

The energy transition in Africa

Opportunities for international collaboration with a focus on the G7

Presenters:

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Nolwazi Khumalo, Programme Officer- Energy Planning Support & Capacity Building

Diala Hawila, Programme Officer- Policy Advice

Isaac Elizondo Garcia, Consultant - Critical Materials

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SPEAKERS



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Programme Officer-
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Support & Capacity
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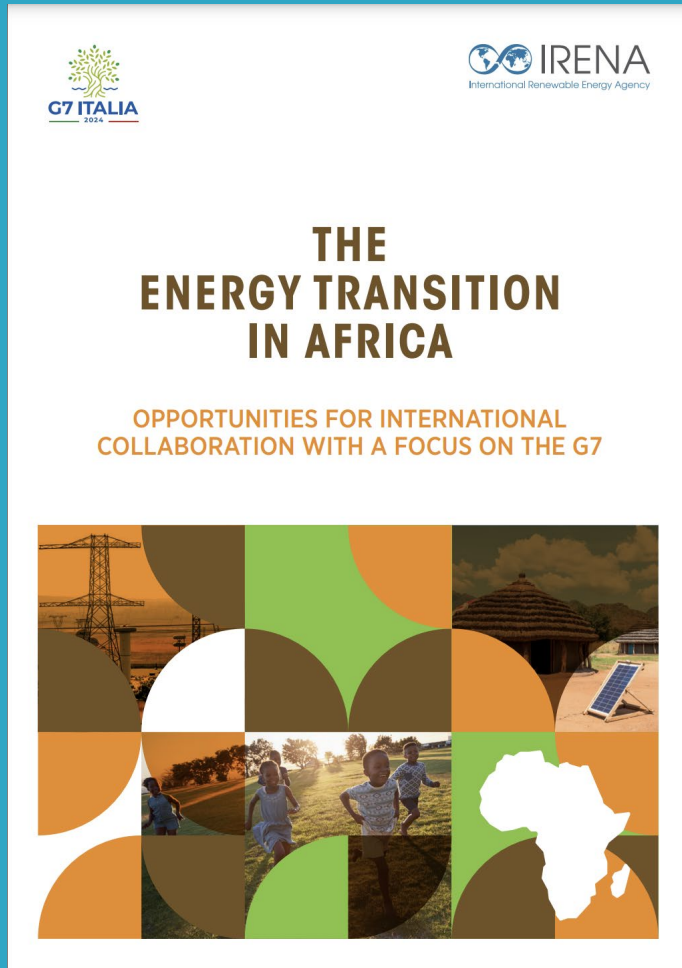
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Background and objectives of the G7 report: Energy Transitions in Africa

Presentation Outline

Context

Asami Miketa- *IRENA*

Increasing in infrastructure and enabling access to finance

Diala Hawila- *IRENA*

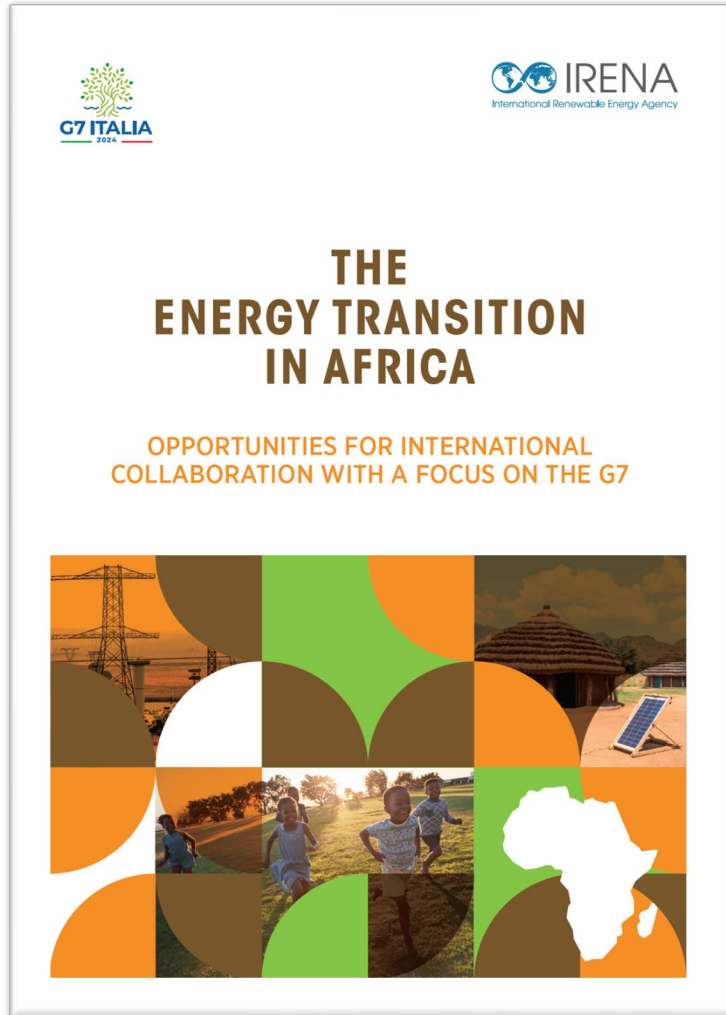
Expanding energy access and supporting the productive use of energy

