

2nd Conference of the International Network on African Energy Transition

REPORT



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Preface

The International Network on African Energy Transition (INAET) was launched in November 2023 in Rome by Luiss University and Eni. The initiative has several targets:

- Highlighting African priorities on the continent's energy transition by stimulating discussions among institutional, academic, private sector and civil society members;
- Favouring a deeper understanding of Africa's different perspectives and multiple solutions on key issues like energy access, decarbonization, climate change;
- Facilitating partnerships and research synergies between public institutions, universities, think tanks, the private sector and other relevant organizations, enabling cross-sectoral dialogue and contributing to point out innovative solutions on Africa's energy transition;
- Providing a platform for both INAET's members and stakeholders for data sharing, collection of best practices, as well as a forum for debate and discussion on energy-related issues.

Building on the positive outcome of the 2023 inaugural conference in Rome, Eni and the Luiss University — together with the International Finance Corporation (IFC) — organized in 2025 INAET's first conference in Africa (Nairobi, Kenya), in a country which is leader of climate advocacy. The event was supported by WTS Energy, Alpha Group, and Bayer, within a context of multi-stakeholder dialogue, with the private sector leveraging its expertise to promote transformative solutions. Key discussions of this second conference focused on financing the transition, sustainable transport, the energy-agriculture-water nexus and innovative solutions to bridge Africa's energy gap. The conversation also explored how international partnerships and policy frameworks can accelerate the transition, while emphasizing the role of the private sector, women and youth to define sustainable and inclusive paths.

The conference – with insightful discussions building on experts' knowledge, tangible success stories and countries' own experiences - represented a pivotal moment in INAET's journey, as the Network is expanding in terms of members and activities. This document reports on the main topics discussed with reference to some useful documents and studies for further investigation.

List of speakers

8th April 2025

Vision to Action: Africa and the energy transition

Pacifica F. Achieng Ogola, Director Climate Change, Ministry of Environment and Forestry, Government of Kenya

Mary Porter, Regional Director, International Finance Corporation

Ondrej Simek, Deputy Ambassador of the European Union to Kenya

Francesca Ciardiello, Head of Sustainability, Eni

Chair: **Domenico Lombardi**, Policy Observatory Director, Luiss School of Government

Session 1: Shaping the energy transition according to Africa's priorities

Hon. Abdul Rahim Jalloh, Deputy Minister II of Energy, Government of Sierra Leone

Richard S. Muyungi, Special Climate Envoy, Adviser to the President on Environment and Climate Change, Government of Tanzania

Feisal Hussain, Senior Director of Innovative Finance, Clean Cooking Alliance

Andrew Kamau, Energy Opportunity Lab co-Director, Center on Global Energy Policy, Columbia University

Vincent Kitio, Urban Energy Solutions Lead, UN-Habitat

Chair: **David Chiaramonti**, Full Professor, Energy Economics and Bioeconomy, Polytechnic of Turin

Session 2: Sustainable Aviation Fuel in Africa

Megersa Abera Abate, Senior Transport Economist, World Bank

Enrico Tavolini, Managing Director, Eni Kenya

Adefunke Adeyemi, Secretary General, African Civil Aviation Commission (AFCAC)

Henok Teferra Shawl, Africa Managing Director, Boeing

Kelly Johnson, Global Sector Lead, Chemicals & Fertilizers, International Finance Corporation

Abdérhmane Berthé, Secretary General, African Airlines Association (AFRAA)

Francis Mwangi, Senior Planning Officer, Kenya Civil Aviation Authority

Chair: **David Chiaramonti**, Full Professor, Energy Economics and Bioeconomy, Polytechnic of Turin

Session 3: Framing the change and changing frames: policy and regulatory schemes

Ian Gaitta, Partner, Projects & Infrastructure department, Anjarwalla & Khanna

Elvis K. Avenyo, University of Johannesburg, Senior Researcher

Akshay Shah, Group Executive Director, Silafrica

Jackson Ndegwa, Kenya Policy Coordinator, Climate Parliament

Vincent Obisie-Orlu, Researcher, Good Governance Africa

Chair: **John Karanja**, Director, Kenya Institute for Public Policy Research and Analysis

Session 4: Partnerships for energy security

Maddalena Procopio, Senior Policy Fellow, European Council on Foreign Relations (ECFR)

Veronica Bolton Smith, CEO, Critical Minerals Africa Group

Arslan Chikhaoui, Executive Chairman, Nord Sud Ventures

Chair: **Davide Chinigò**, University of Bologna, Senior Assistant Professor of African History and Institutions

Session 5: Not just a transition, a just transition: energy, agriculture, and water

Hamisi Williams, Deputy Country Representative, FAO

Vahid Monadjem, Head Africa, Talus Renewables

Kai Mornhingweg, Head Corporate Public Affairs, Bayer

Grazia Pacillo, Senior Scientist and co-lead CGIAR FOCUS Climate Security, CGIAR

Chair: **Romy Chevallier**, Senior researcher, South African Institute of International Affairs (SAIIA)

9th April 2025

Session 6: Making finance serve a sustainable transition

Francesco La Camera, Director General, International Renewable Energy Agency (IRENA)

Alexander Larionov, Senior Investment Officer, International Finance Corporation

Lucy Chege, Group Associate Executive, Project & Infrastructure Finance, Trade and Development Bank

Edward Claessen, Regional Hub East Africa Head, European Investment Bank

Enrico Petrocelli, Head of International Institutional Relations, Cassa Depositi e Prestiti

Chair: **Rita Ricciardi**, Partner, Berghs & More

Session 7: The role of the private sector in a multi-stakeholder approach

Benjamin Boakye, Executive Director, Africa Centre for Energy Policy (ACEP)

Brian Kuloba, Business Development Manager Kenya, WTS Energy

Howard Piwang, Research and Development Lead, Mandulis Energy

Meekaeel Kurji, Strategy and Operations, Alpha Group

David Auerbach, co-founder, Sanergy

Chair: **Jackson K. Koimbori**, Head of KEPSA Consult, & Senior Circular Economy and Climate Change Coordinator

Session 8: Empowering change: what women bring to the table

Mehjabeen Alarakhia, Women's Economic Empowerment Policy Specialist and Deputy Regional Director OIC, East and Southern Africa Regional Office, UN Women

Anne Kingiri, Director Research and Innovation, African Centre for Technology Studies

Viridiana Wasike, National Government Affirmative Action Fund, Director Partnerships & Resource Mobilization

Elizabeth Gichache, Treasurer, Women in Sustainable Energy and Entrepreneurship

Chair: **Ester Stefanelli**, Senior Political Analyst, Eni

Session 9: The role of youth in the energy transition

Prudence Lihabi, CEO and Founder, Youth for Sustainable Energy

Joseph Nguthiru, Founder HyapakEco

Lynn Modester, Kenya Climate Change Working Group

Sandra Cherotich, founder Energy Nova

Brian Omenyi, Power Up company

Chair: **Hurdson Thomas**, Executive Director, Youth Greenspace Action and Network Organization

Session 10: Innovative synergies: digital and energy transformations

Philip Thigo, Special Envoy on Technology of Kenya

Ambrogio Michetti, Chief Corporate and Revenue Officer, Sparkle

Huneid Hussein, Country Director, Wingu

David Cheboryot, East Africa Director, E4Impact

Chair: **Massimo Zaurrini**, Director, Africa e Affari and InfoAfrica

Closing remarks

Sam Nganga, Regional Industry Manager for Upstream and Advisory for the Manufacturing, Agribusiness and Services, Department for East and Southern Africa, International Finance Corporation

Marco Piredda, Head of International Affairs Analysis and Business Support, Public Affairs, Eni

Vision to Action: Africa and the energy transition



Speakers: Pacifica F. Achieng Ogola, Director Climate Change, State Department of Environment, Ministry of Environment and Forestry, Government of Kenya; Mary Porter, Regional Director, International Finance Corporation; Ondrej Simek, Deputy Ambassador of the European Union to Kenya; Francesca Ciardiello, Head of Sustainability, Eni. Chair: Domenico Lombardi, Policy Observatory Director, Luiss School of Government.

