G20
SOUTH AFRICA 2025

Solidarity
Equality
Sustainability

Sherpa Track

CONCEPT NOTE

Energy Transitions Working Group

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Executive Summary

South Africa's G20 Presidency is centered on the theme *Solidarity, Equality, Sustainability***.** This concept note outlines the strategic direction for the Energy Transitions Working Group (ETWG), highlighting South Africa's commitment to fostering inclusive and sustainable energy transitions. As the first African nation to assume the G20 Presidency, the ETWG under the South African G20 Presidency aims to champion energy policies that address global challenges while prioritising regional and neighbouring African countries to ensure that global energy strategies are inclusive, resilient, and environmentally sustainable.

South Africa's ETWG agenda is built on three pillars:

i) **Energy Security**: focuses on enhancing global energy access and affordability by promoting resilient and sustainable energy systems. This includes developing robust infrastructure, diversifying energy sources, and addressing energy disruptions caused by climate change and geopolitical factors.

ii) **Just, Affordable, and Inclusive Energy Transitions:** Amplifying the need for a just, balanced, and inclusive transition that leaves no one behind, emphasising the socio-economic equity needed to balance climate goals with industrial growth, and ensuring that the benefits of the transition are shared equitably. This includes initiatives for the upskilling and reskilling of the workforce, clean energy supply chains, and targeted support for coal-dependent economies.

iii) **African Interconnectivity:** Strengthening regional energy collaborations and cooperation and promoting cross-border energy trade and regional power pools as a tool for efficiently integrating cleaner energy systems and ensuring affordable and secure energy for all.

South Africa's priorities build on key lessons from recent G20 presidencies. This includes Indonesia's focus on Just Energy Transitions, India's push for green innovation, and Brazil's integration of socio-economic dimensions into energy policy provide a foundation for South Africa to advance its inclusive energy transition agenda. By leveraging these insights, South Africa is looking to introduce actionable frameworks to address critical challenges affecting much of the world, such as energy poverty, unreliable infrastructure, and limited access to financing for clean energy technologies.

South Africa's G20 Presidency expectations include the development of a global energy poverty compact, roadmaps for renewable energy corridors in Africa, and frameworks for local content requirements in renewable projects. South Africa will also promote clean hydrogen adoption and sustainable fuels as part of a broader effort to achieve equitable energy transitions. Partnerships with governments, international organisations, and the private sector will be pivotal in marshalling resources, transferring technology, and scaling innovative solutions.

1 Introduction

Energy has remained central to the G20 agenda for over a decade, driven by the sector's pivotal role in achieving economic resilience and environmental sustainability. The establishment of the Energy Sustainability Working Group in 2013 was a landmark step towards addressing global energy challenges. Subsequent G20 presidencies within the developing world have built on this foundation, introducing themes and initiatives such as energy efficiency, renewable energy expansion, and innovation in clean technologies.

For instance, Indonesia's 2022 G20 Presidency elevated Just Energy Transitions as a priority, India in 2023 emphasised green innovation and scalable renewable energy solutions, and Brazil in 2024 integrated socio-economic dimensions into clean energy strategies.

In November 2022, Indonesia launched a US$20 billion agreement during the G20 summit to decarbonise its coal-dependent economy, aiming for net-zero emissions from electricity production by 2050 (Jakarta, 2023). Through the UN-led Energy Compacts, Indonesia committed US$122 billion towards massive renewable energy projects, including floating solar panels and transitioning from diesel to renewable power plants.

Under India's G20 Presidency in 2023, the ETWG held multiple meetings focusing on challenges related to climate change, sustainability, energy security, and equitable energy access, contributing to global energy transition discussions. India utilised its G20 Presidency to advocate for an orderly and just transition from carbon-intensive energy to renewable energy, highlighting its own successes in scaling up solar energy and other renewable initiatives. India also sought to champion the concept of doubling the rate of energy efficiency improvements

under its G20 Presidency, which helped build momentum for the eventual COP28 Renewables and Energy Efficiency Pledge and Global Stocktake decision.

Under its G20 presidency, Brazil achieved significant milestones in the energy sector, emphasising sustainable development and social inclusion. Key accomplishments include the launch of the Global Alliance Against Hunger and Poverty, the adoption of Principles for Just and Inclusive Energy Transitions, and the advancement of Climate Finance Initiatives. These achievements reflect Brazil's commitment to integrating social justice and sustainability into global energy discussions, setting a precedent for future G20 presidencies to build upon.

South Africa's G20 Presidency builds on these milestones, tailoring the energy agenda to the unique challenges and opportunities facing Africa.