Effectively managing critical minerals for the energy transition

Isaac Elizondo Garcia
-IRENA

Strengthening institutional frameworks and capacity

Nolwazi Khumalo-
IRENA

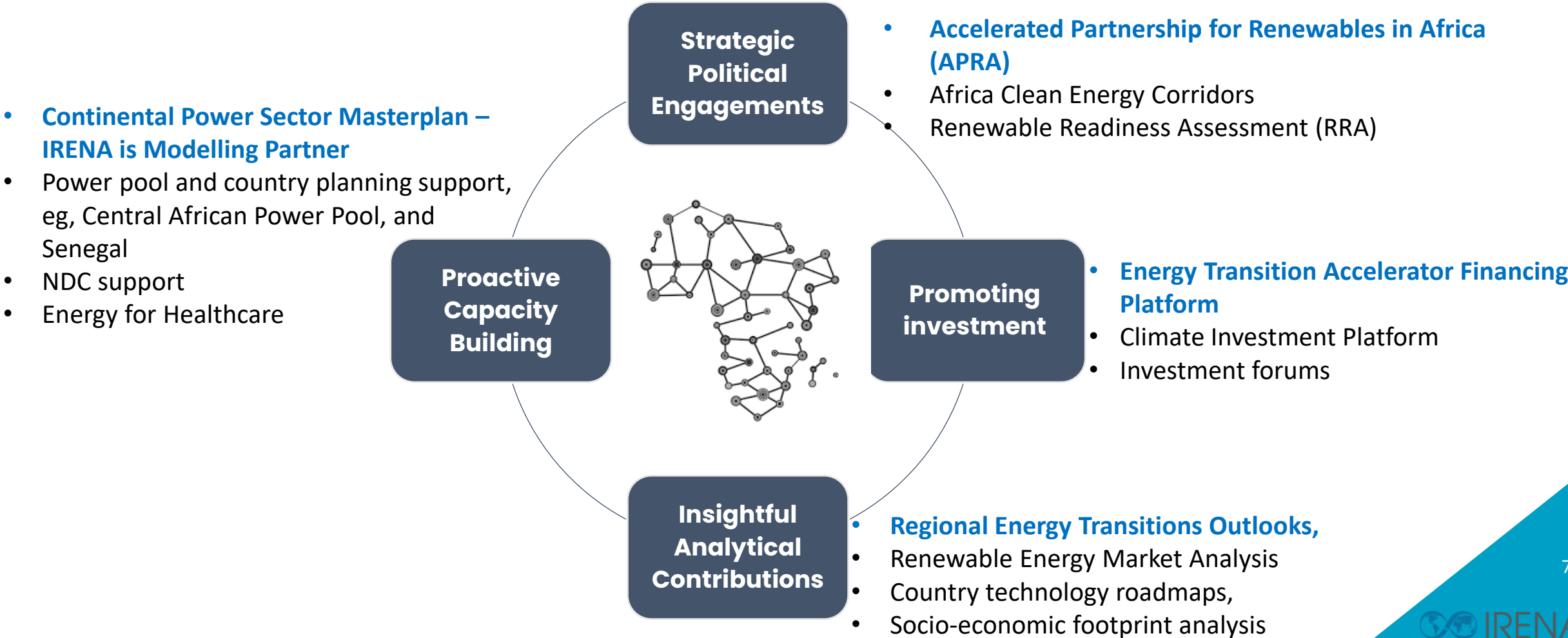


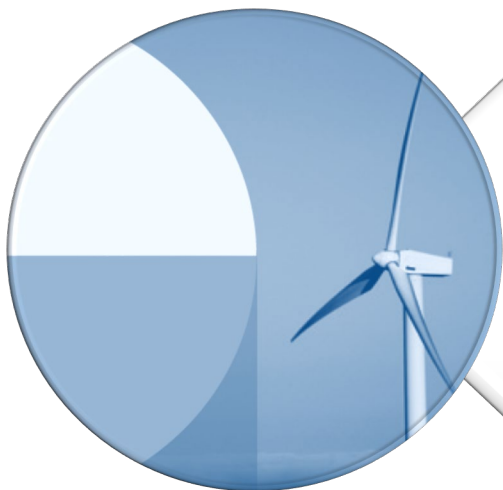
The report delineates priority areas for the G7-Africa partnership, reflecting the following overarching goals:

- **Ensure any actions are in harmony with the region's goals**
- **Build on existing initiatives**
- **Highlight the importance of finance**
- **Ensure local ownership and value creation**

IRENA's close engagement with African countries

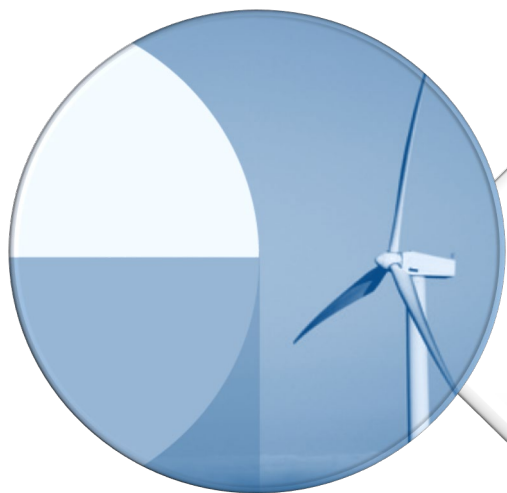
47 African countries are **IRENA members** or states in Accession





Opportunities

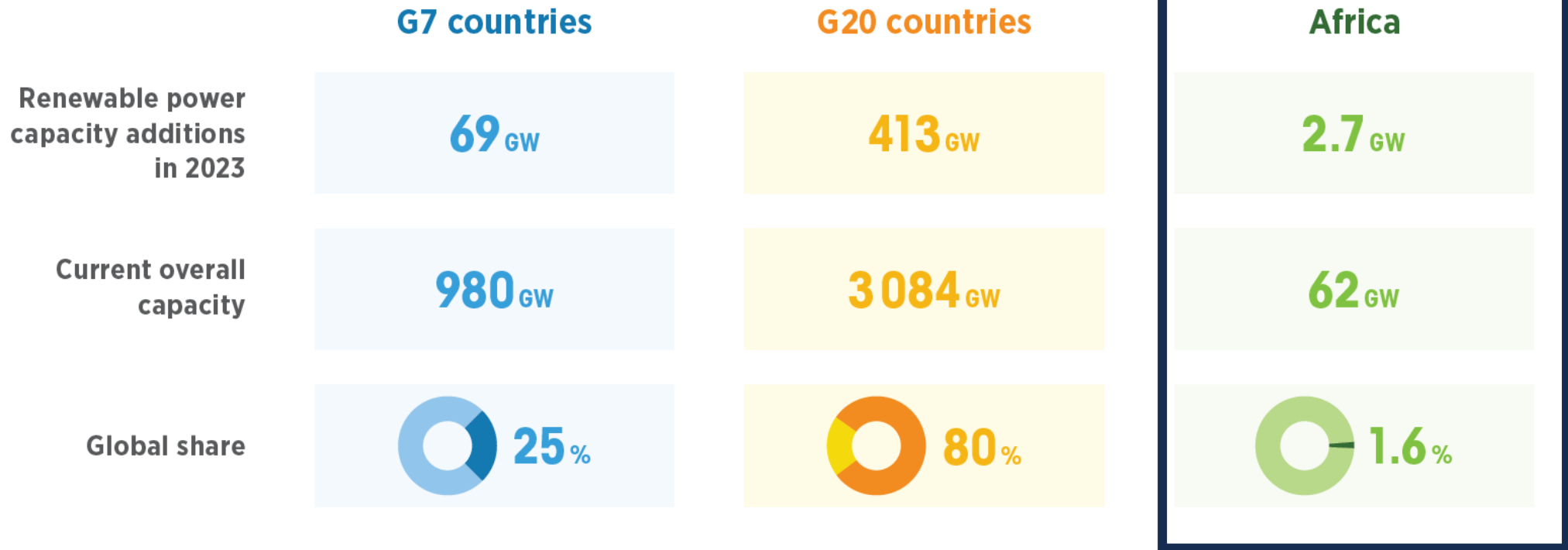
- The populations in many African nations are among the youngest globally
- Abundance of renewable energy sources and strategic mineral resources
- Opportunity of socio-economic benefits including job creation
- Commitments to the energy transition in place



Challenges

- Africa has energy deficit: 570 million people who still lacked access to electricity in 2021, lagging behind in its goal to achieve universal electricity access by year 2030
- Less than 2% of global investments in renewable energy over the last two decades.

