



Opportunities and Success Stories of the Private Sector Participation in Energy Sector of Africa

Webinar for the Japanese Private Sector on Doing Business in Africa,
September 2020



GRUPE DE LA BANQUE AFRICAINE
DE DEVELOPPEMENT
AFRICAN DEVELOPMENT BANK GROUP

Power, Energy, Climate and Green Growth

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WHO WE ARE

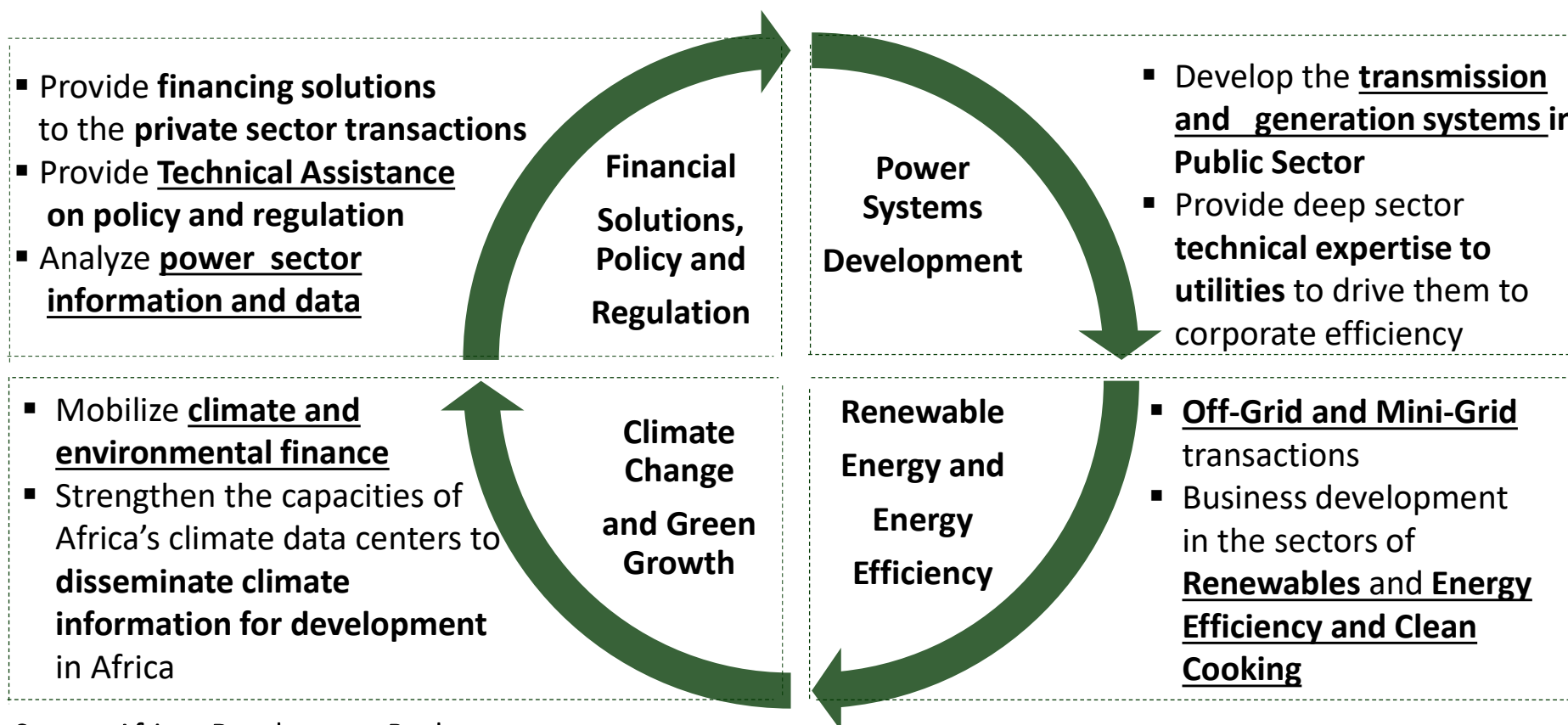


AFRICAN DEVELOPMENT BANK GROUP

Energy Complex: A One-Stop Energy Shop For the Public Sector and Private Sector



The **Power, Energy, Climate and Green Growth Complex** is established in 2015 to achieve the **New Deal on Energy For Africa** to provide energy access to over 600 m people who cannot have access to the electricity. It is aligned with one of the High 5s, “**Light Up and Power Africa**”.



