades and labour during the construction phase. The potential job creation for wind is shown in the figure below where according to the NBI – in the short term (from 2024–2030) – 9 083 jobs could potentially be created in the construction phase and 6 400 jobs in the operations and maintenance phase. The potential employment growth can be attributed to the growth in the renewable energy market holistically with many opportunities being created both in the high-skilled labour group (education above Grade 12) and on-site labour. According to NBI, in the long term, the wind sector has potential to create between 21 4000 and 34 0000 total jobs by 2050.

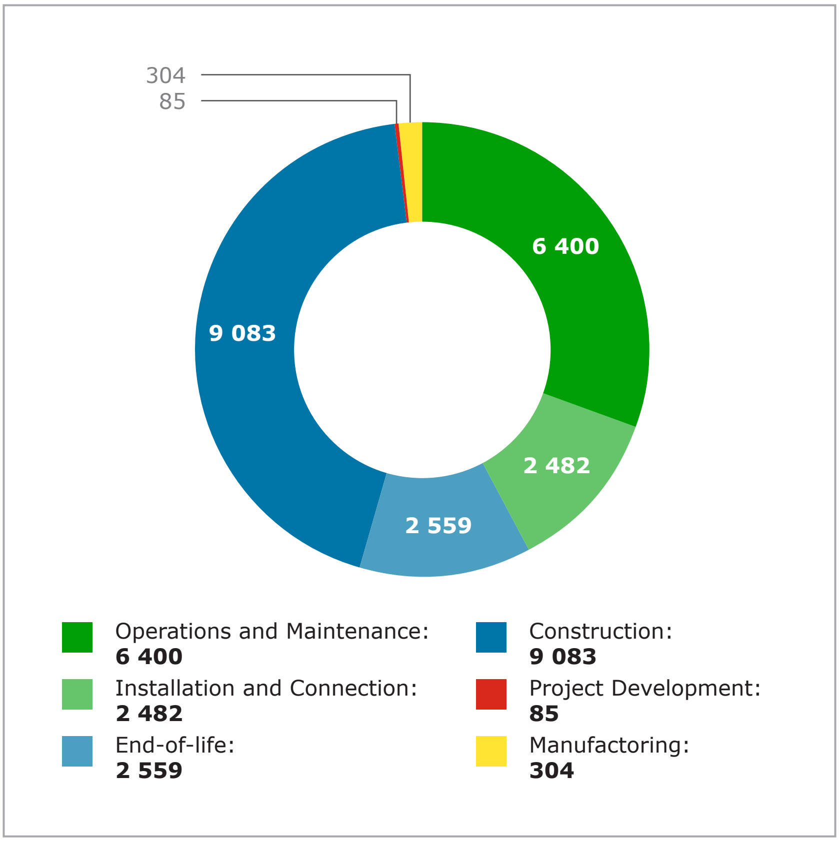


FIGURE 39 Potential Job Creation in Wind Energy 2024–2030 (and 2050 End of Life)

Skills Development Initiatives

Using the anticipated 60GW wind project pipeline from the South African Renewable Energy Grid Survey (SAREGS) and the IRP2025 allocation of 43GW of new wind projects by 2042 as market signals, these figures indicate that the expansion of the wind industry is set to accelerate rapidly in the coming years. This in turn provides an opportunity to skill, upskill and reskill the energy workforce to participate meaningfully in the energy transition.

Skills initiatives should be focused on understanding what the skills system needs and creating a workforce that can participate in the upcoming opportunities that the wind energy sector presents.

Wind Industry Internship Programme (WIIP)

SAWEA, in partnership with the Energy & Water Sector Education Training Authority (EWSETA), launched the in WIIP in 2022. The programme was designed to accelerate the development of green skills and strengthen the talent pipeline for South Africa’s renewable energy sector. By embedding emerging professionals into operational environments, WIIP plays a critical role in bridging the skills gap, fostering industry readiness, and supporting long-term workforce sustainability.