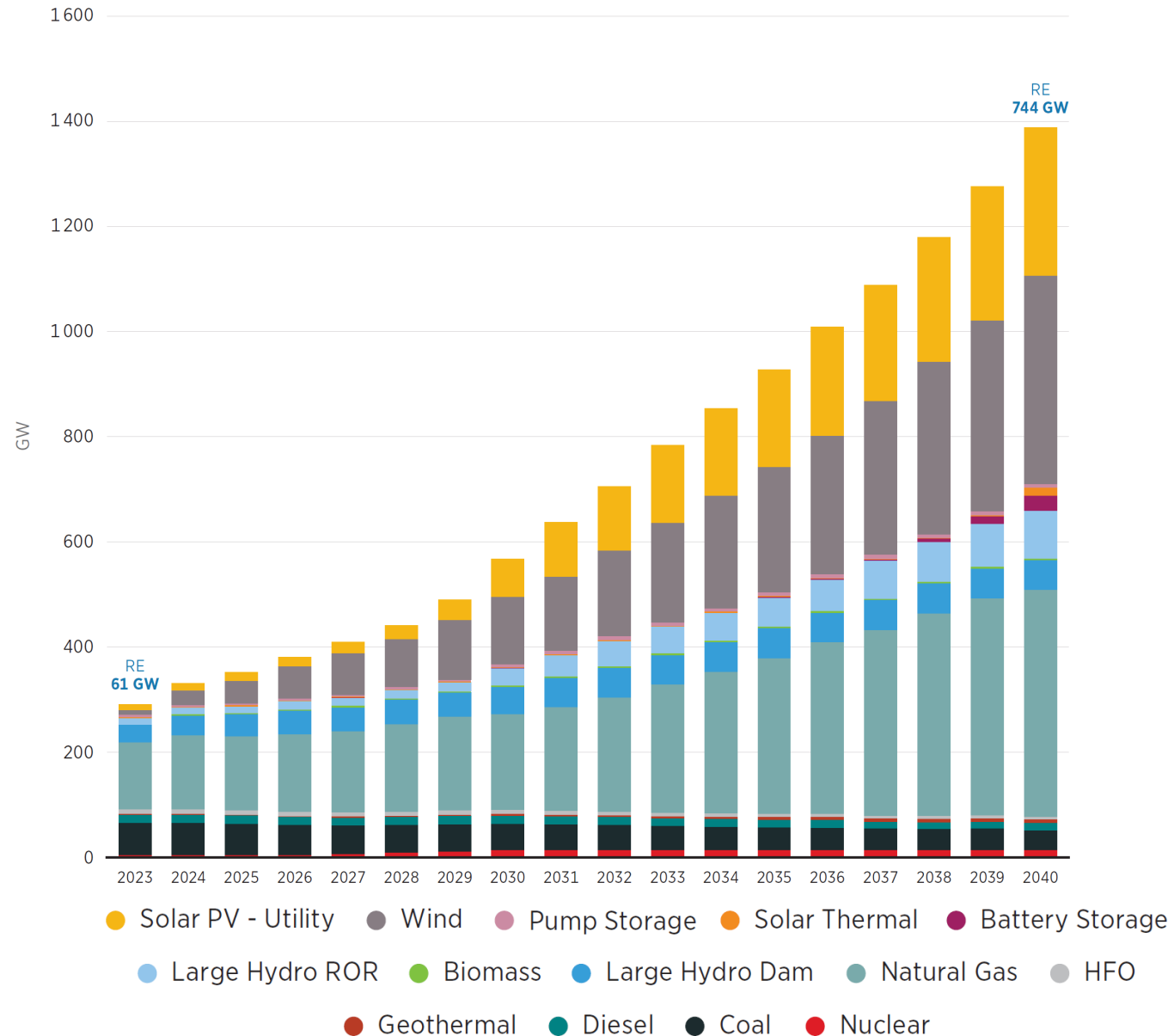
Renewable capacity growth disparities



Source: (IRENA, 2024b).

- Observation is that for the last 20 years **RE investments**: Globally 2,841 USD billion / **Africa 60 USD billion**
- For a **just and inclusive** energy transition, investments need to be **more equitably distributed**

Africa Power System Status and Outlook



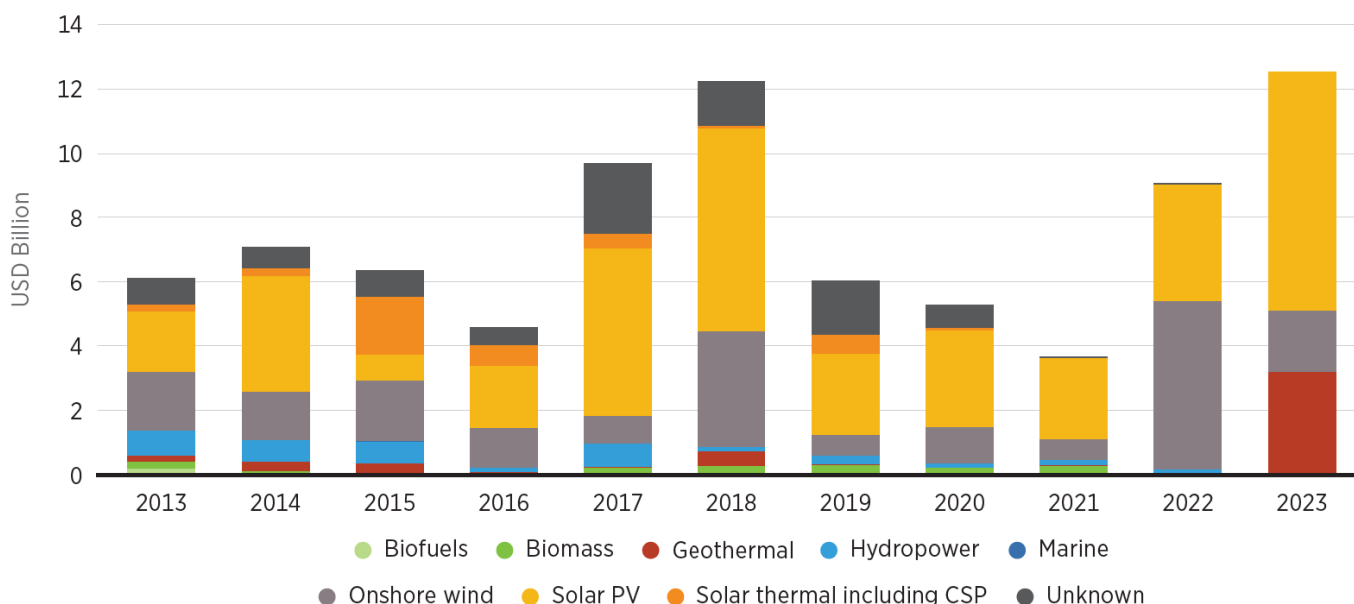
Capacity in CMP's Full Continental Integration scenario

Notes: HFO = heavy fuel oil; RE = renewable energy; ROR = run of river.