1.1 Context to South Africa's ETWG

The global energy landscape faces unprecedented challenges that demand immediate and coordinated action. Globally, almost 750 million people, predominantly in sub-Saharan Africa, lack access to electricity. Furthermore, more than two billion people still lack access to clean cooking, nearly half of whom are in sub-Saharan Africa. This energy deficit severely hampers socio-economic development and perpetuates cycles of poverty. This energy poverty is compounded by inadequate infrastructure, continued reliance on fossil fuels, and insufficient investment in cleaner energy technologies. Addressing these challenges is critical for achieving the United Nations (UN) Sustainable Development Goals (SDGs), particularly SDG 7, which seeks to ensure affordable, reliable, sustainable, and modern energy for all by 2030.

For South Africa and other developing nations, these challenges are amplified by their dependence on natural resources such as coal, oil and gas, ageing energy infrastructure, and high levels of energy inequality. Coal accounts for over 70% of

South Africa's energy mix, thus making the transition to low-carbon alternatives a complex socio-economic challenge. The reliance on coal and gas is mirrored in many African nations, where the cost of transitioning could exacerbate unemployment and inequality. In this regard, with targeted support mechanisms, South Africa's energy landscape of transformational changes will not only provide the country with the opportunity of addressing and shaping its own prospects of development and growth, but also that of the broader regional and continental energy dynamics.

South Africa's G20 presidency aligns with the African Union's (AU) Agenda 2063 and the Africa Climate Summit's Nairobi Declaration, which advocates for industrial growth, clean energy investments, and just transitions. Furthermore, South Africa's G20 Presidency recognises regional energy interconnectivity as a cornerstone of Africa's long-term energy security, enabling greater access to reliable and affordable power. Strengthening cross-border energy networks is set to also enhance global energy cooperation, acknowledging the vital role that both developing and developed nations play in shaping a more interconnected and sustainable global energy system.

Furthermore, the global financing landscape for clean energy remains a major challenge within developing nations, particularly for developing and emerging economies, which continue to face significant barriers in accessing affordable financing for renewable energy projects. These economies are poised to drive a significant share of future energy demand growth, yet current investment levels fall well short of what is required to meet their energy needs. While initiatives like the Just Energy Transition Partnerships (JETP) are welcomed, financing models remain heavily reliant on debt-based instruments. This underscores the need for innovative funding mechanisms that balance climate goals with socio-economic realities.

South Africa's G20 Presidency offers a unique platform to address these critical issues. As the first African nation to lead the G20, South Africa seeks to continue the efforts of previous G20 presidencies in advocating for global frameworks that prioritise energy access, energy efficiency, equitable financing, and regional interconnectivity. By addressing these challenges during its G20 Presidency, South Africa aims to bridge the global energy inequality gap, support vulnerable economies, and contribute to the advancement of sustainable and inclusive energy transitions globally.

2 Priorities, Outcomes and Initiatives

2.1 Priority 1: Energy Security, Affordable and Reliable Access

2.1.1 Why is it important?

In today's rapidly evolving world, energy security extends beyond protecting oil and natural gas supplies—as important as these foundational concerns remain to the global economy—to encompass broader challenges and risks. Energy security also means ensuring access to affordable energy supplies, anticipating emerging risks in the electricity sector, and strengthening supply chains for clean energy technologies and the critical minerals required.

Energy security means having access to uninterrupted energy at an affordable price. That in turn means ensuring reliable sources of supply and designing and maintaining infrastructure and systems that are resilient to physical and cyber threats. Alongside traditional risks to fuel security, issues could arise during energy transitions, not least in the power sector, given increasing electricity demand and the need to ensure the secure integration of increasing amounts of variable renewables.

Achieving lasting energy security requires more than just expanding power and fuel supplies or strengthening infrastructure and systems. Demand-side measures can play a significant role, highlighting the need to prioritise energy efficiency—an abundant resource for all nations and a fundamental pillar of energy security.

Access to energy, both in terms of electricity and to clean cooking remains a key challenge, with energy poverty still an acute issue across the world, but particularly in Sub-Saharan Africa. Despite rising energy access levels, around 750 million people across the world still lack access to electricity (80% of whom are in Sub-Saharan Africa). More than two billion people lack access to clean cooking

technologies and fuels, over half of whom are located in sub-Saharan Africa, where eight in 10 households rely on polluting energy sources for their cooking needs. This has a detrimental effect on air quality and health, with women and children most severely impacted. An annual investment of US$8 billion could achieve universal access to clean cooking within this decade, with US$4 billion required for Africa alone.[1]

South Africa seeks to refocus the G20 energy dialogue on ensuring security, affordability, and accessibility while supporting countries in transitioning and diversifying energy mixes in line with national capabilities, endowments, and priorities.

2.1.2 G20 and international advances to date

The G20 has consistently advanced global efforts to enhance energy security, accessibility, and affordability, with each G20 presidency contributing meaningful progress. Argentina's 2018 G20 Presidency laid the groundwork with the Energy Access and Affordability Voluntary Action Plan, focusing on regional solutions in Latin America. Subsequent G20 presidencies, such as Saudi Arabia in 2020 and Japan in 2019, emphasised clean cooking initiatives and innovation through the Karuizawa Innovation Action Plan, respectively.