The opening session offered a compelling overview of the challenges and opportunities surrounding Africa’s energy transition. From the side of the Kenya Government it was firstly remembered the high-level global commitments—such as the Paris Agreement and the COP28 milestone calling for a transition away from fossil fuels—while also highlighting the limited practical guidance available to countries on how to implement such ambitions. It has been stressed that while Kenya has emerged as a continental leader in renewable energy, largely due to its progressive policy environment and energy sector reforms, many African nations still lack the frameworks, capacity, and investment necessary to move forward. Kenya’s own efforts are rooted in a commitment to low-carbon development and resilience, demonstrated by its Nationally Determined Contributions (NDCs), the goal to reach universal access to clean cooking by 2028, and strategic reforms to reduce the prohibitively high cost of electricity—a barrier to scaling up electric mobility and clean cooking solutions in the country. It has been also underscored the importance of climate finance and carbon markets, pointing to Kenya’s initiative to develop enabling frameworks for project registration,

monitoring, and trading of carbon credits. These efforts aim to attract high-quality, verifiable investments and generate local benefits.

The Deputy Ambassador of the European Union to Kenya, echoed these concerns, noting that while global investment in energy transition is increasing, the distribution remains uneven. He applauded Kenya as an outlier in Africa for its advanced renewable energy capacity—already sourcing over 80% of its electricity from renewables—but noted that most of the continent lags far behind, hindered by fragmented regulatory environments and infrastructure deficits. It was emphasized the European Union’s commitment to addressing these disparities through the Global Gateway initiative, which aims to mobilize €150 billion (out of €300 billion) in public and private investments to Africa, with a focus on sustainable infrastructure, including energy access, digital connectivity, and green growth.

The Regional Director of the International Finance Corporation (IFC), underscored the importance of ensuring that Africa’s energy transition is centered on delivering reliable, affordable, and accessible energy to all. She emphasized that solving Africa’s energy challenges cannot be done by governments alone. IFC’s own investment portfolio in Africa—including impactful collaborations with private sector partners such as Eni—is focused on closing the access gap and promoting bankable, scalable solutions. Strong, cross-sectoral partnerships has been mentioned as the only way to power Africa’s future also stressing the need for deeper collaboration between different stakeholders.

The Head of Sustainability at Eni, framed the discussion within the broader context of sustainable development and stressing that energy transition efforts must be grounded in social equity, inclusive growth, and long-term resilience, paving the way for an energy transition that focuses on reducing emissions while also allowing countries to thrive. Emphasis was place on the fact that multiple transitions are happening simultaneously, entailing different choices. Energy therefore appears as a key political choice, linked to the people’s will. Given the complexities of the energy transition it is crucial to have an articulated discussion, avoiding oversimplifications, and for this purpose, the importance of the INAET initiative was highlighted.

The opening session defined the key message guiding the conference: the energy transition in Africa concerns finance and investment, but first and foremost equity and inclusion. Real progress will require enabling policies, strong institutions, innovative finance, and above all, genuine partnerships across borders and sectors.

Session 1: Shaping the energy transition according to Africa's priorities



Speakers: Hon. Abdul Rahim Jalloh, Deputy Minister II of Energy, Government of Sierra Leone; Richard S. Muyungi, Special Climate Envoy, Adviser to the President on Environment and Climate Change, Government of Tanzania; Feisal Hussain, Senior Director of Innovative Finance, Clean Cooking Alliance; Andrew Kamau, Energy Opportunity Lab co-Director, Center on Global Energy Policy, Columbia University; Vincent Kitio, Urban Energy Solutions Lead, UN-Habitat. Chair: David Chiamonti, Full Professor, Energy Economics and Bioeconomy, Polytechnic of Turin.

The conference opened by underscoring a key challenge: despite numerous commitments made across the continent, concrete, actionable guidance to support countries in navigating a just energy transition is missing. Many African nations still do not have clear and comprehensive plans in place on it. South Africa was highlighted as a positive example; indeed, through its “Just Transition Framework” the country articulated a clear and strategic path that lies at the intersection of climate action and socio-economic development (Presidential Climate Commission, 2022). It therefore supports South Africa’s broader efforts to redesign the economy to the benefit of most citizens to enable deep, just, and transformational shifts in the context of delivering an effective response to the climate change. The framework supports South Africa’s broader efforts to reshape its economy for the benefit of all citizens by enabling a deep, equitable, and transformational shift in response to climate change. It is grounded in three key principles: distributive justice, restorative justice, and procedural justice. Furthermore, the framework prioritises four critical sectors and value chains

vulnerable to transition-related risks within the formal economy: the coal value chain, the auto value chain, agriculture, and tourism (Presidential Climate Commission, 2022).

Kenya is also a leading example. Its Energy Transition & Investment Plan sets ambitious net-zero targets, considering environmental sustainability, energy system costs, economic impact, Employment impact and social implications, and energy security and trade balance Kenya is one of the continent's frontrunners in the shift to renewable energy and plays a central role in accelerating Africa's collective transition (Ministry of Energy & Petroleum, 2023). This was evident during the Africa Climate Summit 2023, a biennial event organised by the African Union and hosted by its Member States to shape a new climate vision for the continent. The resulting Nairobi Declaration affirmed Africa's potential and determination to be a key player in global climate solutions. With the world's youngest and fastest-growing workforce, vast renewable energy potential, abundant natural resources, and a strong entrepreneurial spirit, Africa has the foundational assets to pursue a climate-resilient and development-driven future.

The Declaration echoed several points discussed at the conference, including the need for African countries to adopt and implement policies, regulations, and incentives to attract local, regional, and global investment in green growth and circular economies. It also called for stronger partnerships between Africa and other global regions. Crucially, the Declaration framed decarbonization not just as a necessity, but as an opportunity to promote equality and shared prosperity. Among the key actions outlined in the Declaration - and discussed at the conference - there is increasing Africa's renewable generation capacity from 56 Giga Watts (GW) in 2022 to at least 300 GW by 2030, shifting exports of energy intensive primary processing of Africa's raw material back to the continent, to serve as an anchor demand for renewable energy and a means of rapidly reducing global emissions; accelerating efforts to decarbonize the transport, industrial and electricity sectors through the use of smart, digital and highly efficient technologies. However, a major barrier to these ambitions remains the high cost of capital (African Union Commission, 2023). Many African countries are heavily indebted and face disproportionately high borrowing costs, which not only fuel recurring debt crises but also hinder investment in sustainable development and climate action. Alarming, Africa currently receives just 2% of global renewable energy investment. Meeting the continent's energy and climate goals by 2030 will require over USD 200 billion in annual investment throughout this decade. To satisfy growing energy demand, annual energy investments must more than double by 2030, of which three-quarters is in clean energy (IEA, 2024). A notable initiative in this context is Mission 300, an ambitious program - led by the World Bank Group (WBG)

and the African Development Bank (AfDB) – which aims to connect 300 million people to electricity in the region by 2030. Under the Dar es Salaam Energy Declaration - an agreement made by African leaders at the Mission 300 Africa Energy Summit in January 2025 to expand access to reliable, affordable, and sustainable electricity across the continent - African governments have committed to critical sectoral reforms, including the creation of enabling regulatory environments, the implementation of effective fiscal policies to attract private investment, and the prioritisation of national budget allocations to complement contributions from development partners, philanthropies, and the private sector in pursuit of Mission 300's objectives (Africa Heads of State Energy Summit, 2025). To build on this momentum, the World Bank Group is scaling up its support for African energy projects, mobilising USD30 billion in International Development Association (IDA) resources between now and 2030, while also deploying innovative financing tools to crowd in private sector investments (Overview | Mission 300 is Powering Africa, n.d.).