Increasing in infrastructure and enabling access to finance:

Africa receives around 2% of global investments in renewable energy

Renewable energy investments in Africa by technology (2013-2023)

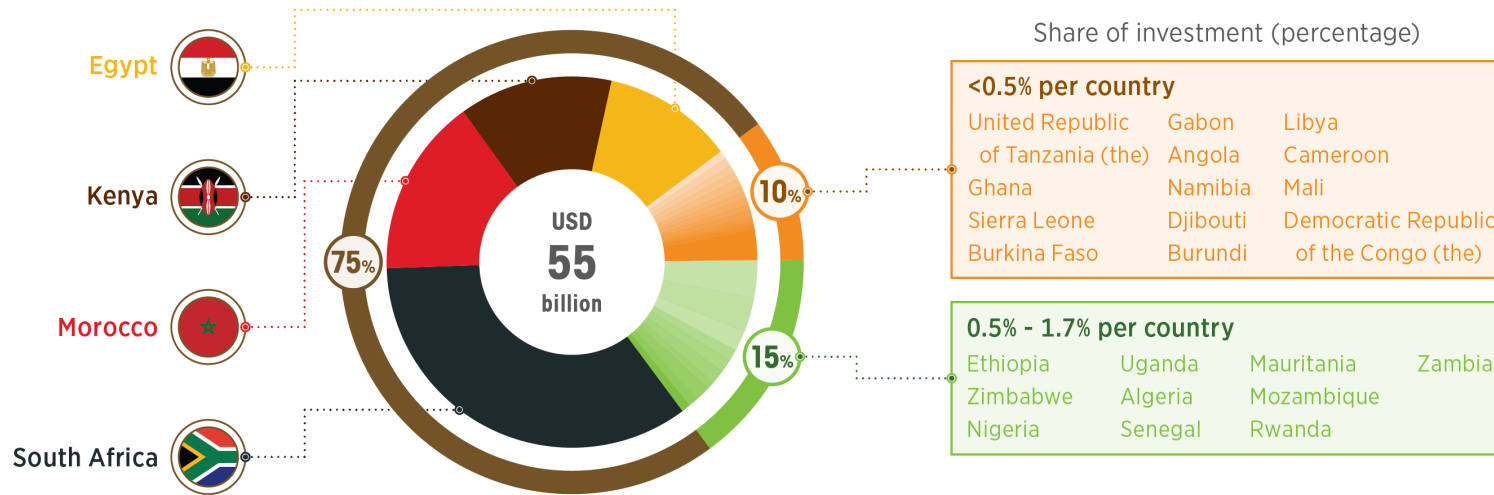


- **Africa received only 2% of global renewable energy investments between 2000 and 2020**
- This share further dropped in 2021 to less than 1% reflecting the impacts of COVID-19 and subsequent geopolitical and economic shocks
- While investments recovered later – almost tripling in 2022 and quadrupling in 2023 compared to 2021 levels, **investments in Africa remain far below the region's true potential and needs**

Disparities in overall energy transition investments between **Sub-Saharan Africa and the rest of the world** remain sky-high: While **the region received just USD 13 per capita** in energy transition-related investments during 2020-2023, **advanced economies received 176 times more**

Within the continent, 75% of investments go to 4 countries

The majority of investments currently gravitate towards economies boasting relatively lower perceived risks



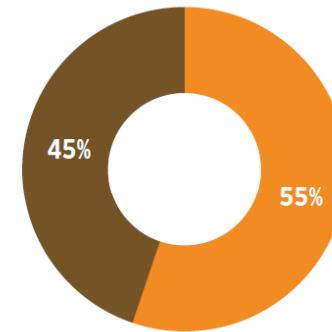
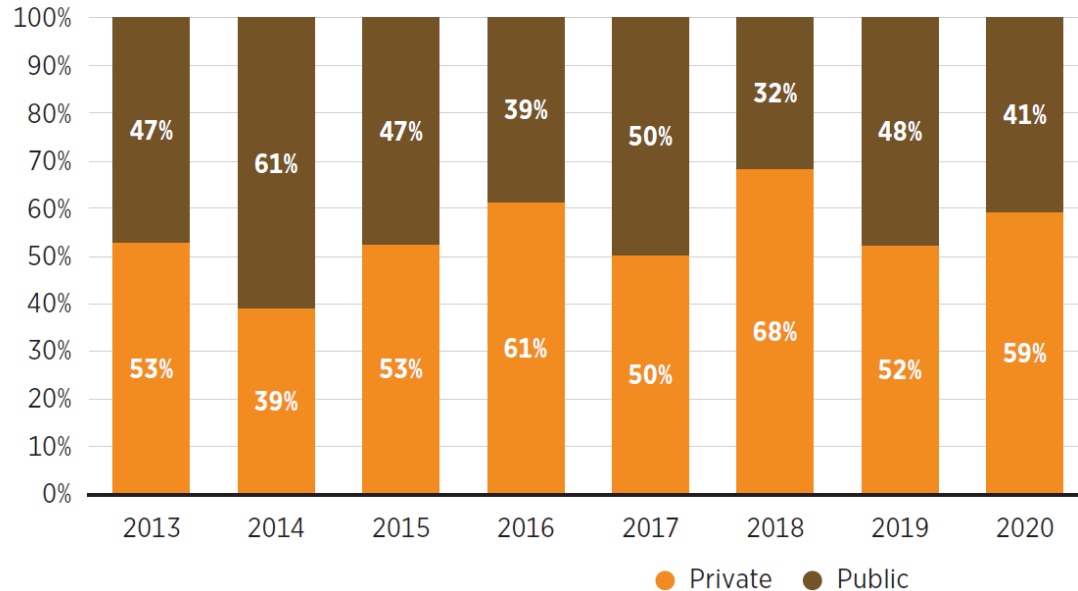
Source: (IRENA *et al.*, 2022).

Note: Excludes hydropower larger than 50 MW.