Source: African Development Bank

Beyond Financial Assistance, Our Approach Comes with Added Value



Sector expertise	<ul style="list-style-type: none">• Extensive knowledge gained from long-term sector engagement• In-house engineers to provide technical advisory and regulatory experts to assess regulatory risk and structure accordingly
Country risk mitigation	<ul style="list-style-type: none">• Strong government relations• Honest broker role• Synergies with other complexes and regional offices of the AfDB Group
Access to full cycle capital	<ul style="list-style-type: none">• As the AfDB's Energy Complex' arm, we can leverage the Bank's funds and seamlessly deliver financial products according to company maturity and project's stage
Patient capital	<ul style="list-style-type: none">• Long-term investment horizon• Impact capital
Regional networks	<ul style="list-style-type: none">• With a regional network across stakeholders, we can introduce companies to co-investors, potential clients and other strategic partners

Source: African Development Bank

Complementary Special Financial Instruments

TECHNICAL ASSISTANCE

- Grants for early stage project development and capacity building support (SEFA)
- Sovereign programs with advisory services
- Climate finance-linked technical assistance

SPECIAL FUNDS

- **Facility for Energy Inclusion (FEI: On-grid and off-grid)**
 - On Grid: Small-scale IPPs, captive power, commercial & industrial projects and mini-grids
 - Off Grid: Off-grid solar companies using pay-as-you-go technologies or lease-to-own models
- **Sustainable Energy Fund for Africa 2.0 (SEFA)**
 - Operational focus on **Green Baseload, Energy Efficiency, and Green Mini-Grid**
 - Project preparation grant for developers (feasibility studies, ESIA, etc.)
 - Concessional financing (loan, equity, result-based grant)
- **Green Climate Fund (GCF), Climate Investment Funds (CIFs), Global Environment Facility (GEF)**
 - Aim to build resilience to climate change and support transition to green growth in Africa
 - Provide concessional debt and other instruments to enhance project bankability
 - Stronger targeting for innovative projects in high-risk settings
 - Application via AfDB as an Accrediting Entity

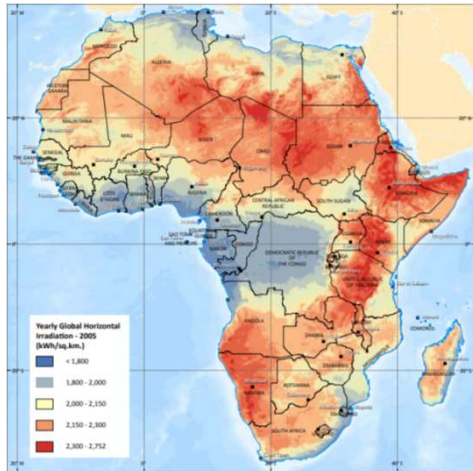


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RESOURCES AND ENERGY MARKET IN AFRICA



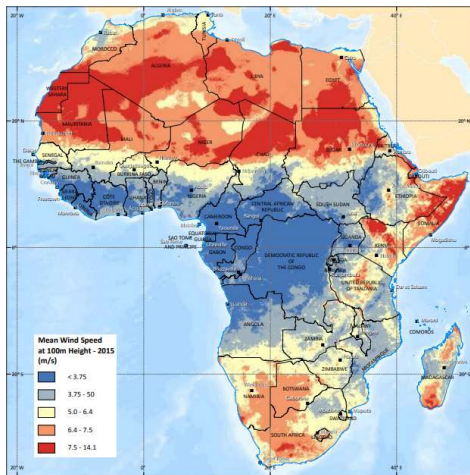
Africa is "Rich" in Energy Resources (Renewables and Gas)



Solar PV (10 TW)



Hydroelectric (350 GW)



Wind (110 GW)



Geothermal (15 GW)