In examining Africa's priorities, the discussion underscored a critical point: energy cannot be treated in isolation. It must be addressed in conjunction with the continent's interconnected challenges—particularly access to clean cooking, rapid urbanization, housing needs, and the role of critical minerals.

Ensuring universal access to electricity and clean cooking is not only fundamental for public health and quality of life but also central to realizing a just and inclusive energy transition. Modern cooking solutions—such as improved cookstoves and clean fuels—have the potential to drastically reduce deaths from smoke-related illnesses, curb air pollution, and mitigate climate change. Household energy use currently accounts for over half of global black carbon emissions, a potent contributor to global warming. Furthermore, clean cooking technologies can relieve women from the burden of fuel collection, reduce health risks, cut household expenses, and even create new economic opportunities in the clean energy value chain.

The panel also brought attention to Africa's severe housing shortage, with an estimated deficit of more than 50 million units. This crisis is driven by accelerated urbanization, population growth, and persistent economic barriers, resulting in overcrowded living conditions, the proliferation of informal settlements, and wide-ranging implications for health, safety, and social well-being. While many governments are responding with initiatives to expand affordable housing through innovative construction models and financing schemes, it was noted that the construction sector itself is energy-intensive. The production, transport, and use of building materials—especially cement and steel—carry a heavy carbon footprint. Addressing Africa's housing needs therefore

requires integrated planning that aligns energy, urban development, and climate goals, ensuring that solutions are not only scalable and affordable, but also sustainable.

Regarding the issue of critical minerals, it has been noted that the extraction and processing of these minerals—such as cobalt, lithium, and rare earth elements—represent a major economic opportunity for Africa. While the production of these resources is already a significant source of income, global demand is skyrocketing due to their use in clean energy technologies. This creates a unique opportunity for Africa to expand output and develop regional and continental value chains. However, this potential can only be unlocked through large-scale investments in mining operations and the supporting infrastructure—such as ports, roads, railways, and power systems—that underpin them.

In conclusion, with a view of shaping the energy transition according to Africa's priorities, it must be recognised that Africa must chart its own energy trajectory, one that is firmly anchored in local contexts and realities. The transition should serve as a catalyst for inclusive and sustainable development—creating decent jobs, strengthening value chains, and supporting core sectors such as housing, food security, industrial production, and community well-being. Empowering women and youth is central to achieving these goals. What is needed now is a new paradigm—where energy policies are designed to overcoming existing inequalities and close structural gaps. In this regard working as network is key and it is required a transformation in governance compared to the past: one that is multi-level, inclusive, and participatory, involving civil society, academia, the private sector, and platforms like INAET, which can play a valuable role in fostering collaboration and knowledge-sharing across the continent.

Session 2: Sustainable Aviation Fuel in Africa



Speakers: Megersa Abera Abate, Senior Transport Economist, World Bank; Enrico Tavolini, Managing Director, Eni Kenya; Adefunke Adeyemi, Secretary General, African Civil Aviation Commission (AFCAC); Henok Teferra Shawl, Africa Managing Director, Boeing ; Kelly Johnson, Global Sector Lead, Chemicals & Fertilizers, International Finance Corporation; Abd rahmane Berth , Secretary General, African Airlines Association (AFRAA); Francis Mwangi, Senior Planning Officer, Kenya Civil Aviation Authority. Chair: David Chiaramonti, Full Professor, Energy Economics and Bioeconomy, Polytechnic of Turin.

Decarbonising the aviation sector — which in 2023 accounted for 2.5% of global emissions and is considered a "hard-to-abate" industry due to the technical limitations of alternative technologies to combustion engines — represents a major challenge that necessitates international cooperation. In 2023 the International Civil Aviation Organization (ICAO, a UN agency promoting international cooperation on aviation) adopted a Global Framework for Sustainable Aviation Fuel (SAF) and Lower Carbon Aviation Fuel (LCAF) and other Aviation Cleaner Energies, stating that “ICAO and its Member States are encouraged to work together to strive to achieve a collective long-term global aspirational goal for international aviation (LTAG) of net-zero carbon emissions by 2050, in support of the Paris Agreement” (ICAO, 2023). The document recognises that this global aspirational goal requires a comprehensive approach consisting of a basket of measures, including technology, sustainable fuels, operational improvements, and market-based measures. However, as demand for air travel continues to grow, the decarbonization of aviation throughout Sustainable Aviation Fuel is

expected to be the main mitigation option that can most readily realize substantial GHG emission savings for air transport in the medium term.

There is an urgent need for coordinated global action to accelerate the development and large-scale deployment of SAF, LCAF, and other cleaner aviation energy sources. These alternatives must be economically viable, cost-effective, and socially and environmentally sustainable. Transport—both domestic and international—was responsible for approximately 20% of global greenhouse gas (GHG) emissions in 2019, and emissions from this sector are projected to double over the next 25 years. Despite this pressing challenge, SAF currently accounts for just 0.1% of global aviation fuel demand and is 2 to 5 times more expensive than conventional jet fuel. Furthermore, the production of SAF, LCAF, and other clean aviation fuels remains highly concentrated in a limited number of countries. Present and near-term production is largely planned in OECD countries, while substantial yet untapped potential exists in low- and middle-income nations. These non-OECD countries already play a critical role in supplying feedstocks for biofuels used in road transportation, and they are well-positioned to become key contributors to the global aviation fuel transition (Malina, Abate, Schlumberger, & Pineda, 2022).

To explore the potential for developing sustainable aviation biofuels in South Africa and the broader sub-Saharan African region, WWF South Africa—supported financially by the Boeing Company—commissioned the International Institute for Applied Systems Analysis (IIASA) to conduct an in-depth assessment. The study aimed to identify viable pathways for large-scale, sustainable biofuel development across the region and is based on the guiding principles for the sustainability assessment developed by the Roundtable on Sustainable Biomaterials (RSB, s.d.). The assessment revealed substantial potential for both SAF (Sustainable Aviation Fuel) production and job creation. Specifically, the study found that approximately 0.8 million km² (roughly the size of Zambia) in sub-Saharan Africa are agro-ecologically well-suited for cultivating biofuel feedstocks that meet the minimum greenhouse gas (GHG) emissions reduction criteria. Depending on the type of energy crop used and the degree of mechanisation involved in its production, this could generate between 11 and 20 million additional jobs, particularly in less developed areas, where a significant proportion of the population is employed in agriculture (WWF, 2019).

The INAET conference highlighted that countries such as Ethiopia, Kenya, Angola, South Africa, Nigeria, Ghana, and Egypt are well-positioned to become significant players in the emerging biofuels value chain. For example, South Africa has been assessed to have the technical potential to produce up to 3.2 billion litres of SAF annually (Bole-Rentel, Chireshe, & Reeler, 2022). In Kenya, a

Feasibility Study on the Use of SAF revealed that the country possesses favourable conditions for establishing a domestic SAF industry. By 2030, up to 200 million litres of SAF per year could be produced from used cooking oil (UCO) alone, with additional feedstocks—such as municipal solid waste, sugarcane residues, and water hyacinth—offering opportunities to substantially increase output (White, 2018). Nonetheless, the successful development of this sector depends on critical enablers, including infrastructure upgrades (particularly in refuelling and logistics), robust policy support, international collaboration, and active stakeholder engagement across public and private sectors.