- The **WACC** for utility-scale solar PV projects in **Africa** ranged from **6.9-10.7%** between 2019-2021, compared to **2.2-10% in Western Europe**
- **Only 10%** of infrastructure projects in Africa actually **progress from the pipeline stage to financial closure**. The remaining 90% most likely face a much higher cost of capital
- The **LDCs** are often unable to attract private sector investments and **require more public support**

Public investment is needed in infrastructure and for enabling access to finance, mainly from the international community

Renewable energy investments in Africa by source, 2013-2020 (left), and average over the period (right)

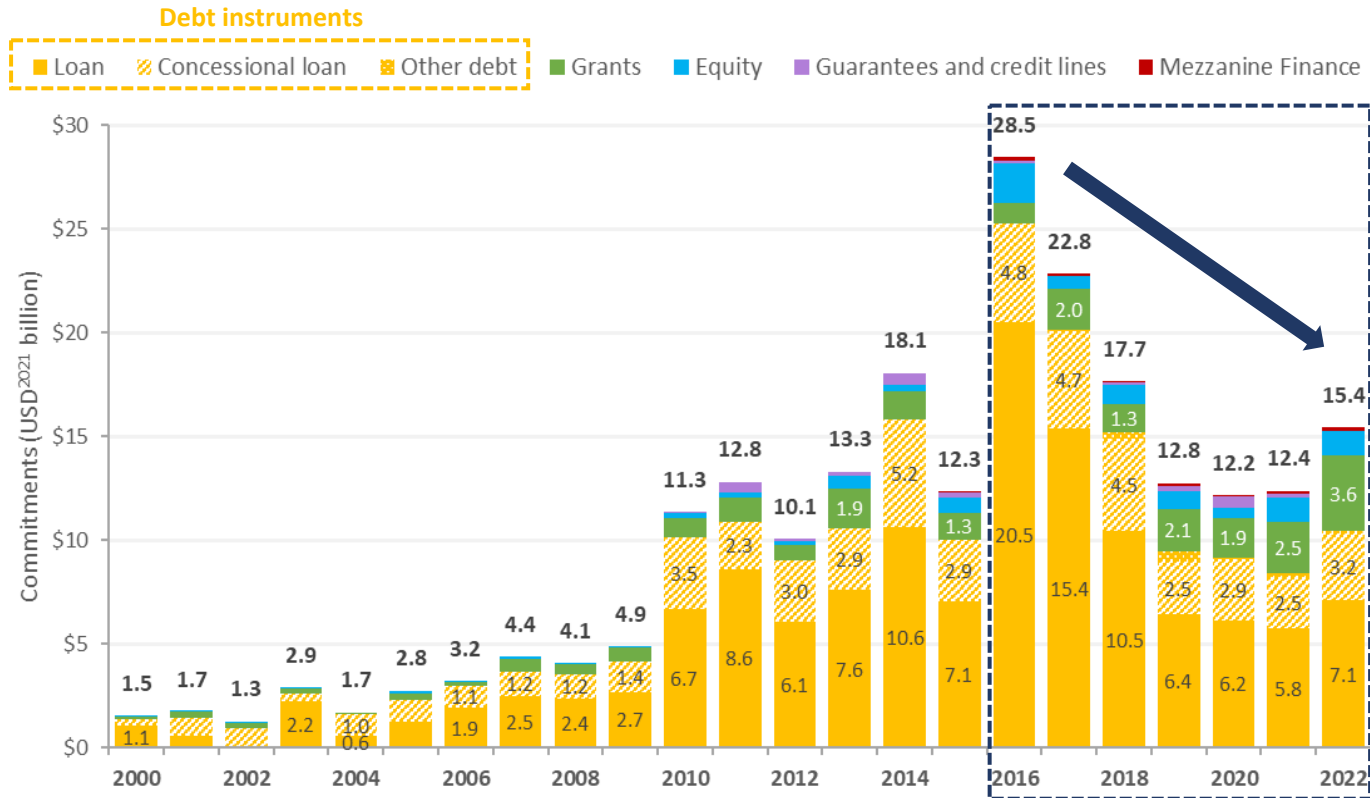


- **Public finance** accounts for **45% of direct investments** in renewable energy assets in Africa **compared to 24% globally**
- In **Sub-Saharan Africa** only half of renewable energy investment between 2013-2020 **originated from domestic sources** compared with **more than three-fourths** of investments from domestic sources **in Europe and North America**

Stronger international co-operation will be required to expand the availability of funds and transform lending to developing nations

International public flow of finance is limited

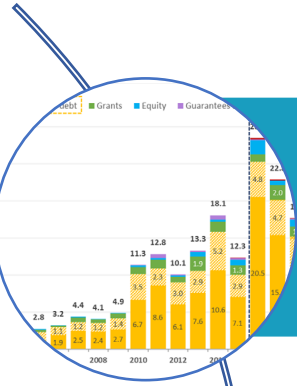
Annual international public financial flows for RE in developing countries



- **Only 44% of international public financial commitments** for renewables that went to Africa during 2013-2022 benefitted the **33 LDCs of the continent**
- In Africa, **about 30% of the finance for IPPs** between 2010 and 2020 was contributed or arranged by **MDBs and DFIs** in the form of direct investment (equity and debt).
- Globally, **multilateral and bilateral DFIs provided less than 3%** of total global renewable energy investments in 2020

International public finance needs to play a much larger role in the region, both as a provider of capital and as an absorber and mitigator of risk. The G7 can play a large role.

Together, the G7 and Africa can pave the way to harnessing Africa's growth potential, fostering shared prosperity, environmental sustainability and economic development



The G7 can **increase public financial flows** for Africa's energy transitions **through multiple channels** (e.g., multilateral and bilateral DFIs, global funds such as the Green Climate Fund and JETP) **through various strategies** (e.g. direct investments in assets or in the enabling ecosystem) **and policy instruments**.

At the same time, **the push for reforming the way MDBs support developing economies** must continue to emphasise the energy transition as a driver for sustainable socio-economic development.



G7 countries, as the main shareholders of MDBs, can **leverage their influence on global and development finance architecture to lower the cost of capital flows** to the African continent.



The **International Development Association (IDA) replenishment process** is in addition a good opportunity to increase support of renewables in Africa.