By 2025, the programme had scaled significantly, placing 53 interns with 48 host companies over the four years – reflecting a growing industry commitment to workforce development.

Majority of the interns participating in WIIP and its complementary Work Readiness Programme (WRP), have successfully transitioned into permanent roles within the renewable energy sector and adjacent industries.

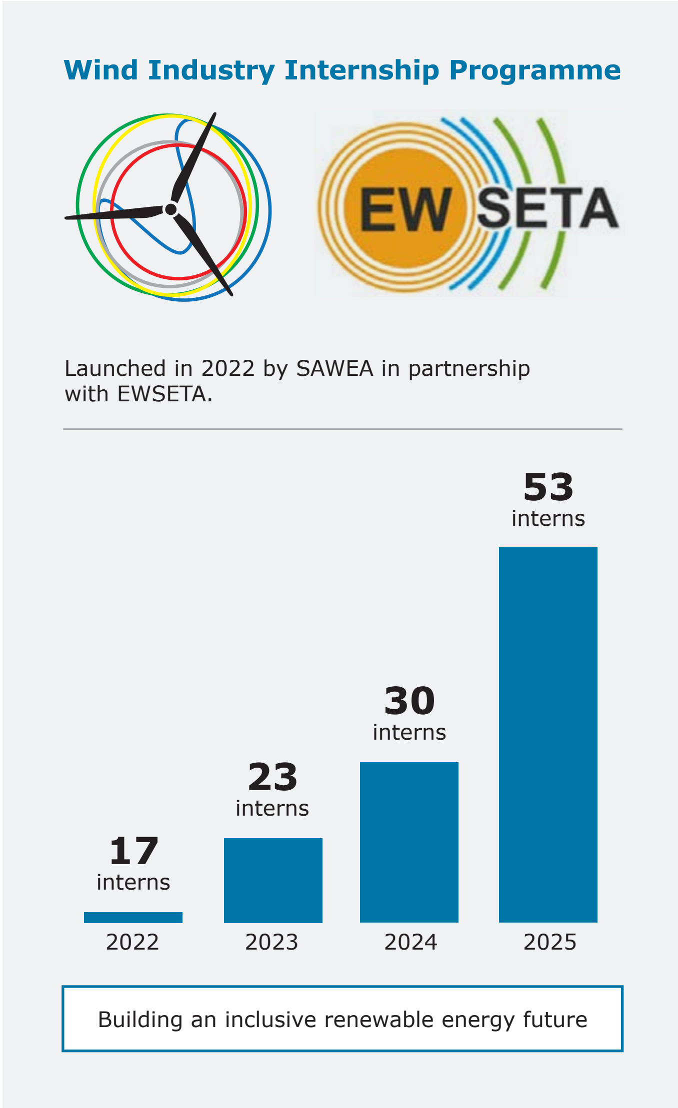


FIGURE 40 WIIP Statistics

Beyond WIIP, SAWEA through the Social Impact Standing Committee, continues to advance sector-wide skills development through targeted interventions, including:

Curriculum enhancement	Programme innovation	Research collaboration
Supporting the review and refinement of content and assessment criteria for the NQF Level 5 Wind Turbine Service Technician qualification.	Leading the development of the NQF Level 3 Wind Turbine Operator Skills Programme, officially approved by the Quality Council for Trades and Occupations (QCTO) in April 2025.	Contributing to the National Business Initiative's Just Energy Transition: Skills and Economic Pathways (JET SEP) research programme.

Advancing Gender Diversity in the South African Renewable Energy Sector

South Africa's commitment to advancing gender diversity in energy is anchored at national policy level. In 2021, the Department of Electricity and Energy (DEE) released the Women Empowerment and Gender Equality (WEGE) Strategy (2021–2025), a national framework aimed at driving women's participation and decision-making in the sector. The strategy seeks to build a more inclusive workforce by promoting progressive policies, equitable access to opportunities, and systemic support for women's advancement. It recognises that gender diversity is not only a matter of equity, but also central to sector resilience, innovation, and socio-economic sustainability.