Recent G20 presidencies have intensified efforts to tackle energy poverty and transition challenges. Italy's 2021 focus on eradicating energy poverty aligned with SDG 7, while Indonesia's 2022 Bali Energy Transitions Roadmap prioritised just transitions and secured a US$20 billion coal decarbonisation partnership. India in 2023 championed energy efficiency and clean cooking, building on these

[1] IEA estimates. Roadmap for the Brazil G20 Presidency's Clean Cooking Strategy

achievements, while Brazil in 2024 introduced socio-economic dimensions to clean energy policy through its Roadmap for a Clean Cooking Strategy and principles for just and inclusive energy transitions.

Regular consumer-producer dialogues, such as the International Energy Agency (IEA), the International Energy Forum (IEF) and the Organization of Petroleum Exporting Countries (OPEC) Symposiums on Energy Outlooks, have provided crucial insights into the energy market outlook, the implications of medium-term energy transitions, and the risks of disorderly transitions. Similarly, initiatives such as the Global Coalition on Energy Planning and the Mission300 Africa Energy Summit have highlighted the importance of coordinated global and regional planning in advancing sustainable energy goals.

South Africa's G20 Presidency will build on these accomplishments, leveraging past lessons to shape an inclusive energy agenda tailored to Africa's unique needs while advancing global energy security goals.

2.1.3 Expected outcomes

Energy Security: Develop a framework on how to address energy security risks, considering diversification of energy sources to include natural gas, nuclear energy using small modular reactors, and renewable energy, including solar, wind and hydro.

Decentralised Energy Systems: Develop a G20 roadmap for financing energy access with an Africa-focused action plan for deploying technologies, such as microgrids, to un-serviced communities.

Closing the clean cooking gap: Accelerate the deployment of cleaning cooking, including the development of innovative financial and technological solutions to increase access to clean cooking, notably in Africa.

Infrastructure Resilience: Develop a G20 action plan for developing and/or upgrading energy infrastructure, particularly in underserviced communities, based on robust energy planning frameworks, infrastructure resilience assessments to withstand extreme weather events and related investment plans.

Affordability Frameworks: Work towards a global energy poverty compact based on a compendium of policies and funding schemes to reduce energy costs and energy poverty and support vulnerable consumers.

2.1.4 Developing a G20 energy security framework

Energy security is at the heart of economic stability and resilience. South Africa's G20 Presidency aims to guide the development of a G20 Energy Security Framework, ensuring that countries have the tools and strategies to navigate a rapidly evolving energy landscape.

The framework will emphasise the need for diversified and resilient energy systems, recognising that a secure energy future requires a mix of energy sources tailored to national priorities. It will highlight the role of infrastructure investment, market stability, and international cooperation in safeguarding energy supply, particularly in a world where energy supply disruptions are becoming more frequent. Lessons from past crises will inform best practices, enabling countries to develop readiness measures that balance affordability, sustainability, and long-term resilience.

A major focus will be on measures that ensure affordability and on addressing emerging vulnerabilities in energy security. Increasing prices, in part due to choices that could be linked to energy transitions, must be addressed through strategies

that identify and implement the most cost-effective energy generation mix while ensuring the need for stable supply. Electricity supply security is a growing concern as economies electrify at an unprecedented pace, demanding grid modernisation, efficient management practices, and investment in stable baseload power sources. At the same time, the resilience of global energy infrastructure is being tested by climate risks and cyber threats, underscoring the urgency of strengthening physical and digital defences.

By fostering global dialogue and setting clear principles for action, South Africa's G20 Presidency seeks to position the G20 as a leader in ensuring reliable, affordable, and sustainable energy security. The framework will serve as a foundation for future cooperation, reinforcing the importance of long-term planning and shared responsibility in safeguarding energy systems worldwide.

The South Africa G20 Presidency will also develop, with international and local partners, an Energy Efficiency Policy Toolkit, building on the outcomes of global dialogues and events that can rapidly increase progress on energy efficiency based on global experience and best practice.

2.1.5 Closing the gap on universal energy access

In pursuit of achieving universal energy access, particularly in Africa, the South African G20 Presidency aims to advance key initiatives in collaboration with G20 members, international partner organisations, and key stakeholders on energy efficiency programmes, a clean cooking infrastructure investment roadmap, and mechanisms for financing of decentralised energy access (microgrids and off-grid technologies).

Micro- and mini-grids offer a cost-effective solution to deliver reliable electricity where traditional grid infrastructure is not economically feasible. South Africa aims

to partner with African governments and regional organisations to identify priority regions for microgrid and off-grid projects. Financing mechanisms, including blended finance models, will lower the cost of these systems, while capacity-building programmes will empower local communities to manage and maintain decentralised energy solutions.