AFRICA50



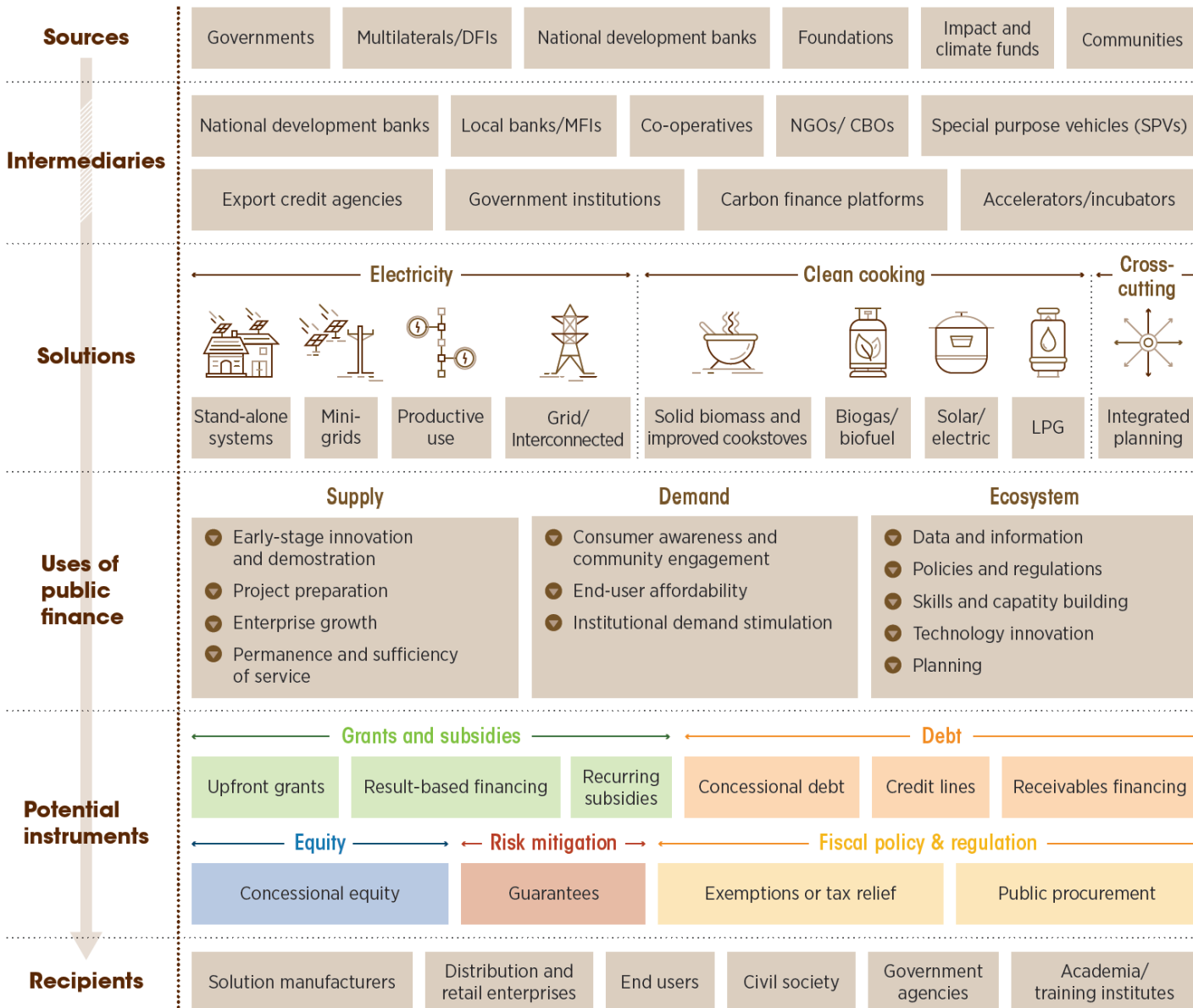
Sustainable Energy
Fund for Africa

The **G7 can support African countries identify and develop projects with transformative impacts** by facilitating access to existing project development facilities such as the Sustainable Energy Fund for Africa (SEFA) hosted by AfDB, the Climate Action Window of the African Development Fund, and the Project Preparation Facility (PPF) of Africa50.

The G7 can also **establish dedicated facilities** within African institutions.

Expanding energy access and supporting the productive use of energy

IRENA framework to deploy public finance for energy access



Public finance has a core role to play in:

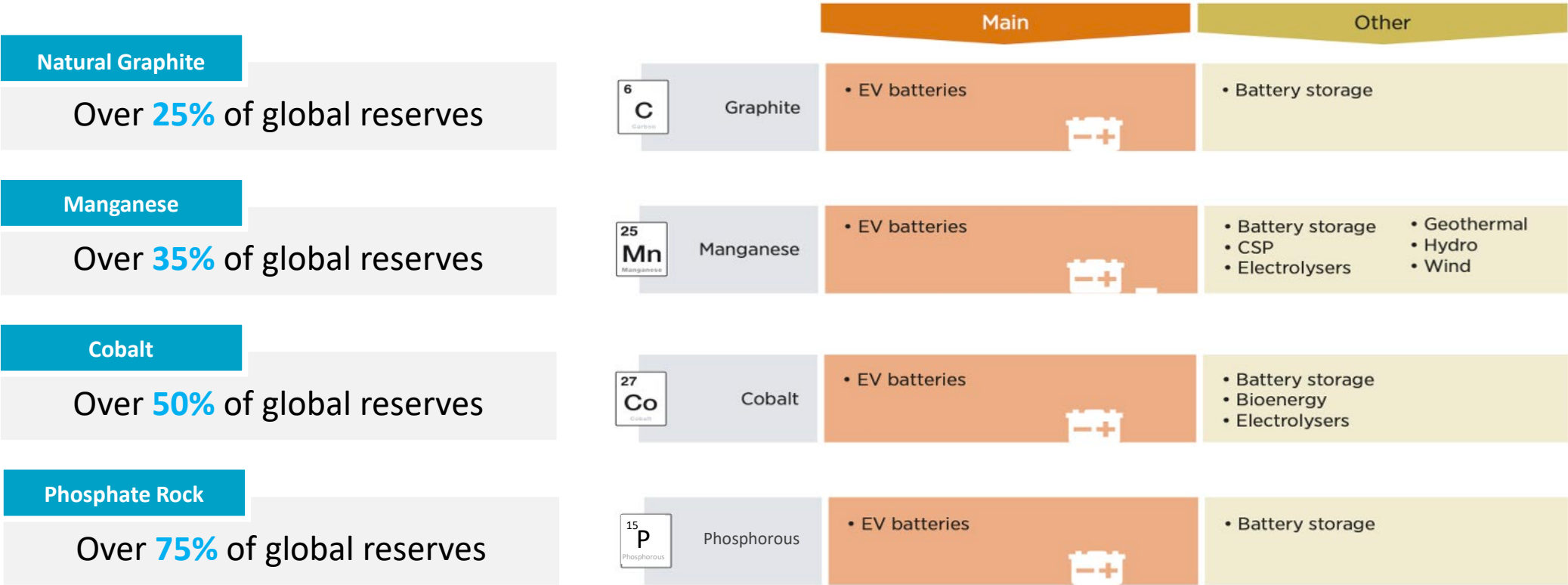
- deploying energy services to areas unaddressed by the market (e.g., planning)
- investing in the environment that supports energy deployment, shapes its sustainability and resilience (e.g., education and skills) and supports its productive use (e.g., agriculture and industrial development)
- ensuring energy access to last-mile, underserved and marginalised communities
- bridging end-users' affordability gaps
- de-risking and catalysing private capital effectively through policy and regulatory instruments

Effectively managing critical minerals for the energy transition

Effectively managing critical minerals for the energy transition

The full decarbonization of our energy systems will require **significant amounts of critical materials**, many of which are **abundant across the African continent**.