Although Africa currently plays a marginal role in the global refining industry, and SAF production, distribution, and logistics across the continent remain underdeveloped, the potential for growth is significant, and several promising initiatives – including Eni’s agri-feedstock project presented during the conference (Eni, 2024) - are already underway to strengthen Africa’s position in the biofuels value chain. One notable effort is led by the African Civil Aviation Commission (AFCAC, an agency of the African Union promoting regional cooperation on the development and regulation of civil aviation in Africa), which is actively collaborating with regional and international partners to accelerate the development and deployment of SAF across the continent. This initiative aims to: harmonize policies to support the development, production, and deployment of SAF and Lower-Carbon Aviation Fuels (LCAF) in African States; strengthen institutional, human, and technical capacities to facilitate the implementation of SAF/LCAF initiatives, including the establishment of SAF/LCAF production facilities; improve the quality of technical feasibility studies to provide a solid foundation for both public and private sector investment; mobilize financial resources through the African Union, its development partners, and other funding sources to support SAF/LCAF project development across African States (Strategic Objectives – AFCAC, s.d.).

These efforts reflect a growing recognition of SAF’s potential to support climate action, energy security, and economic development across Africa.

Session 3: Framing the change and changing frames: policy and regulatory schemes



Speakers: Ian Gaitta, Partner, Projects & Infrastructure department, Anjarwalla & Khanna; Elvis K. Avenyo, University of Johannesburg, Senior Researcher; Akshay Shah, Group Executive Director, Silafrica; Jackson Ndegwa, Kenya Policy Coordinator, Climate Parliament; Vincent Obisie-Orlu, Researcher, Good Governance Africa. Chair: John Karanja, Director, Kenya Institute for Public Policy Research and Analysis.

Achieving a just energy transition that leaves no one behind requires not only well-designed policies but also agile, inclusive, and forward-looking regulatory frameworks to actively facilitate public and private investment in renewable energy and infrastructure, while supporting the deployment of emerging technologies such as smart grids (Liu, 2021). Despite Africa's vast potential for electricity sector development, private sector investment in energy infrastructure and service delivery remains low. One of the most significant barriers is the perceived risk linked to inadequate policy and regulatory environments. Comprehensive reforms to create open, transparent, and attractive regulatory frameworks are essential to make African energy markets more appealing to private investors. At the same time, efforts to promote renewable energy investment must be matched by a commitment to safeguarding the rights and welfare of local communities where projects are located. Without legal and regulatory provisions ensuring community participation,

benefit-sharing, and environmental protection, local opposition could pose serious obstacles to the success and sustainability of renewable energy initiatives.

Regulatory challenges are not confined to the national level; there is an urgent need for regulatory integration at the regional scale. Building green and resilient value chains requires the harmonisation of policies, the elimination of legislative duplication between neighbouring countries, and the maximisation of economies of scale. The energy transition presents a unique opportunity to serve as a catalyst for a shared African industrialisation, but realising this potential demands the establishment of common regulatory frameworks, coordinated financial instruments, and integrated governance structures. Developing sustainable regional infrastructure and advancing regional integration and intra-African trade hinge on the creation of effective, comprehensive, and harmonised continental regulatory systems. Such frameworks will enhance regional cooperation, improve the coordination of African countries and regional institutions, and strengthen stakeholder engagement. Specifically in the energy sector, a harmonised regulatory environment at both continental and regional levels could facilitate the creation of an integrated African energy market, boost private sector participation, and mobilise the substantial financial and technical resources necessary to achieve universal access to modern energy, one of the key ambitions outlined in Agenda 2063 of the African Union (AU), which, with its flagship project Continental Power System Master Plan, focuses indeed on the regionalisation of policies (The African Continental Master Plan | AUDA-NEPAD, n.d.).

The AU has set out an ambitious vision to create a continent-wide interconnected power system - the Africa Single Electricity Market (AfSEM) - designed to serve 1.3 billion people across 54 countries. AfSEM aspires to become one of the world's largest electricity markets by 2040, aiming to enhance access to reliable, affordable, and sustainable electricity across Africa. The benefits of interconnection are substantial, offering both technical efficiencies and economic opportunities, while a fully integrated and competitive electricity market is expected to accelerate development and expand energy access throughout the continent. The Continental Power System Masterplan (CMP) serves as the blueprint for AfSEM and is intended to create the necessary framework conditions to enable cross-border electricity trade, allowing countries to balance national surpluses and deficits through inter-power pool exchanges. This harmonised platform will also support optimised investment decision-making, providing guidance on the location, size, and timing of generation and transmission infrastructure projects, thereby ensuring more efficient and strategic development of Africa's energy systems.

Several studies have been conducted to support and complement the planning of the CMP, offering deeper insights into the potential contributions to Africa's integrated power system as well as identifying adjacent developmental opportunities. In the case of solar power, it has become evident that policy and regulatory stability often has a greater influence on investment decisions than the quality of the solar resource itself. Renewable energy investments typically flow toward countries where transparent and stable policy and regulatory frameworks are in place. Therefore, efforts to implement policy and de-risking measures such as streamlined permitting processes and expedited project approvals are essential to unlocking renewable energy potential at the lowest possible cost for utilities and consumers. Equally critical is addressing currency risk, which affects virtually all projects across the continent. Effective mitigation is crucial to attracting sustained private sector investment and ensuring the long-term viability of renewable energy development in Africa (AU, 2023).

Regulatory barriers have also been identified in the development of Battery Energy Storage Systems (BESS), which are essential for enabling the power system to integrate variable renewable energy sources. BESS contribute significantly to improving energy system resilience and reliability by providing backup power during outages, responding to supply and demand imbalances, managing changes in power flow patterns, addressing fluctuations, and enhancing power quality. However, the lack of supportive policy frameworks remains a critical obstacle to investment in this sector. Challenges include unclear permitting and licensing requirements, double taxation and additional charges associated with BESS projects, and insufficient clarity regarding the role of network operators in owning and operating storage systems. Furthermore, the absence of a legally binding and technology-neutral definition of energy storage in existing regulations undermines the legitimacy of BESS as an alternative to traditional grid reinforcement projects. Inefficient structures also fail to properly reflect the value that energy storage can bring to the grid (AU, 2023).

Overall, the development of each emerging technology requires a specific regulatory framework that recognises and supports the unique features and functions of these assets within the modern power system.

Session 4: Partnerships for energy security



Speakers: Maddalena Procopio, Senior Policy Fellow, European Council on Foreign Relations (ECFR); Veronica Bolton Smith, CEO, Critical Minerals Africa Group; Arslan Chikhaoui, Executive Chairman, Nord Sud Ventures. Chair: Davide Chinigò, University of Bologna, Senior Assistant Professor of African History and Institutions.

The urgency of forging new partnerships for the energy transition lies in the recognition that Africa cannot develop resilient energy systems or competitive industrial capabilities in isolation, but external economic and technical collaboration is essential. At the same time, regions like Europe cannot achieve their green transition goals without stable access to critical minerals, of which Africa holds 30% of the world's reserves. In the evolving global energy landscape, interdependence is inevitable, requiring the creation of strategic international partnerships that reflect both the demands of the energy transition and shifting geopolitical dynamics.

The global landscape is steadily shifting toward a multipolar geopolitical order that brings with it new and emerging uncertainties. The current multidimensional crisis, usually condiered related to the war in Ukraine; tensions between the US and China; the Covid-19 pandemic and climate change and affecting nearly every region of the world, is driving a range of disruptive consequences—including surging inflation, instability in food systems, and strained raw materials and energy supply chains. These pressures are compounded by the displacement of vulnerable populations, rising migration risks, and the escalation of major urban and transnational criminal

activity. Africa's role in this new global landscape is changing, with the continent becoming increasingly assertive in advancing its won priorities, also concerning the energy transition, leveraging on increased representation in international settings and diversified partnerships.