SAWEA's Strategic Contribution to Gender Transformation

Following the introduction of the WEGE Strategy, SAWEA intensified efforts to support its implementation. A major milestone came through SAWEA's collaboration with the DEE and SAPVIA on the Study on Gender Diversity in the Wind and Solar Industries in South Africa, which was undertaken as direct research support to WEGE objectives. The study revealed key insights, including:

- Women account for only 33% of the renewable energy workforce.
- Female representation remains disproportionately low at senior leadership and ownership levels.
- Structural barriers persist, including workplace bias, inadequate gender-responsive policy frameworks, and limited access to leadership and enterprise development pathways.

Building on this research, SAWEA and SAPVIA jointly launched the Gender Diversity Guideline for Renewable Energy in October 2025. The guideline introduces 10 actionable focus areas for companies that range from policy reform and leadership development to workplace flexibility and gender-responsive procurement to help sector stakeholders drive measurable change.

In parallel, SAWEA has advanced gender transformation through direct capacity-building. A flagship intervention is the Management Development Programme (MDP) for Women in Renewable Energy, launched in 2023 and delivered in partnership with EWSETA and the University of the Witwatersrand. The programme equips mid- to senior-level women with strategic business, leadership, and sector-specific capabilities, preparing them to transition into senior and executive roles within the industry. Since its inception, the programme has supported 68 graduates, with cohorts of 19 in 2023, 24 in 2024, and 25 in 2025.

This marks one of the most deliberate interventions in talent pipeline development specifically for women in energy.

Gender Transformation Through REIPPPP

Sector progress has also been shaped through the REIPPPP, which embeds transformation requirements into project licensing, construction, ownership, and operations. Gender-based targets – particularly around employment, management, and enterprise participation have created measurable industry-wide accountability.

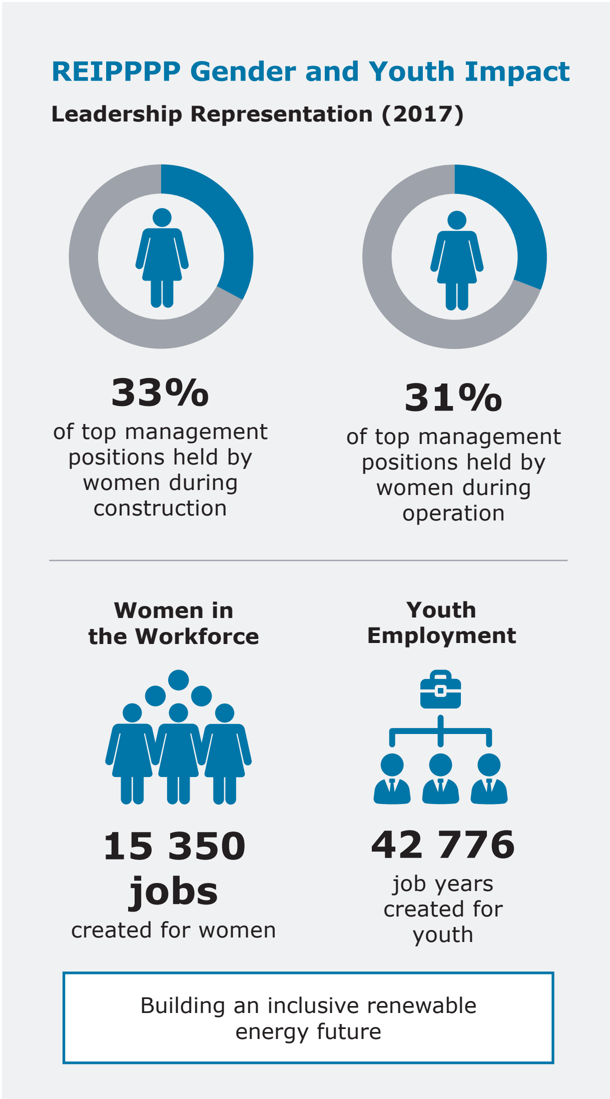
The IPP Office reported that in 2017:

- Women occupied 33% of top management positions during construction
- Women held 31% of top management positions during operations

According to the 2025 Gender Diversity Study, women now represent 37% of top management roles in wind and solar, marking steady improvement.