The African continent hosts:



Source: USGS, 2024

Areas for collaboration in critical minerals for the energy transition



Support effective regulation and social and environmental safeguards

The G7 can support African nations to improve **regulatory frameworks** for responsible and **sustainable mining**, **environmental protection**, and adherence to international **labour and social responsibility** standards.



Realise new opportunities in supply chains

The G7 can support African countries to **move beyond primary ore exports and embrace higher-value activities** such as mineral processing.



Decarbonise mining operations

The G7 can support the development of innovative decarbonisation projects in African nations by enabling **technology transfer initiatives**, **facilitating financing**, and **providing technical expertise** and **capacity-building**.

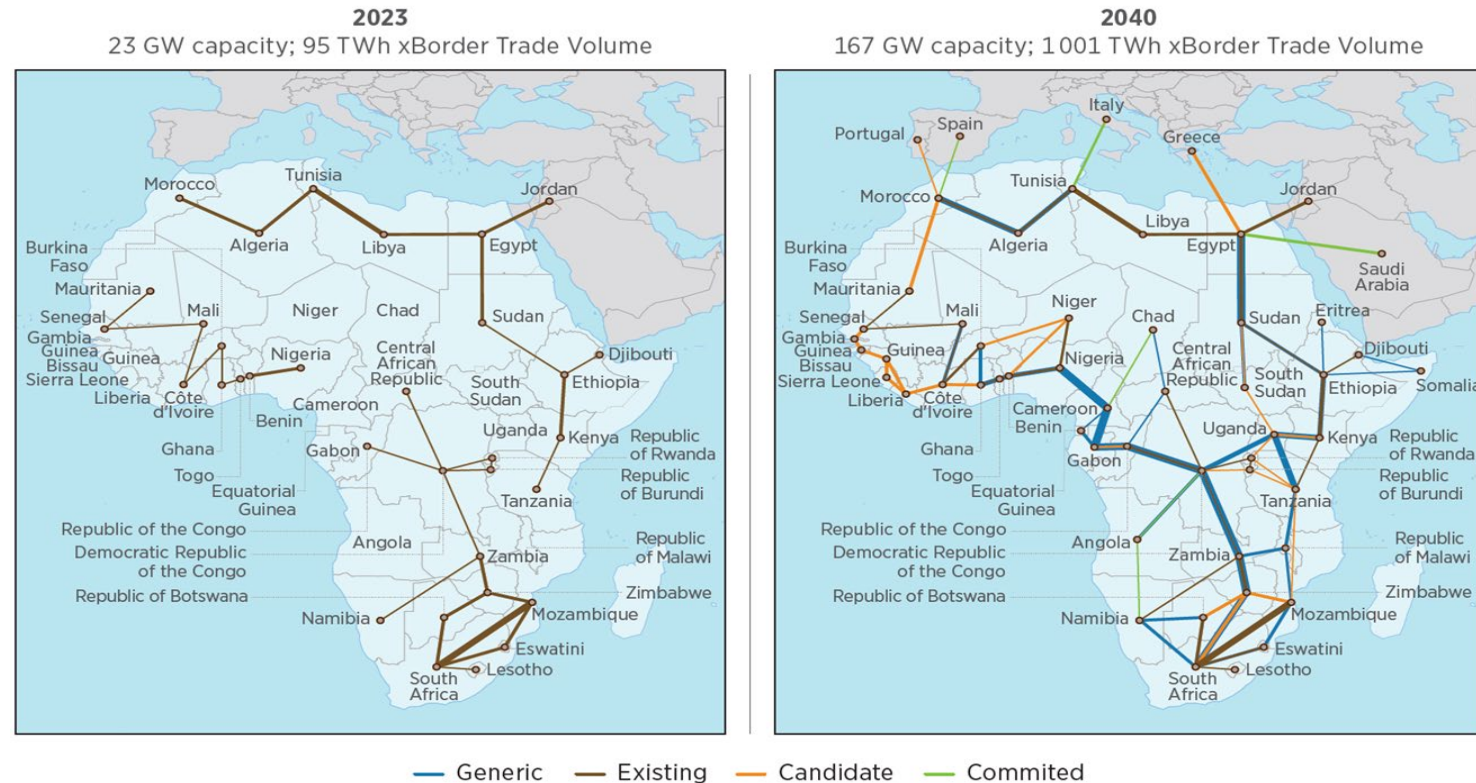


Actively engage against corruption

The G7 can collaborate with African governments, industry stakeholders, businesses, and civil society to improve **regulatory frameworks** aimed to increase **accountability, transparency and public participation**.

Strengthening institutional frameworks and capacity

CMP as an area of cooperation



AFRICAN DEVELOPMENT BANK GROUP



DEUTSCHE ZUSAMMENARBEIT

giz Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ) GmbH

- A **unique platform** for consolidating regional power pool masterplans
- **Full ownership of African institutions**, follows the mandate of the African heads of states
- **Analysis led by African experts** through capacity building programme
- Driven by **SDG goals and AU Agenda 2063**
- **Robust modelling methodologies** supported by IRENA and IAEA

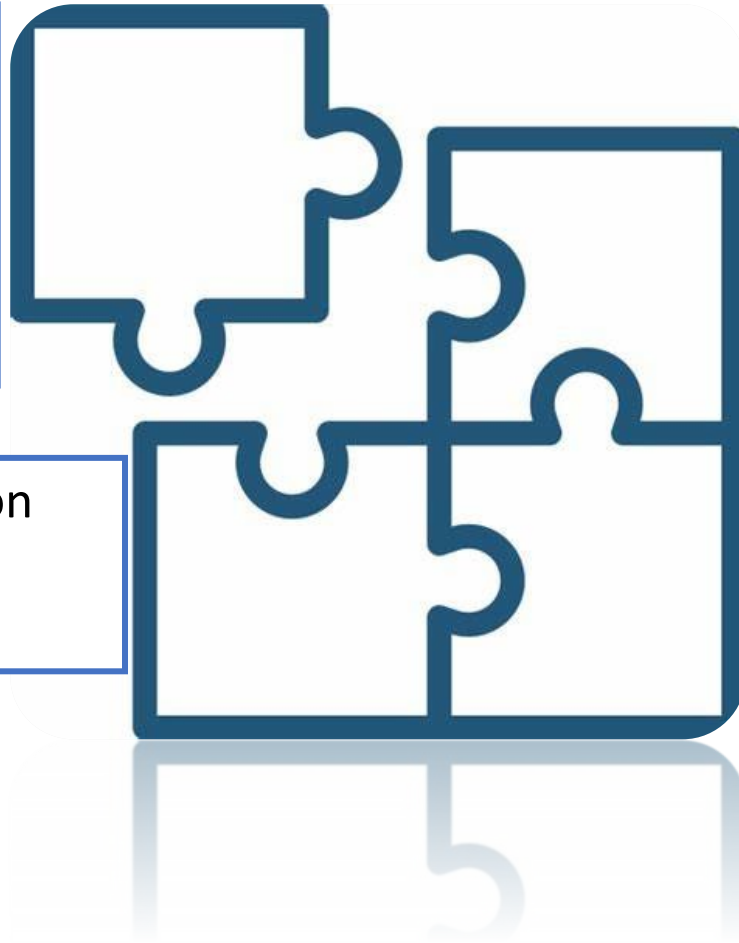
Areas of cooperation in strengthening institutional frameworks and capacity