Western engagement in Africa must adapt to this new reality, acknowledging the emergence and strengthening of South–South alliances, the consolidated partnership with China, and the growing presence of middle powers, including the Gulf States, Turkey, India, South Korea, and Indonesia. These developments underscore the need for mutually beneficial partnerships also built on Africa's priorities and aimed at achieving a just, inclusive, and globally integrated energy transition. The EU, for instance, is not recognizing this trend and its effort of “de-risking” from China through the Global Gateway Initiative - of which half of the planned USD 300 billion is devoted to Africa - follows an approach that does not necessarily meet the expectations of African countries (EU-Africa: Global Gateway Investment Package - European Commission, n.d.).

Looking at sustainable mineral raw materials value chains – a sector where the EU and other players are developing bilateral partnerships with resource-rich countries – must be recognized that, unlike fossil fuels, disruptions in the supply pose less of a threat to energy security and more of a risk to the pace of the global energy transition. The main challenge lies in securing steady access to these materials, especially for countries that are heavily dependent on imported clean energy technologies. Such countries typically develop critical mineral strategies focused on strengthening mineral diplomacy through trade and investment agreements, and diversifying supply chains to reduce overreliance on a limited number of sources. Conversely, mineral-rich countries—particularly those in the developing world—prioritize maximizing domestic value from their resources. Their strategies often include imposing taxes or export restrictions, establishing state-owned mining and resource companies, promoting domestic processing industries, and improving refining capacity. These countries are increasingly advocating for sustainable and transparent supply chains and seeking to benefit from regional collaboration to enhance competitiveness and bargaining power in the global critical minerals market (IRENA, n.d.).

Africa is embracing multipolarity, African governments made it clear that they want and need to maintain relationships with many different actors at once to forge a more robust development path. External partners likely need to take those priorities into account. To strengthen its geopolitical influence and remain competitive in forging effective partnerships with Africa, the external partners must go beyond their strategic need to secure raw material imports and must genuinely engage with Africa's priorities, particularly those related to local value addition, industrial development, job

creation, energy access and economic sovereignty. External partners must align with these priorities not as a concession, but as a precondition for building a shared and interdependent energy complex and increase trade security, leading to outcomes that are mutually beneficial.

In the context of critical minerals, the Approach Paper Towards the Preparation of an African Green Minerals Strategy (2022) highlights that Africa's development opportunities are emerging amidst intensifying global competition - especially among Global North countries - to scale up battery, electric vehicle, and renewable energy industries. While this demand grants Africa geopolitical leverage as an alternative mineral supplier, there is a real risk that this competition will entrench Africa's role as a mere exporter of unprocessed raw materials, undermining its ability to establish a green mining value chain and capture the economic benefits of value-added production. The paper further argues that the prevailing definitions of critical minerals by Global North countries are misaligned with Africa's developmental needs. It advocates for a strategic redefinition tailored to Africa's context, aimed at identifying core minerals and prioritizing actions that will underpin the forthcoming African Green Minerals Strategy. This strategy should focus on maximizing domestic benefits from mineral wealth, fostering industrialization, and driving the growth of the clean energy sector across the continent (AFDB, 2022).

In conclusion, enhancing energy partnerships in Africa necessitates a comprehensive approach that integrates strategic collaboration, sustainable investment, and robust policy frameworks. These partnerships should be closely aligned with continental and national development priorities and must promote effective coordination among key stakeholders—including governments, private sector actors, non-governmental organizations, and development finance institutions—to ensure that high-level international and national energy targets are responsive to the specific needs of local communities.

Session 5: Not just a transition, a just transition: energy, agriculture, and water



Speakers: Hamisi Williams, Deputy Country Representative, FAO; Vahid Monadjem, Head Africa, Talus Renewables; Kai Mornhingweg, Head Corporate Public Affairs, Bayer; Grazia Pacillo, Senior Scientist and co-lead CGIAR FOCUS Climate Security, CGIAR. Chair: Romy Chevallier, Senior researcher, South African Institute of International Affairs (SAIIA).

The conference provided a valuable platform to explore the deep interconnections between development, equity, climate resilience, and fundamental rights. In the African context, the transition must go beyond energy, since it must be fundamentally social, economic, and environmental. As emphasized during the discussions, this transformation must centre on people, particularly marginalized communities, as well as ecosystems and the capacity of countries to respond to critical challenges such as food and water insecurity.

This demands holistic, cross-sectoral approaches that integrate energy with climate-resilient, low-carbon, environmentally sustainable, and financially viable agriculture value chains and accelerate the transfer of technology, knowledge, assets and services. The energy transition is pivotal to advancing food security and rural development. Achieving the goals of producing more, wasting less, and nourishing better will require the integration of renewable energy into agricultural systems: from improving irrigation infrastructure – it was noting that only 6% of Africa's arable land

is currently irrigated - to enhancing refrigeration and post-harvest processing capabilities. Moreover, a major barrier remains i.e. the limited access to modern energy for millions of smallholder farmers, who represent approximately 75% of Africa's agricultural producers. Energy access is also central to building climate resilience, enabling more efficient water use, improved storage systems, and the deployment of renewable technologies to mitigate the impacts of droughts, floods, and other climate-related shocks.

In this context, a best practice which exemplifies a holistic approach to catalysing a paradigm shift toward climate-resilient, low-carbon, and sustainable agriculture is the project "Transforming Livelihoods through Climate Resilient, Low Carbon, Sustainable Agricultural Value Chains in the Lake Region Economic Bloc, Kenya" funded by the Green Climate Fund (GCF). This densely populated region - like many others across the continent - is highly dependent on agriculture. However, the impacts of climate change, including rising temperatures, unpredictable rainfall, and above all frequent flooding, pose significant threats to food security and result in severe livelihood losses and elevated mortality rates livelihoods. Climate-related hazards in the region are further exacerbated by anthropogenic pressures on key socio-economic systems, such as deforestation, unsustainable land use changes, rapid urbanization, weak water management systems, and pollution. The project aims to reach over 143,000 farmers with training and support for the adoption of climate-smart technologies and practices, thereby enhancing their resilience to climate change while increasing household incomes (FAO, 2025). Implemented through a collaboration between the Government of Kenya, the FAO Kenya Office, and Agriterra, and in partnership with the private sector, the initiative also seeks to improve access to markets and finance and is expected to generate up to 3,000 new jobs.

As highlighted by Bayer, in addition to providing technical assistance and financial incentives to farmers, the company is also active in the development of innovative crop solutions (e.g. oilseeds) that enhance climate resilience and withstand extreme weather conditions. It has been mentioned the critical nexus between food security, climate change, and sustainable land use in Africa's development agenda. With much of Africa lacking access to new arable land, it has been stressed the urgency of increasing soil fertility and maximizing existing production capacity. Bayer pointed to the need for reducing the environmental footprint of agriculture—minimizing emissions and overall ecological impact—through the adoption of innovative technologies. The company, for instance, is actively supporting smallholder farmers through advanced, data-driven crop protection solutions.

These tools not only improve yields but also promote more efficient, climate-smart agricultural practices.

The promotion of regenerative agriculture practices—aimed at improving soil health, increasing biodiversity, and enhancing carbon sequestration—was also emphasized. Another concrete example presented was the local, sustainable, and cost-competitive production of Green ammonia by Talus (Talus, n.d.).

Session 6: Making finance serve a sustainable transition



Speakers: Francesco La Camera, Director General, International Renewable Energy Agency (IRENA); Alexander Larionov, Senior Investment Officer, International Finance Corporation; Lucy Chege, Group Associate Executive, Project & Infrastructure Finance, Trade and Development Bank; Edward Claessen, Regional Hub East Africa Head, European Investment Bank; Enrico Petrocelli, Head of International Institutional Relations, Cassa Depositi e Prestiti. Chair: Rita Ricciardi, Partner, Bergs & More.