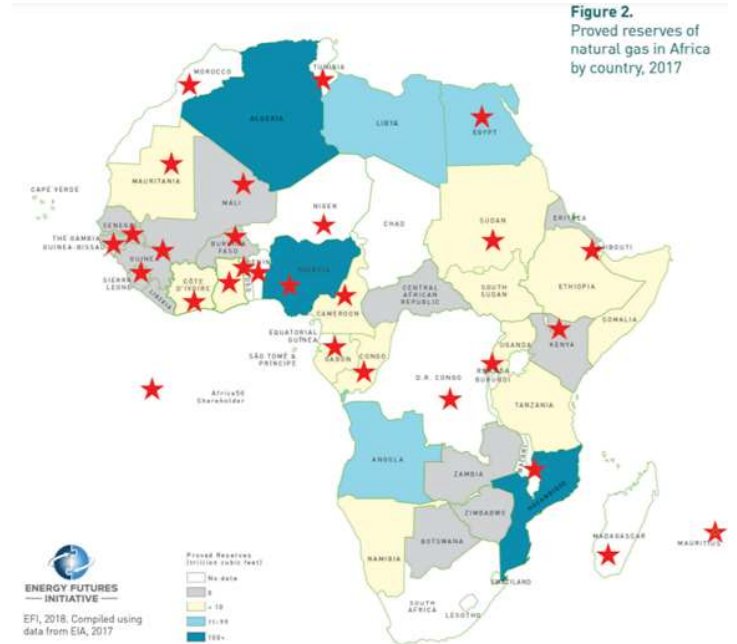


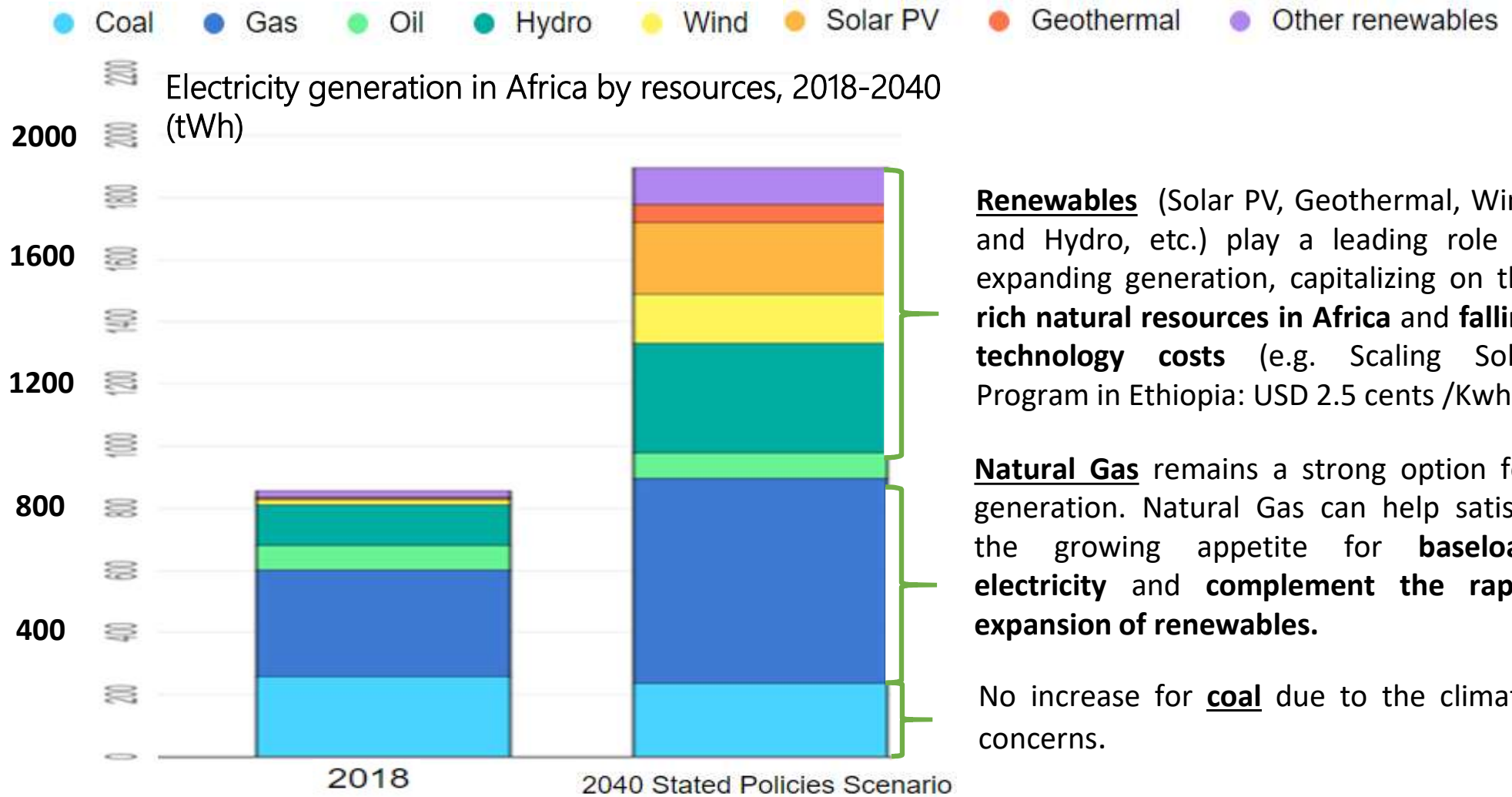
Figure 2.
Proved reserves of natural gas in Africa by country, 2017