At the Global Summit on Clean Cooking for Africa in May 2024, US$2.2 billion was pledged for clean cooking investments in Africa by governments and the private sector. South Africa's G20 Presidency aims to present a Clean Cooking Infrastructure Investment Action Plan, providing an opportunity to translate committed funds into bankable infrastructure investment projects that provide meaningful advances in access to clean cooking for African households. While each G20 member country may adopt different strategies to advance clean cooking based on their local context, a well-coordinated approach remains essential. Progress should be driven across three critical pillars: financing and investment, policy development, and partnerships between national and local governments and the private sector. As such, South Africa's Presidency aims to continue with the work undertaken during Brazil's G20 Presidency:

- Financing and investment: develop an assessment of clean cooking infrastructure needs to reach universal access in Africa and identify opportunities to develop African manufacturing capacity and employment to meet these the infrastructure gaps. Building on this analysis, identify financing models and mechanisms that will facilitate these investments, leveraging intergovernmental support, private sector funding initiatives, and other financing instruments.
- Identify and advocate for policies that support the clean cooking infrastructure investments required to reach universal access. These

policies should account for project transparency, gender-targeted initiatives, and stakeholder coordination.

- Fostering clean cooking partnerships with local governments and the private sector, with the support of international organisations to mobilise resources, share expertise, and expand networks.

2.1.6 Stakeholder dialogue

South Africa's G20 Presidency will build on a number of multilateral dialogues taking place throughout 2025 and facilitate dialogues on the sidelines of the ETWG and the G20 Energy Ministerial, including:

- G20 ETWG2 Dialogue Symposium on Small Modular Reactors (SMR) (June/July 2025)
- G20 Ministerial Meeting of Gas Exporting Countries Forum (Aug 2025)
- G20 Energy Ministers Roundtable (IEA, AU and South-South Energy Ministers) on energy access and affordability to achieve universal access by 2030 (September 2025)
- G20 ETWG: High-level Ministerial Dialogue on Clean Cooking (September 2025)

2.2 Priority 2: Just, Affordable and Inclusive Energy Transitions

2.2.1 Why is it important?

The energy transition will lead to substantial transformation of industries, many of which are vital to the social and economic well-being of countries. This transformation will be felt most acutely in countries with fossil fuel-based economies, where the extraction, production, and consumption of fossil fuels play a critical role in driving economic growth, employment, and government revenue. Communities and workers in fossil fuel industries are at a high risk of being left

behind by the energy transition without an inclusive and people-centred approach that ensures the benefits and costs of the transition are distributed fairly.

In the case of South Africa, coal-reliant communities face considerable risk of job losses from mines and power plants, despite the Just Energy Transition Partnership agreed to in 2021. Similarly, hard-to-abate sectors, including steel manufacturing, cement, chemicals, and heavy transport, which are reliant on fossil fuels for high-energy processes face significant challenges in adopting alternative technologies to ensure their sustainability and competitiveness.

At the same time, the energy transition poses substantial economic opportunities for emerging industries centred around clean energy technologies and energy efficiency. Most notably, Africa's vast resources of minerals that are critical for multiple clean energy technologies are set to create new export opportunities. Africa accounts for over 40% of global reserves of cobalt, manganese and platinum—key minerals for batteries and hydrogen technologies.

The continent also holds a sizeable share in the production of other mineral resources such as bauxite, graphite, and copper, with a substantial amount of untapped resources of other minerals, such as lithium and nickel. As global demand for critical minerals soars, so will their potential to contribute to the economic growth of African countries which host such resources. Establishing new value chains for critical minerals and ensuring the beneficiation of these minerals at source would offer a major opportunity for the African continent to benefit from the global energy transition.

Most African countries export critical minerals primarily in their raw form, thus missing an opportunity to add value at source and improving domestic economies. Prioritising the localisation of clean energy supply chains and the need to create added economic value in-country would allow for an increase in domestic profits,

growth in tax revenues, the creation of higher-skilled jobs, and enhanced positive technological spillovers, all of which would contribute to domestic economic growth while avoiding the pitfalls commonly associated with commodity dependence.

In addition to critical minerals, Africa has significant potential to become a leader in sustainable fuels such as clean hydrogen, ammonia, and biofuels, which are key to supporting global energy transitions. Several African countries, including South Africa, have also announced intentions to support the development of local production capacities for clean ammonia. Biofuels, derived from agricultural residues and energy crops, offer a pathway to cleaner transportation and rural economic development. By developing these sustainable fuels, Africa can support industrial transitions, ensure food security, drive economic growth, create jobs, enhance energy access, and position itself as a global player in the low-carbon energy market.

However, realising this potential requires a predictable, stable, and effective regulatory and political environment, as well as reliable and competitively priced energy supplies to increase the attractiveness of investing in new clean energy supply chain infrastructure.