A series of recent global crises - including the Covid-19 pandemic, the energy and food shocks triggered by Russia's invasion of Ukraine, and the escalating impacts of climate change - have made it increasingly difficult for many African countries to secure the financing needed to advance their clean energy goals. Despite accounting for roughly 20% of the global population, Africa attracts less than 2% of global clean energy investment. In 2024, 64% of newly installed renewable energy capacity was concentrated in China, while the G7 and G20 nations together accounted for less than 25% of global growth, leaving Africa largely on the sidelines of the clean energy transition. Meanwhile, borrowing costs in many African countries have soared to unsustainable levels, with debt servicing now exceeding twice the total investment in clean energy across the continent. This financial squeeze persists despite Africa's abundant renewable resources and strong underlying economic potential. A combination of factors continues to obstruct the development of bankable clean energy projects and discourages private sector investment at the scale required. The ongoing

debt crisis has also severely limited the availability of public capital, even for essential infrastructure investments by state-owned utilities (IEA, 2023).

Private capital must play a central role in Africa's energy transition, yet many investors remain hesitant to engage due to high perceived and actual risks. There is a significant mismatch between the types of capital currently available and the specific needs of Africa's emerging clean energy sector, particularly a shortage of early-stage and equity financing. To unlock private investment at scale, a diverse set of financing instruments must be expanded and tailored to the unique characteristics of Africa's energy markets. Financing structures for power and grid infrastructure vary widely depending on the project type, technology, market maturity, and development stage. In many cases, the challenge is not only insufficient funding, but also the difficulty of accessing available capital. High transaction and project preparation costs often prove prohibitive for small and local developers, preventing promising initiatives from advancing. Addressing these issues requires strengthened technical assistance, the development of effective risk mitigation tools, and the design of affordable, sustainable tariffs for end-users, while maintaining the commercial viability of clean energy projects (IEA, 2023).

To address the key financial challenges hindering Africa's clean energy transition, the conference highlighted several existing best practices and innovative tools. One notable example is the Accelerated Partnership for Renewables in Africa (APRA) i.e., an international alliance which includes Djibouti, Ethiopia, Ghana, Kenya, Mozambique, Namibia, Rwanda, Sierra Leone, and Zimbabwe. Supported by global partners such as Denmark, Germany, the United States, the United Arab Emirates, and with IRENA serving as the secretariat, APRA was officially launched at COP28 in Dubai on 2 December 2023 and is rooted in the Nairobi Declaration on Climate Change. APRA's core objectives include mobilising finance, providing technical assistance and capacity building, and actively engaging the private sector to accelerate renewable energy deployment. What sets the partnership apart is its flexible, country-driven approach, offering fast, tailored, and innovative models of cooperation that align with the unique contexts, priorities, and ambitions of each participating nation (APRA, n.d.).

IRENA also manages the Energy Transition Accelerator Financing (ETAF) Platform, which aims to support the mobilisation of capital from funding partners to scale renewable energy deployment, with the goal of reaching 5 GW of new capacity by 2030. The ETAF Platform provides funding and de-risking services for eligible projects, subject to the credit and risk assessment criteria of its financing partners. The platform is open to commercially viable projects with a high level of

readiness, located in IRENA member countries or countries in the process of accession. ETAF supports a broad range of clean energy technologies, including renewable energy generation, energy efficiency and conservation, end-user electrification (such as heating and cooling systems and electric transportation), and sustainable bioenergy solutions (ETAF, n.d.).

The Italian cooperation in Africa is contributing to the creation of investment opportunities in the continent through two key instruments: the joint fund with the African Development Bank (AfDB) amounting to €130 million and focused on renewables, sustainable transport, and water; and the newly launched Growth & Resilience Platform for Africa (GRaF), with a total commitment of €750 million. The GRaF is designed to accelerate the development of private sector-led initiatives in Africa by creating a centralised gateway for international investment opportunities across the continent. Each participating institution is expected to contribute up to €200 million, which will be channelled into Africa's economy through private equity and venture capital funds. These funds will focus on three strategic sectors: food security, growth of local SMEs, and sustainable infrastructure. The platform is projected to make a significant impact on job creation and the provision of essential goods and services, supporting broader development goals across the continent.

The International Finance Corporation (IFC) emphasized the critical importance of mobilizing private capital - particularly from within Africa - to advance energy access across the continent. A key example is the DARES (Distributed Access through Renewable Energy Scale-up) Initiative, which aligns with the broader Mission 300 – aiming to connect 300 million Africans to electricity by 2030. DARES is a joint initiative led by the World Bank, IFC, and development partners to accelerate the deployment of private sector-led distributed renewable energy solutions across Sub-Saharan Africa. The project's core objective is to expand electricity access for households and micro, small, and medium enterprises (MSMEs) by scaling up decentralized, clean energy systems. Nigeria is a central focus of the initiative, with a USD750 million loan facility funded by the IFC and the World Bank. The program aims to bring electricity access to 17.5 million people in Nigeria through distributed renewable energy technologies, offering a scalable model for broader regional application (NEP - Dares, n.d.).

Session 7: The role of the private sector in a multi-stakeholder approach



Speakers: Benjamin Boakye, Executive Director, Africa Centre for Energy Policy (ACEP); Brian Kuloba, Business Development Manager Kenya, WTS Energy; Howard Piwang, Research and Development Lead, Mandulis Energy; Meekaeel Kurji, Strategy and Operations, Alpha Group; David Auerbach, co-founder, Sanergy. Chair: Jackson K. Koimbori, Head of KEPSA Consult, & Senior Circular Economy and Climate Change Coordinator.

In the context of Africa’s energy transition, the private sector stands out as a critical partner in advancing clean, reliable, and affordable energy solutions. From multinational corporations to innovative local startups, private enterprises are playing an increasingly active role in scaling renewable energy deployment, strengthening infrastructure resilience, and developing energy models tailored to the continent’s diverse socio-economic and environmental priorities. Closing the substantial financing gap required to achieve universal energy access and transition to low-carbon energy systems demands strong and sustained private sector engagement. This includes not only direct investment and project development, but also structured partnerships with governments, multilateral organizations, and development finance institutions. Independent power producers (IPPs), energy service companies (ESCOs), and impact investors are already demonstrating this potential by financing and implementing a wide range of projects, from utility-scale solar and wind farms to decentralized mini-grids and off-grid systems. At the same time, the private sector is at the

forefront of technological innovation in the energy sector, introducing solutions such as battery storage, smart metering, digital platforms, and integrated energy management systems.

These innovations can enable the rapid, cost-effective deployment of clean energy—from rural communities to more urbanised cities —and are essential for aligning Africa’s energy development with climate goals, national resilience strategies, and inclusive economic growth. The conference highlighted several innovative best practices.

Mandulis Energy has pioneered an integrated approach to transform agricultural waste into electricity, cooking fuel, and soil enhancers. Through its projects, the company combines agrivoltaics, biomass gasification, and biogas technologies. For instance, it developed and manufactured a briquette-making machine that converts post-harvest agricultural residues into non-carbonized briquettes, providing a clean alternative to wood fuel. Farmers received training on marketing their agricultural waste, using gasifier cookstoves, and producing biochar from biomass briquettes, which can be repurposed as organic fertilizer, strengthening both energy access and sustainable agriculture (Mandulis Energy | Projects, n.d.).

In Kenya, Sanergy is tackling the sanitation and waste management crisis in rapidly urbanizing areas by delivering essential services to underserved populations in Nairobi. The company designs and manufactures affordable sanitation products, such as toilets adapted to informal settlements, which are franchised to local entrepreneurs. Sanergy collects over 40,000 tonnes of waste annually—from these sanitation facilities, as well as restaurants, open-air markets, and agricultural packhouses—and processes it at their facility. The waste is converted into valuable by-products including insect-based animal feed, organic fertilizer, and biofuels. Sanergy now produces the largest volume of organic fertilizer in East Africa, which is sold to local farmers to improve crop yields, enhance food security, and raise rural incomes (Sanergy, n.d.).