"Proved" reserved gas is 510 Tcf in 2018.

The volume is expected to grow due to the recent gas discoveries in Africa. 40% of the global gas discoveries between 2011 to 2018 are from "Africa".

Source: Atlas, BP, Africa Energy Outlook 2019, Africa 50

Power Generation to Increase More Than Double by 2040



Renewables (Solar PV, Geothermal, Wind and Hydro, etc.) play a leading role in expanding generation, capitalizing on the **rich natural resources in Africa** and **falling technology costs** (e.g. Scaling Solar Program in Ethiopia: USD 2.5 cents /Kwh).

Natural Gas remains a strong option for generation. Natural Gas can help satisfy the growing appetite for **baseload electricity** and **complement the rapid expansion of renewables**.

No increase for **coal** due to the climate concerns.

Sources: Africa Energy Outlook 2019, IEA Homepage, AfDB

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BUSINESS OPPORTUNITIES FOR JAPANESE STAKEHOLDERS



Geothermal Opportunities through Public Financing and IPPs



Geothermal opportunities will be promoted by most of the East African countries to meet their mitigation objectives under **Nationally Determined Contributions (NDCs)**. Opportunities exist in **Djibouti , Uganda, Tanzania, Comoros** in addition to **Kenya** and **Ethiopia**.

Strong initiatives by Japanese on public financing scheme:

12 out of 16 turbines in Olkaria I to V in Kenya have been provided by Japanese companies, **MSK/MHPS** and **TTS/Toshiba**. **Olkaria I Unit 6** is being constructed by **Marubeni/Fuji**. **JICA** has been involved as financier in Olkaria projects since 2010.

IPPs trend and opportunities for Japanese:

Kenya: Olkaria III (139MW) is “only” IPP in this continent operated by Ormat.