Moreover, REIPPPP has supported tangible economic participation. As of March 2025:

- 15 350 jobs for women have been created through the programme,
- With 42 776 job-years generated for youth, signalling progress in inclusive workforce development.



Overall, SAWEA's contribution reflects a deliberate and multi-layered approach: informing national policy through evidence, equipping women through targeted executive-level training, and embedding gender transformation benchmarks through industry guidelines. These interventions collectively strengthen the sector's ability to meet workforce diversity targets while shaping a more equitable energy transition.

CHAPTER 10

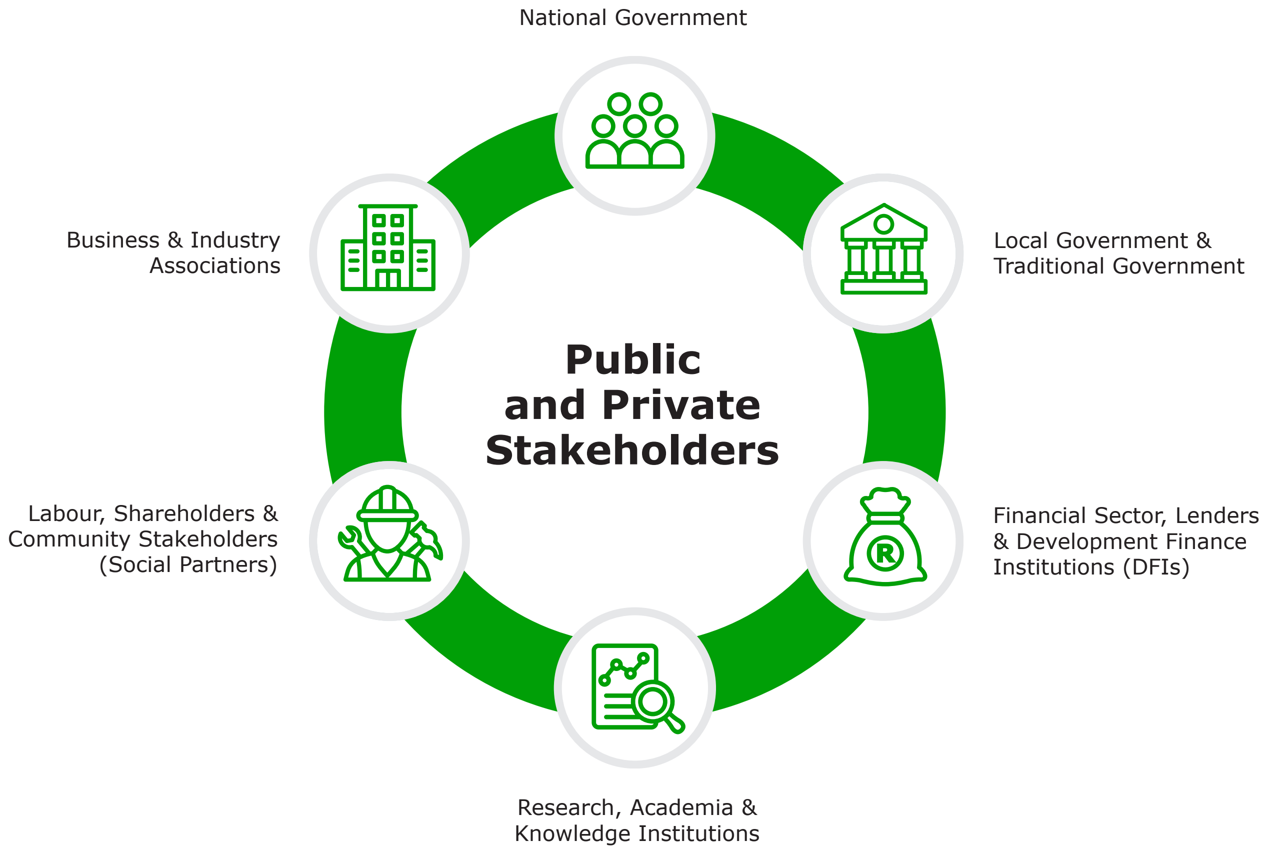
STAKEHOLDER LANDSCAPE

Several key stakeholders play critical roles in the policy formulation, regulation, procurement, and oversight of wind energy projects. The entities listed below are particularly influential in shaping the wind energy market and in the development and implementation phases of projects.

Public Stakeholders
Department of Forestry, Fisheries, and the Environment (DFFE)
Department of Mineral and Petroleum Resources (DMPR)
Department of Trade, Industry and Competition (DTIC)
Department of Transport (DoT)
Department of Electricity and Energy (DEE)
Department of Water and Sanitation (DWS)
Department of Agriculture, Land Reform and Rural Development (DALRRD)
Independent Power Producers Office (IPPO)
Eskom
National Energy Regulator of South Africa (NERSA)
National Transmission Company South Africa (NTCSA)
National Treasury (NT)
Presidential Climate Commission (PCC)
South African National Energy Development Institute (SANEDI)
The Presidency

In addition to these, the wind energy sector collaborates with other aligned public and private stakeholders to position wind energy as the leading and preferred source of sustainable energy in South Africa.

Other Public and Private Stakeholders	
BirdLife South Africa (BLSA)	South African National Defence Force (SANDF)
Business Unity South Africa (BUSA)	South African Heritage Resources Agency (SAHRA)
South African National Energy Association (SANEA)	South African National Parks (SANPARKS)
Council for Scientific and Industrial Research (CSIR)	South African Weather Services (SAWS)