Alpha Group, a diversified African enterprise with operations spanning energy, logistics, and infrastructure, is also playing a key role in advancing low-carbon development. Private companies are indeed increasingly recognizing their responsibility in driving a just energy transition. By developing socially responsible business models aligned with African development priorities, the private sector can contribute not only to expanding energy access but also to broader socio-economic transformation. Central to this effort are skills development and capacity building, which are essential for fostering a local workforce capable of supporting and sustaining the energy transition. Through vocational training, local hiring, and support for small and medium-sized enterprises (SMEs), private companies can promote job creation and empower communities.

WTS Energy is a proactive example. Through its dedicated foundation, the company has invested in human capital development across the energy value chain. In partnership with organizations such as GIZ, WTS Energy launched renewable energy training centers in Kenya and Nigeria in 2022. These centers provide young professionals with practical skills in solar technology, e-mobility, and health, safety, and environmental (HSE) standards (WTS Energy , 2022). In 2023, WTS further expanded its commitment by inaugurating a new training center in Port Harcourt, Nigeria, focused on enhancing workforce performance and promoting safety and resilience within the energy sector (WTS Energy, 2023).

However, fully unlocking the private sector's potential requires addressing persistent structural challenges. Key barriers identified during the conference include regulatory uncertainty, inconsistent policy frameworks, and limited access to affordable financing. To overcome these hurdles, targeted reforms and inclusive multi-stakeholder collaboration are essential. Platforms such as INAET can play a critical role in enabling policy dialogue, sharing best practices, and aligning public-private efforts. Strengthening such platforms will be crucial to cultivating a dynamic, accountable, and impactful private sector presence that supports Africa's energy transition while advancing inclusive, sustainable development.

Session 8: Empowering change: what women bring to the table



Speakers: Mehjabeen Alarakhia, Women's Economic Empowerment Policy Specialist and Deputy Regional Director OIC, East and Southern Africa Regional Office, UN Women; Anne Kingiri, Director Research and Innovation, African Centre for Technology Studies; Viridiana Wasike, National Government Affirmative Action Fund, Director Partnerships & Resource Mobilization; Elizabeth Gichache, Treasurer, Women in Sustainable Energy and Entrepreneurship. Chair: Ester Stefanelli, Senior Political Analyst, Eni.

A critical issue which deeply intersects with multiple aspects of the energy transition is the role of women. Their inclusion is not simply a matter of equity; it is a fundamental condition for the effectiveness, equity, and long-term success of the energy transition. Women are both essential beneficiaries and powerful agents of change in Africa's shift toward sustainable energy. Empowering them is not only a moral imperative, but a strategic one: women bring unique knowledge, skills, and community networks that are vital for developing inclusive, locally grounded energy solutions.

Across the continent, energy access and gender equality are deeply intertwined. Women are disproportionately affected by energy poverty. In sub-Saharan Africa, it is typically women who bear the burden of collecting traditional fuels such as firewood or charcoal, often spending up to 20 hours per week on this task. Inclusive energy systems that prioritize women's needs can significantly enhance their socio-economic status and catalyze broader development outcomes.

Despite their critical role, women remain severely underrepresented in the energy sector, particularly in technical and leadership positions. Globally, women account for just 22% of jobs in

the renewable energy sector, with even lower representation across much of Africa (IRENA and ILO, 2022). Moreover, the entrepreneurial landscape mirrors these disparities as well. Although the energy sector is one of the top recipients of global climate finance, only 7% of energy startups have a female founder. Off-grid energy solutions offer significant potential to create inclusive business models and new income streams for women - more women are employed full-time in small-scale, decentralized RE systems compared to large scale systems - but this potential remains largely untapped. In sub-Saharan Africa's renewable energy companies, women are predominantly employed in administrative roles, occupy only 25% of leadership positions, and earn on average 20% less than their male counterparts for the same roles (Energy2Equal, 2022).

Systemic barriers continue to underpin the persistent gender imbalances in Africa's energy sector. These include limited access to credit, inadequate financial literacy, and the absence of collateral or asset guarantees that often prevent women from entering or scaling businesses in the energy value chain. Additionally, deeply rooted social norms and gender stereotypes discourage girls from pursuing education and careers in science, technology, engineering, and mathematics (STEM). As a result, women's participation in technical and STEM-related roles in SSA remains significantly low, only 13% hold higher-paying STEM positions (Energy2Equal, 2022). This underrepresentation is further exacerbated by a lack of visible female role models and limited awareness of career opportunities in clean energy.

To unlock the full potential of women in the energy transition, targeted and structural interventions are essential. These include expanding access to education and vocational training in clean energy technologies, offering scholarships, fostering mentorship and peer learning programs, supporting women-led energy enterprises, improving access to finance, and integrating gender-responsive energy policies across all levels.

Crucially, the concept of gender responsiveness - the practice of acknowledging and addressing the different needs, challenges, and contributions of women and men in the design and implementation of programs and policies - must become a central feature of energy planning. A lack of gender-sensitive workplace policies has been identified by both managers and employees as a major obstacle to the recruitment, retention, and advancement of women in the renewable energy sector. Women face distinct challenges that require dedicated tools and tailor-made policy responses. In public policy, gender is too often treated as a secondary consideration or added late in the process. Instead, policy formulation should begin with a gender lens, by asking how energy strategies will impact men and women differently, rather than simply asking how to include women.

For African governments and international partners, embedding gender responsiveness as a structural requirement of the energy transition - across public procurement, regulatory reforms, and the allocation of climate finance - is not only equitable but also essential for a just and effective transformation.

A tentative of gender-responsive policy in the energy sector was the ECOWAS Policy for Gender Mainstreaming in Energy Access, aimed at integrating gender considerations into all energy programs, projects, and initiatives across ECOWAS Member States, including large-scale energy infrastructure developments and investments. It provides a regional framework to ensure that energy interventions are inclusive, equitable, and responsive to the distinct needs of women and men. The ECOWAS Gender Development Centre (EGDC), the Community's specialized agency for promoting gender equality also supports transformative initiatives such as the "Campaign for Small-Scale Cross-Border Traders" or the "50 Million African Women Speak Platform (50MAWSP)", developed in collaboration with the African Development Bank (AfDB). Active in 38 African countries, this digital platform functions as a comprehensive hub for women entrepreneurs, including those operating in the energy sector. Recognizing that women-led energy enterprises often face significant barriers in accessing finance, information, and professional networks, it represents a tool to bridge these gaps thanks to access to both financial and non-financial services, such as business training, mentorship, and real-time market information, as well as peer-to-peer learning and knowledge exchange (EGDC, n.d.).

Such initiatives - when combined with strong policy frameworks and partnerships with women's organizations - are essential for ensuring that women are not just passive recipients of energy services but active participants and leaders in Africa's energy transition.

Session 9: The role of youth in the energy transition



Speakers: Prudence Lihabi, CEO and Founder, Youth for Sustainable Energy; Joseph Nguthiru, Founder HyapakEco; Lynn Modester, Kenya Climate Change Working Group; Sandra Cherotich, founder Energy Nova; Brian Omenyi, Power Up company. Chair: Hurdson Thomas, Executive Director, Youth Greenspace Action and Network Organization.

The youth of Africa play a pivotal role in driving the continent's energy transition, both as beneficiaries and as active agents of change. With over 60% of Africa's population under the age of 25, this demographic represents not only a large consumer base but also a vast pool of untapped talent and innovation. Young people are increasingly leading grassroots clean energy initiatives, launching green startups, and advocating for sustainable policies that align with climate and development goals.