1. Strengthening the connection between the long-term energy planning and financing of energy infrastructure projects

4. Technical assistance focused on bolstering African stakeholders' capacity in project preparation.

2. Investing in institutional capacity, maintaining the CMP effort and reinforcing in national planning

3. Promote regional cooperation and integration with the broader energy and economic sectors.



Country level

✓ National Energy masterplan development and capacity building

- Masterplans guide long-term energy policies and also serve as a guide for short-term investment plans in the sector
- NDC support –long-term ownership and sustainability of climate action by reducing reliance on external expertise and resources.

Regional level

✓ Regional Model Analysis & Planning Support Programme

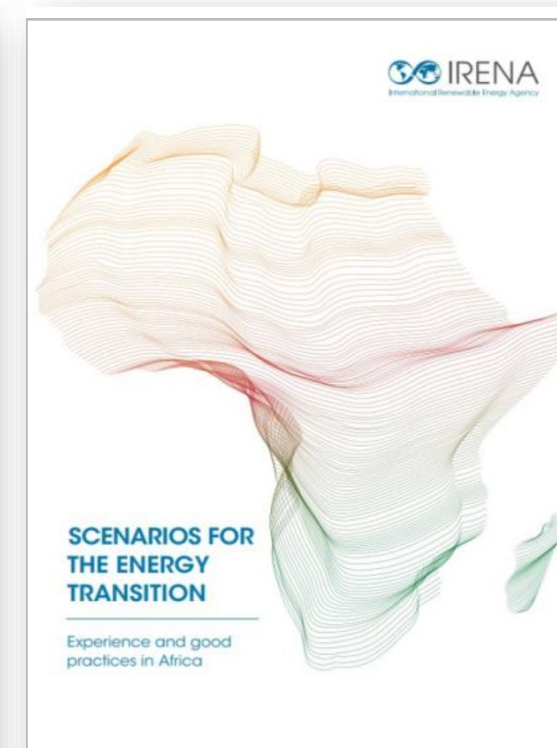
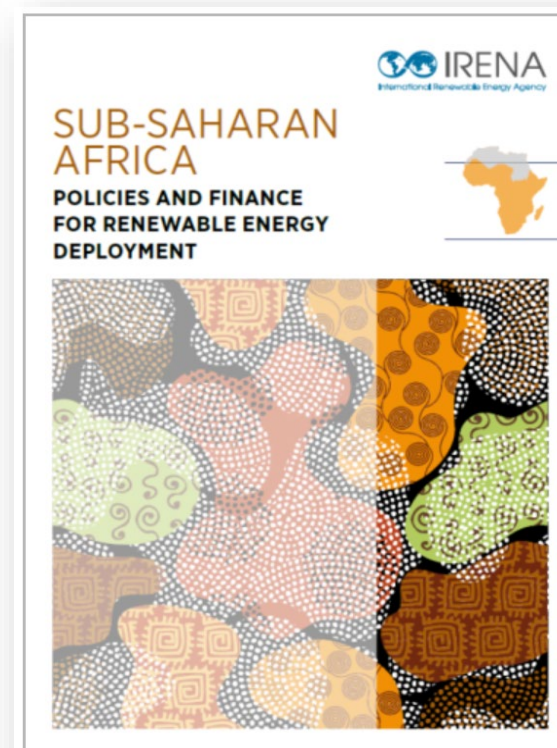
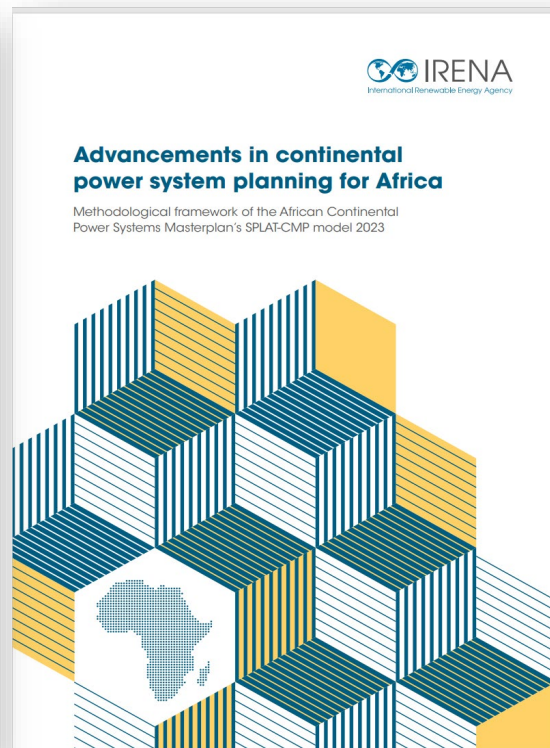
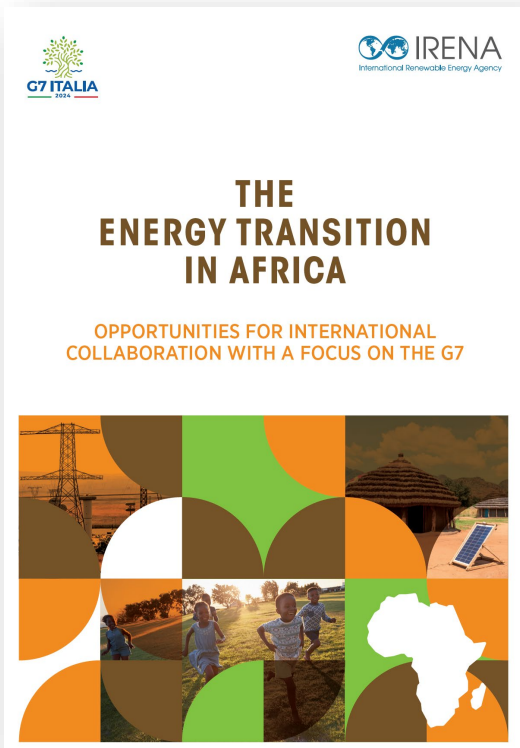
- Regional dialogues and workshops planned to align with continental planning processes

Continental level

✓ Continental Power Systems Masterplan

- Agenda 2063 flagship project and Blueprint for the AfSEM, identifying key priorities for generation and transmission projects
- Technical capacity in project preparation and institutional continental planning
- development of a pipeline of commercially attractive projects

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