Danish Embassy – South Africa	South African National Biodiversity Institute (SANBI)
Energy & Water Sector Education and Training Authority (EWSETA)	Energy One Stop Shop (EOSS)
Energy Council of South Africa	Municipalities
Energy Intensive Users Group of Southern Africa (EIUG)	Shareholders
Global Wind Energy Council (GWEC)	Lenders
GreenCape	Landowners and Occupants
National Business Initiative (NBI)	Local Communities
South African Civil Aviation Authority (CAA)	Community Leaders
South African Photovoltaic Industry Association (SAPVIA)	Community Forums
The Carbon Trust	Local Business Leaders
Department of Small Business Development	Local Staff Contingent



CHAPTER 11

CONCLUSION

By the end of October 2025, South Africa boasts over 63 wind energy projects procured with an associated capacity of 6882 MW. There is a total operational wind energy capacity of over 3,8 GW from 40 projects, marking over a decade of steady growth and innovation in the sector. The launch of this inaugural South African Wind Market Intelligence Report is a significant milestone for SAWEA and a reflection of the sector's growing maturity and strategic importance.

Wind energy now plays a vital role in powering the South African economy – supporting industries from manufacturing and mining to agriculture and beyond. The sector has expanded from just seven developers in 2011 to a diverse ecosystem of over 21 local and international players, supported by a wide range of stakeholders across the value chain.

While REIPPPP laid the foundation, today's wind market offers broader investment opportunities driven by new policy frameworks and regional integration opportunities through initiatives like SAWEM, the JET IP and Southern African Power Pool (SAPP).

This report provides a comprehensive view of the current landscape, equipping stakeholders with the insights needed to align policy, guide investment, and support socio-economic development. It is designed to help decision-makers navigate challenges, seize opportunities, and contribute to a more sustainable and energy-secure future.

With strong partnerships across public and private sectors, South Africa is well-positioned to unlock the full potential of wind energy and this report will serve as a key resource on that journey.