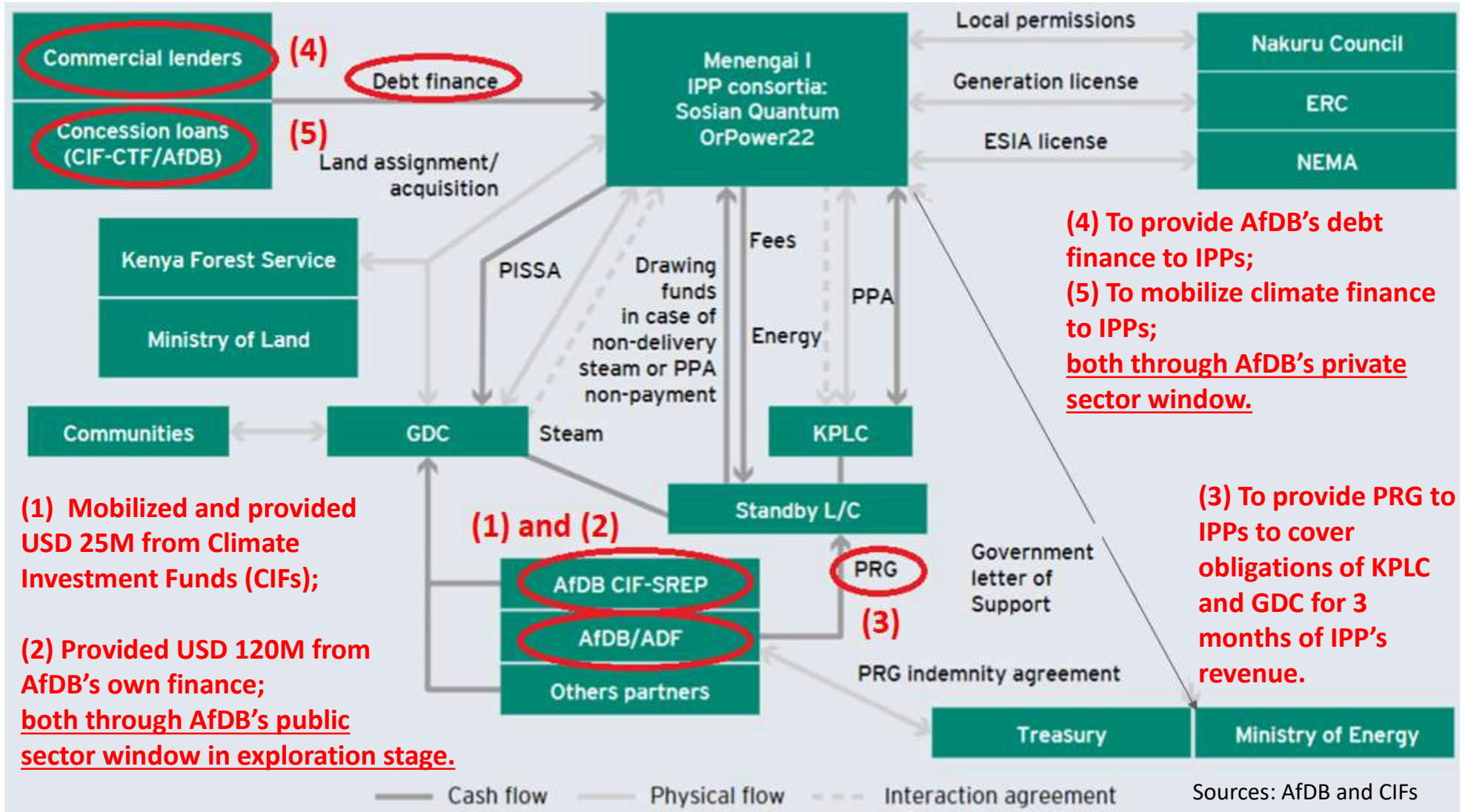
- **Menengai (35MW X 3):** F/C is expected from Quantum, Sosian or Ormat;
- **Olkaria VI (140MW):** KenGen is to award a winner from 5 group bidders;
- **Olkaria VII (140MW):** Exploration is currently going on as future IPP;

Ethiopia:

- **Tulu Moyo (50MW+100MW):** PPA signed by Meridiam and Reykjavik Geothermal;
- **Corbetti (50MW+100MW):** PPA signed by ARREF and Reykjavik Geothermal;



Introduction of AfDB's roles in Menengai Geothermal IPPs



A Wave of New Gas Development is Coming in Africa



Africa will become a **major player** in natural gas market as a **consumer, producer and exporter** driven by the **newly discovered gas fields** in **Mozambique, Tanzania, Egypt, Mauritania & Senegal** and **South Africa**.

Opportunities exist across the gas value chain for Japanese stakeholders:

- **LNG /FLNG, LNG carrier, Processing, Pipeline, FSRU/FSU, Petrochemical Plants, Generation Plants, Fertilizer, etc.**

Sample 'gas' projects promoted by Japanese:

- **EQ Guinea LNG: Mitsui (8.5%) & Marubeni (6.5%)** has shares in the project;
- **Moz Coral South FLNG: JGC** is EPC contractor with Technip & SHI;
- **Moz Area 4 LNG: JGC** is EPC contractor with Fluor and Technip;

Sample 'gas to power' projects promoted by Japanese:

- **Tunisia Carthage Power (CC 471 MW): Marubeni** has 40% of share of IPP;
- **Ghana Cenpower Generation (CC 340MW): Sumitomo** has 28% of share of IPP;
- **Ghana Takoradi T2 (CC 120MW): Mitsui** is EPC contractor with KEPCO;
- **Tanzania Kinyerezi II (CC 240MW): Sumitomo/MHPS/Toshiba** is EPC consortium;
- **Moz Maputo (CC 110MW): Sumitomo/IHI** is EPC consortium.