2.2.2 G20 and international advances to date

South Africa aims to build on the foundation laid by the Brazilian G20 Presidency which prioritised “promoting the social dimension in order to promote a fair and inclusive transition” as a central theme of its ETWG Presidency. This effort led to G20 members endorsing the Principles for Just and Inclusive Energy Transitions (2024). On the margins of the G20 Energy Ministerial, Brazil hosted the first meeting of the IEA’s Global Commission on People-Centred Clean Energy Transitions,

which included the launch of the Global Commission report, Key Policy Design and Considerations for Affordable and Fair Transitions.

Brazil also used its G20 Presidency to emphasise the importance of clean energy investments in emerging markets, including publishing the G20 Clean Energy Investment Roadmap and Action Plan. The report demonstrated how the flow of capital into clean energy projects and related infrastructure in developing countries remains significantly below the level required to ensure affordable, secure and sustainable energy for populations in these economies.

Under India's G20 Presidency, member states agreed to a set of principles on low-emission hydrogen, and building on this, the Brazil G20 Presidency was able to advance consensus on the crucial role of technologically neutral, integrated, and inclusive approaches to develop and deploy a variety of sustainable fuels and technologies. This includes solutions for abatement and removal, carbon management, and emission reduction, with a view to creating scale and global markets to accelerate energy transitions, particularly in hard-to-abate sectors.

Beyond the G20, there have been a number of regional and international initiatives focused on accelerating the development and commercialisation of hydrogen, including the Clean Energy Ministerial (CEM), Mission Innovation (MI) and International Partnership for Hydrogen and Fuel Cells in the Economy (IPHE).

Regionally, Africa is also advancing cooperation on hydrogen through the Africa Green Hydrogen Alliance (AGHA) with the intent of supercharging the development of clean hydrogen and clean ammonia projects in Africa.

2.2.3 Expected outcomes

- **Green Industrialisation Hubs:** Develop a roadmap and action plan for establishing green industrial frontier hubs in Africa, focusing on green jobs and low-carbon industries. The roadmap should also outline the necessary intercontinental partnerships required to unlock funding, secure off-takers to derisk investments, and enable technology transfer to the continent.
- **Socio-economic Safeguards for Coal-Dependent Regions:** Initiate pooled capacity and country support for identification studies in critical sectors (e.g., PMGs, steel manufacturing, and fabrication) that will benefit from infrastructure investments in energy, emphasising the promotion of local production and global competitiveness, as a basis for repurposing coal dependent economies.
- **A G20 action agenda for affordable and inclusive transitions**: Deepening Brazil's G20 principles and engaging the Global Commission for People-Centred Transitions.
- **Local Content Requirements:** Develop a roadmap and action plan for local social compacting (government, business and labour), to implement domestic sourcing policy for renewable projects to mitigate job losses incurred as a result of the transition.
- **Clean Hydrogen for hard-to-abate sectors:** This initiative focuses on industries such as the steel industry, aviation industry, cement manufacturing, chemical and refineries, with a focus on Africa. Develop a roadmap and action plan for the establishment of industrial frontier hubs, with emissions reduction targets for steel and chemicals by 2030. Agree and publish common principles for standard terms to secure agreements with off-takers for clean hydrogen investment.

- **Sustainable Fuels:** Develop a roadmap for sustainable fuels building on the latest global analysis and related collaboration initiatives.

2.2.4 Focus on industries in transition.

The G20 ETWG will promote opportunities for greater participation by developing economies in the value chain of the global clean energy economy, with a focus on opportunities for the African continent. A key emphasis will be on fossil-fuel dependent industries and their communities, which face the highest risks from energy transitions and require targeted interventions to safeguard jobs and livelihoods.

The new **G20 South Africa initiative for industries in transition** will focus on identifying opportunities in four key areas:

1. **Beneficiation of critical minerals**
2. **Beneficiation of heavy industry inputs**
3. **Production of hydrogen and its derivatives**
4. **Clean technology manufacturing**

2.2.5 Pathways for delivering sustainable fuels by 2035

This second outcome focuses on developing strategies for delivering sustainable fuels, leveraging the latest global research and collaboration initiatives. Supported by analysis from international organisations, the outcome will address the production and adoption of sustainable fuels, including biofuels, hydrogen, and hydrogen-based fuels, to meet the demands of industries and transportation systems transitioning to low-carbon alternatives. Collaborative efforts will focus on scaling up production capacity, ensuring cost efficiency, and promoting common standards for sustainable fuels.