Acknowledgements

I would like to acknowledge the Market Development Standing Committee and its leadership, Boitumelo Kiepile and Braam Botha, for their guidance and support in steering the development of this Market Intelligence Report. My sincere appreciation extends to SAWEA's Senior Technical Advisors, Santosh Sookgrim and Vincent Kok, for their expert inputs and coordination throughout the process.

I would further like to recognise the valuable contributions of Arete, whose research and analytical efforts have been instrumental in shaping this report. My gratitude goes to the Danish Embassy in South Africa for their generous support and partnership, which made the implementation and realisation of this Market Intelligence Report possible.

Finally, I would like to extend my thanks to the design team for their creativity and dedication in producing a publication that reflects both the professionalism and collaborative spirit of our industry.

Niveshen Govender

Chief Executive Office
South African Wind Energy Association

ANNEXURE A
ADDITIONAL READING

1. Abnormal Loads TRH11 Regulations
2. Carbon Tax Act (No. 15 of 2019)
3. Civil Aviation Act (No. 13 of 2009)
4. Climate Change Act (No. 22 of 2024)
5. Conservation of Agricultural Resources Act (No. 43 of 1983)
6. Community Engagement Handbook
7. Draft Integrated Resource Plan 2024 (Draft IRP 2024)
8. Draft SAWEM Market Code
9. Electronic Communications Act (No. 36 of 2005)
10. Electricity Regulation Act (No. 4 of 2006)
11. Electricity Regulation Amendment Act (No. 38 of 2024)
12. Eskom Generation Connection Capacity Assessment (GCCA, 2025)
13. Establishing a Carbon Border Adjustment Mechanism
14. Global Wind Atlas
15. GWEC Status of Wind in Africa Report 2023
16. GWEC Global Offshore Wind Report 2024
17. Insights into the Wind Energy value chain in South Africa
18. Integrated Resource Plan (IRP, 2019)
19. Integrated Resource Plan 2025 (IRP 2025)
20. Interim Grid Capacity Allocation Rules (IGCAR)
21. IRENA Energy Transition-Wind Energy Data
22. Mineral and Petroleum Resources Development Act (No. 28 of 2002)
23. National Environmental Management Act (No. 107 of 1998)

24. National Environmental Management: Biodiversity Act (No.10 of 2004)
25. National Environmental Management: Waste Act (No. 59 of 2008)
26. National Energy Act (No. 34 of 2008)
27. National Heritage Resources Act (No. 25 of 1999)
28. National Forests Act (No. 84 of 1998)
29. National Water Act (No. 36 of 1998)
30. Occupational Health and Safety Act (No. 85 of 1993)
31. Offshore Wind Energy – South Africa’s Untapped Resource
32. PCEE Presentation on ITPs
33. Phase Two of the Carbon Tax
34. REIPPPP Overview in Publications
35. REIPPPP Focus on Wind – Dec 2021 GWEC Global Offshore Wind Report 2024
36. Renewable Energy Development Zones (REDS)
37. Report on Monitoring Performance of Renewable Energy Power Plants (NERSA, 2024)
38. Restitution of Land Rights Act (No. 22 of 1994)
39. Revised Refinancing Protocol – IPPO, Jan 2023
40. RMIPPP Economic Development (ED) Qualification and Evaluation Criteria
41. South Africa’s Just Energy Transition Framework
42. South Africa’s Just Energy Transition Investment Plan
43. South African National Roads Act (No. 7 of 1998)
44. South Africa’s NDC Targets for 2025 and 2030
45. South African Renewable Energy Grid Survey (SAREGS, 2024)
46. South African Renewable Energy Masterplan (SAREM)
47. Subdivision of Agricultural Land Act (No. 70 OF 1970)
48. The Draft Electricity Transmission Infrastructure Regulations
49. The Spatial Planning and Land Use Management Act (No. 16 of 2013)
50. The White Paper on Renewable Energy (2023)
51. Transmission Development Plan (TDP) 2025–2034
52. Wind and Solar PV Resource Aggregation Study for South Africa – Final Report
53. Wind Atlas for South Africa
54. Wind Energy Localisation Potential

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