INAET seeks to promote an inclusive and forward-looking dialogue on Africa's energy future. Empowering Africa's youth is not only a demographic imperative—it is a strategic opportunity to accelerate an inclusive, resilient, and locally-driven energy transition; their meaningful engagement is essential to shaping a just and sustainable energy transition on the continent. This panel brought together emerging young leaders from across Africa's energy sector to explore strategies for enhancing youth participation in energy policy, climate finance, capacity building, and innovation. More than just a dialogue, the session served as a collaborative platform for networking, idea

exchange, and practical action to ensure youth are not only included in the energy transition but are empowered to lead it.

Through shared experiences and visionary thinking, the panel generated a set of policy recommendations aimed at institutionalizing youth participation in the transition to clean energy in Africa:

- Establish youth innovation challenge funds to support technologies and entrepreneurial solutions contributing to the energy transition.
- Strengthen climate and energy education to equip young people with the skills and knowledge needed to lead energy initiatives.
- Ensure open access to data and promote technical mentorship programs to help youth-led startups succeed in emerging energy markets.
- Develop tailored financial instruments, such as micro-grants or blended finance schemes, to support youth enterprises in the clean energy sector.
- Invest in capacity-building programs focused on climate finance readiness to enhance youth engagement in funding mechanisms.
- Organize intergenerational policy roundtables in advance of major global sustainability forums to bridge generational divides in policymaking.
- Create structured mentorship opportunities that connect established energy professionals with young innovators and advocates.

Looking ahead, the panel emphasized a bold yet essential vision: universal energy access across Africa by 2035, driven by the creativity, ambition, and leadership of the continent's youth.

Session 10: Innovative synergies: digital and energy transformations



Speakers: Philip Thigo, Special Envoy on Technology of Kenya; Ambrogio Michetti, Chief Corporate and Revenue Officer, Sparkle; Huneid Hussein, Country Director, Wingu; David Cheboryot, East Africa Director, E4Impact. Chair: Massimo Zaurrini, Director, Africa e Affari and InfoAfrica.

Digitalization accelerates thereby driving the energy demand. With the rapid growth of cloud computing, e-commerce, mobile banking, smart agriculture, and artificial intelligence, the demand for data storage and processing capacity is rising sharply. This rise in data centers represents a fundamental shift in infrastructure needs but also emphasise the key questions about energy consumption and sustainability. In a context where many African countries face constrained grid capacity and unreliable electricity supply, the expansion of data centers could intensify pressure on existing energy systems.

However, creating effective synergies between digital and energy transitions can also offer a powerful pathway to reshape Africa's development trajectory and incentivize investment in renewable energy. By integrating digital infrastructure with clean energy systems, countries can unlock smart, sustainable solutions that address both energy access and connectivity challenges. New data centers - especially those backed by international investors or tech firms - are increasingly designed to operate with solar, wind, or hybrid energy systems to ensure reliability and reduce

carbon footprints. International tech firms and local developers are increasingly designing data centers that incorporate clean energy sources and energy-efficient technologies, reducing carbon footprints while enhancing operational resilience. Moreover, cutting-edge applications are emerging, including AI-driven tools to accelerate rural electrification, digital platforms that optimize the integration of renewables into national grids, and innovations in energy management that improve the efficiency and profitability of clean energy systems. While these developments are promising, their long-term impact, scalability, and enabling conditions remain underexplored. To fully realize their potential, strategic coordination between energy and ICT sectors - supported by public-private collaboration, policy reform, and targeted investment - is essential for Africa's green and digital transformation (Rozite, Miller, & Oh, 2023).

As highlighted during the panel, the convergence of digital and energy transformations can foster new business models and expanding opportunities for inclusive growth.

Sparkle is advancing green digital infrastructure by integrating renewable energy into its data centers. For instance, its Panama Digital Gateway is the first green data center in the country, featuring state-of-the-art technologies and infrastructures designed to minimize environmental impact through energy-efficient power and cooling systems (Sparkle, 2023). Similarly, in Rome, the company has activated a new Point of Presence (PoP) at Aruba's Hyper Cloud Data Centre, which utilizes renewable energy and highly efficient equipment. The agreement between Aruba and Sparkle places Rome as a global connectivity hub between Europe, Africa, the Middle East and Asia thanks to the connection with the project BlueMed (Sparkle, 2024).

Wingu, a leading data center operator in East Africa, is expanding its network of carrier-neutral data centers across the region. The company emphasizes sustainability by integrating renewable energy and energy-efficient technologies into its operations. In Tanzania, Wingu has initiated the second phase of its data center expansion, aiming to double the facility's rack power to support energy-intensive applications with better efficiency (Wingu.africa, n.d.).

E4Impact is fostering digital-energy entrepreneurship by supporting startups and SMEs that develop clean energy solutions powered by digital innovation. For instance, through its Entrepreneurship Centers and Accelerators, such as the E4Impact Accelerator in Kenya, the organization provides holistic acceleration experiences to Kenyan companies, helping them scale their impact and connect with local, regional, and international markets (E4Impact, n.d.).

By simultaneously addressing the digital divide and energy access gaps, these initiatives exemplify the transformative power of cross-sector collaboration. They also underscore the critical

importance of inclusive dialogue among governments, private sector actors, development partners, and civil society experts to shape a coherent, integrated approach to Africa's green and digital transformation.

Closing remarks



Speakers: Marco Piredda, Head of International Affairs Analysis and Business Support, Public Affairs, Eni; Sam Nganga, Regional Industry Manager for Upstream and Advisory for the Manufacturing, Agribusiness and Services, Department for East and Southern Africa, International Finance Corporation.

The second INAET conference officially concluded with a forward-looking statement by Marco Piredda, Head of International Affairs and Business Support at Eni. The two-day event brought together over 60 speakers and hundreds of participants representing governments, multilateral institutions, businesses, and civil society, both from across Africa and beyond.

INAET has the ambition to be an open and inclusive platform for sharing ideas and experiences, and for fostering collaboration among diverse stakeholders. He emphasized that the energy transition is not monolithic, but rather comprises multiple transitions, each with unique challenges. This network provides a crucial space to acknowledge these diverse transitions and collectively seek solutions. Piredda further highlighted that, in a global context marked by tensions and uncertainties, INAET serves as a concrete example of multi-level cooperation and structured dialogue on issues demanding long-term vision and immediate action, including finance, regulation, training, innovation, and equity.

Also speaking at the close of the conference, Sam Nganga, Regional Industry Manager at the International Finance Corporation (IFC), reiterated IFC's commitment to a transition that has both a climate-change and economic relevance. He clarified that for IFC, a just transition means achieving climate goals without compromising development objectives. In the African context, this translates to job creation, stimulating entrepreneurship, and ensuring universal access to energy. Nganga underscored the significance of this being the first INAET conference hosted in Africa, signaling a clear intent to shift the focus of the energy transition debate to the continent that stands to gain—or lose—the most from the paradigm shift.

The two-day INAET conference presented a comprehensive and cohesive agenda that addressed the structural challenges of Africa's energy transition. These included the imperative to mobilize public and private capital more efficiently and inclusively, the urgent need for resilient and integrated infrastructure, and the crucial task of training millions of young Africans with updated skills to participate in a rapidly transforming labor market.

Domenico Lombardi, Director of the Luiss School of Government, stated that INAET has demonstrated its capacity to be not only a platform for dialogue but also a catalyst for solutions. From concrete projects presented during the panels to capacity building and blended finance programs illustrated by public and private actors, it became evident that the ideas and expertise are present. However, continuity, political courage, and structured collaboration are now essential along with a shared commitment to scale the network.

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