2.2.6 Blueprint for action on fair and affordable energy transitions

The Global Commission on People-Centred Clean Energy Transitions will publish a Blueprint for Action on Fair and Affordable Transitions based on the G20 principles for just and inclusive transitions agreed under Brazil's G20 Presidency. This blueprint will form part of the process for developing an action plan to be discussed by the G20, incorporating case studies, data-driven analysis, and policy recommendations. The agreed G20 principles under the Brazil's Presidency in 2024 are:

- Energy planning to ensure just and inclusive energy transitions
- End energy poverty through equitable access to modern energy
- Social dialogue and stakeholder participation in decision-making
- Social protection for communities affected by energy transitions
- Inclusive policies that address diverse socioeconomic needs
- Respect for rights ensuring fair treatment and protections
- Invest in affordable and reliable solutions to support just and inclusive energy transitions
- Implementation of secure and sustainable energy solutions
- Promoting sustainable and inclusive economic growth for all
- Quality jobs and workforce development to support the energy transition

The South Africa G20 Presidency will guide the ETWG's efforts towards the creation of a comprehensive action plan to implement these principles in the coming years. It will focus on mechanisms to unlock funding for just transitions and on developing the necessary skills and jobs needed for energy transitions, informed by stakeholder dialogue, notably the meetings of the Global Commission and the African Clean Energy Labour Councils.

The Action Plan will place a strong emphasis on solutions for communities reliant on or linked to fossil-fuel industries, ensuring that their needs remain a priority in the just transition.

2.2.7 Stakeholder dialogue

South Africa's G20 Presidency will be supported by a number of international stakeholder dialogues taking place throughout 2025 under the ETWG umbrella. These dialogues will be setup on the sidelines of the ETWG and the G20 Energy Ministerial, including:

- G20 Dialogue on sustainable finance and investment for clean energy in developing economies, building on the G20 Brazil Clean Energy Investment Roadmap for Developing Economies.
- G20 ETWG Dialogue on Just Transitions.

2.3 Priority 3: African Interconnectivity

2.3.1 Why is it important?

Africa plays a critical role in global energy systems. Africa is home to some of the richest renewable energy endowments in the world, possesses significant critical mineral reserves, and plays an important role in global oil and gas security. Despite its resource wealth, Africa remains energy poor. Unlocking Africa's energy potential requires more investment in both universal energy access and interconnectivity.

Since 2014, Africa's energy investment has fallen from US$150 billion to US$90 billion in 2022, and clean energy investments have struggled to gain momentum.

This challenge is exacerbated by the fact that the cost of capital for clean energy in Africa is almost three times higher than in advanced economies[2].

South Africa's G20 Presidency is a key opportunity for mobilising G20 member states and international partners to advance implementation of the calls to action for attainment of Africa's 2063 Agenda.

Strengthening the alignment of policies and the planning of energy systems is a key prerequisite for deeper energy markets integration and the development of Africa's energy resources. This requires more coherent policies to reduce energy trade barriers, enhance market transparency, and facilitate the seamless exchange of energy resources in the African energy pool.

2.3.2 G20 and international advances to date

South Africa's G20 Presidency presents a key opportunity to advance regional integration, a central pillar of the *African Union Agenda 2063: The Africa We Want*. A more interconnected African energy market and system will foster the continent's industrial growth, allow clean energy investments at scale and ensure greater affordability.

Reaching greater levels of interconnectivity of the African continent will help countries across Africa achieve energy security, increase access rates, and promote affordability, while promoting regional peace and economic growth.

The G20 ETWG will build on the efforts of the World Bank Group and the African Development Bank Group, which, together with partners, have embarked on a mission to expand electricity access to 300 million people in Africa by 2030

[2] International Energy Agency, Reducing the Cost of Capital – Analysis - IEA

("Mission 300"). Mission 300 aims to accelerate the pace of electrification in Sub-Saharan Africa while ensuring that the transition to more diversified and cleaner sources of energy meets growing demand, advances economic growth, and creates jobs. Efforts are focused on investing in generation, transmission, distribution, regional interconnectivity, and sector reform to ensure the quality, reliability, and affordability of power supply. The Mission 300 African Energy Summit held in January 2025 in Tanzania has created momentum to accelerate energy access across Africa.

Building on the experience from regions such as Asia, North America, Latin America, and the European Union, the G20 ETWG will exchange best practices and deepen the discussion on regional energy market integration and explore required collaboration processes with regard to infrastructure planning, investment and policy, and the harmonisation of regulations and standards.

As a key outcome of its G20 Presidency, South Africa aims to mobilise the G20 to support public and private investment in Africa's transcontinental energy infrastructure, power pools, and energy markets. This will be achieved through the exchange of global best practices, improved regional energy planning and identification of investment needs, the creation of institutional governance mechanisms, and policy harmonisation for Africa's energy market integration.

Strengthening interconnection between grids can enhance energy security and contribute to decarbonisation by allowing more flexibility in the system. However, interconnectors between grids in different jurisdictions present regulatory complexities, particularly when operating under distinct frameworks. In such cases, the role of regulators in facilitating and overseeing these interconnections becomes even more critical.

The Regulatory Energy Transitions Accelerator (RETA) is working with regulators to understand and facilitate the exchange of best practices on the challenges encountered when dealing with cross-jurisdictional interconnection projects. These can span from interregional planning, streamlining decision-making and permitting processes, financing and cost recovery mechanisms, capacity use and power trade agreements to harmonising technical requirements. Work from the African School of Regulation can also be leveraged in this regard.

Within this priority, the ETWG seeks to advance regional energy cooperation and interconnectivity across Africa. This priority is aligned to the African Union's Agenda 2063, particularly the creation of the Africa Single Electricity Market (AfSEM) to harmonise electricity markets across Africa and the implementation of the Continental Power Systems Master Plan, which strives to establish a cohesive and efficient energy market that leverages Africa's vast energy resources.

2.3.3 Expected outcomes

- **Exchange best practices on regional interconnectivity** with an action plan for achieving regional interconnectivity in Africa based on the three pillars.
- **Ten-year infrastructure investment plan** for Africa's Cross-Border Projects: Guided by the African Union, identify a minimum of three significant cross-border energy projects and develop project finance structures.
- **Policy Harmonisation** to support cross-border trade through alignment of regulations in AU member states to foster a unified energy market.
- **Renewable Energy Corridors**: Establish two corridors by 2030, promote localisation of the renewable energy value chains, and advance industrialisation and job creation by the sector.

2.3.4 Exchange of best practices for achieving regional interconnectivity

This involves identifying successful models of energy market integration from other regions, such as the European Union, Latin America, and Southeast Asia. Key actions include hosting workshops, dialogues, and knowledge-sharing platforms to bring together African energy stakeholders and international experts. These engagements will inform the development of an action plan tailored to Africa's unique needs, incorporating lessons learnt from regions with advanced interconnectivity systems. This initiative will provide a strong foundation for designing strategies that align with Africa's energy goals and global best practices.

2.3.5 Ten-year infrastructure investment plan for Africa's cross-border projects

The second outcome centres on creating a **Ten-Year Infrastructure Investment Plan** for Africa's cross-border energy projects. This plan is to identify at least three significant cross-border projects to enhance energy trade and resilience. Key projects may include regional power pools, transnational transmission lines, and large-scale renewable energy installations. The African Continental Power Systems Masterplan has outlined priority subprojects for implementation.

Developing project financing mechanisms is a core component, involving partnerships with multilateral development banks (MDBs), Development Finance Institutions (DFIs), commercial and private investors, and other international organisations. By prioritising cross-border infrastructure, this initiative aims to enhance energy reliability and optimise resource sharing across the continent.

2.3.6 Policy harmonisation

To support **cross-border** trade, this initiative aims to align regulations towards the establishment of a unified energy market. Coherent policies will reduce trade barriers, enhance transparency, enable the seamless trading of energy resources, and propel investments in projects across different jurisdictions. Key actions include convening policymakers, regulators, and industry stakeholders to agree on common standards and frameworks. This initiative is critical for building trust and collaboration among African nations, ensuring the long-term success of regional energy interconnectivity.

2.3.7 Renewable energy corridors

The fourth outcome focuses on developing **Renewable Energy Corridors** to increase the share of renewable energy in Africa's energy mix and support localisation in the renewable energy sector across the value chain. Two major renewable energy corridors are to be established by 2030, targeting connecting areas rich in renewable energy resources with major demand centres across Africa. Key actions include conducting feasibility studies, mobilising investment, and creating partnerships with international agencies in the energy sector. This initiative not only promotes sustainable energy development but also promotes localisation and contributes to the much-needed industrialisation of the African energy sector.

The four outcomes under Priority 3 underscore the importance of regional collaboration in achieving energy security, access, affordability, resilience, and sustainability across Africa.

By facilitating knowledge exchange, advancing cross-border collaborations, harmonising policies, and integrating renewable energy systems, South Africa's G20 Presidency aims to give effect to the realisation of the Africa Single Energy Market (AfSEM) and position Africa to achieve universal access to affordable,

secure, and reliable energy through interconnected and sustainable energy systems.

These efforts will not only address regional energy challenges but also contribute to global energy transitions, fostering solidarity and shared growth. This can be achieved with the support of G20 member countries, the African Union, the European Union, international and regional financial institutions, energy research institutions and the collaborative efforts of all African member states.

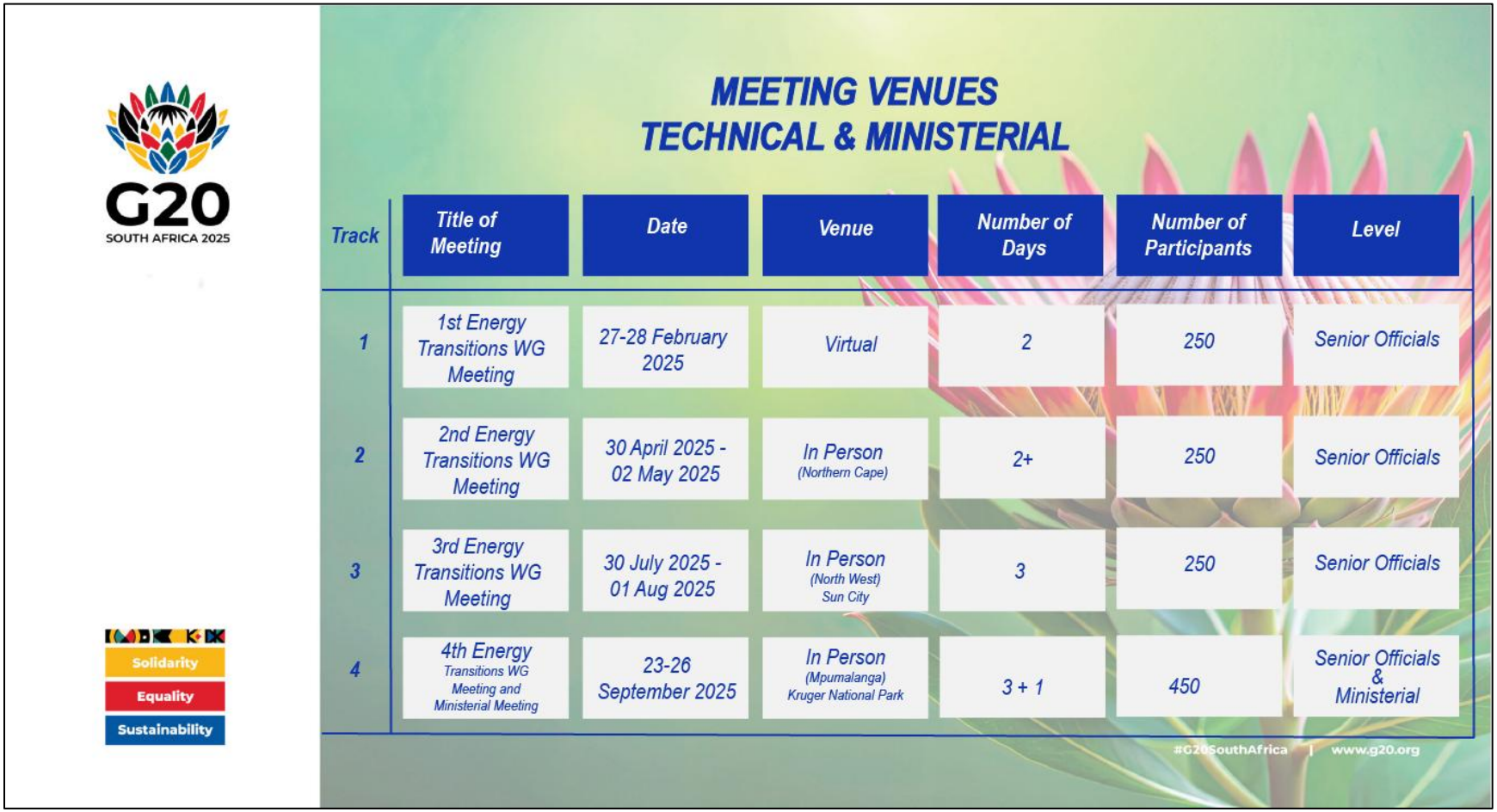
2.4 Stakeholder dialogue

South Africa's G20 Presidency will build on a number of international dialogues taking place throughout 2025 and facilitate dialogues on the sidelines of the ETWG and the G20 Energy Ministerial, including:

- G20 Global Coalition for Energy Planning Summit (June 2025)
- G20 workshop on Best Practice for Regional Energy Markets.
- G20 ETWG side event with regulators.
- G20 ETWG workshop on energy planning.

3 Tentative ETWG Calendar

The following table shows the proposed calendar for the 2025 Energy Transitions Working Group (ETWG) meetings.



Track	Title of Meeting	Date	Venue	Number of Days	Number of Participants	Level
1	1st Energy Transitions WG Meeting	27-28 February 2025	Virtual	2	250	Senior Officials
2	2nd Energy Transitions WG Meeting	30 April 2025 - 02 May 2025	In Person (Northern Cape)	2+	250	Senior Officials
3	3rd Energy Transitions WG Meeting	30 July 2025 - 01 Aug 2025	In Person (North West) Sun City	3	250	Senior Officials
4	4th Energy Transitions WG Meeting and Ministerial Meeting	23-26 September 2025	In Person (Mpumalanga) Kruger National Park	3 + 1	450	Senior Officials & Ministerial

* ***NUMBER OF DAYS * (excludes showcasing site visits)***

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