Renewable Energy IPPs and Battery Storage

Recent trend in renewable energy IPP procurement:

- South Africa REIPPP
- Scaling Solar Program (Zambia, Senegal, Madagascar, Ethiopia)
- GETFiT Program solar and mini-hydro (Uganda, Zambia, Mozambique)
- Solar PV IPP procurement in Egypt, Tunisia, etc.



Emerging focus on Battery Storage in support of Green Baseload:

- South Africa Eskom battery storage
- Regional power pool (e.g. WAPP)



Highlight: Zambia Renewable Energy Financing Framework

In collaboration with the Green Climate Fund (GCF), AfDB aims to finance to 100 MW of small-scale solar PV and mini-hydro projects selected under GETFiT Zambia Program

Facility for Energy Inclusion (FEI)

- The **Facility for Energy Inclusion (FEI)** is a **USD 500m debt financing platform** anchored by the African Development Bank for small-scale projects from private sector companies, with the objective to aggregate capital; structure bankable projects; and accelerate development of electricity access solutions using clean energy.



- First close in November 2019
- Small-scale IPPs, captive power projects, commercial & industrial projects and mini-grids
- Investment limit at USD 30m or 25MW for projects
- Long-term amortizing loans in project finance structures (senior and subordinated) and technical assistance reimbursable grants for late stage projects
- EUR, USD or local currency, with a tenor up to 15 years



- Operational since Q3 2018
- Off-grid solar companies using pay-as-you-go technologies or lease-to-own models
- Debt for working capital, inventory finance and consumer finance from USD 2m to USD 20m
- Corporate, secured or senior loans to SPVs in asset-backed structures (securitization)
- EUR, USD or local currency, with a tenor up to 5 years

Example 1: BBOXX RWANDA



USD 8 m loan in Rwandan Francs secured by inventory, to finance consumer receivables.

Example 2: SUNCULTURE KENYA



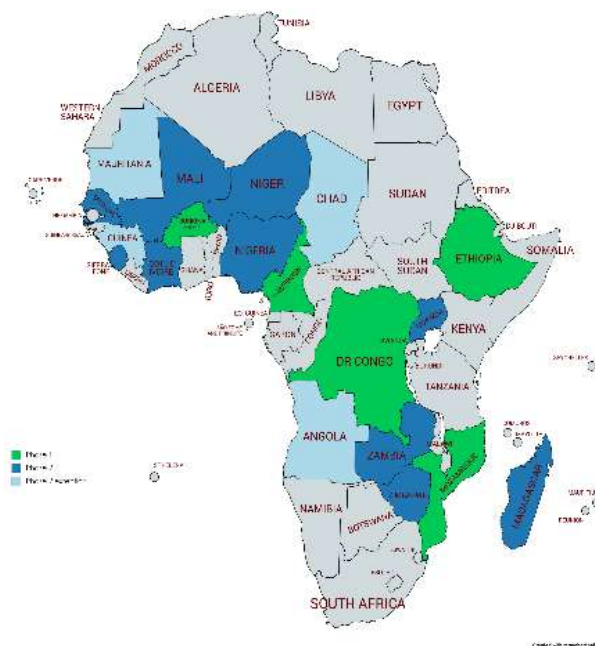
USD 2.25 m inventory financing operation for a based-technology company leader in solar water pumps and irrigation solutions for smallholder farmers

Source: African Development Bank

Green Mini-Grids (GMGs)

- Driving the creation of a sustainable mini-grid market to achieve universal access, AfDB is positioned as a credible advisor and advocate, as well as financing partner capable of mobilizing investment resources at scale for mini-grids investments.

Highlights



Source: African Development Bank

- ✓ **Ethiopia:** USD 15 million sovereign loan saving (Africa Development Fund) re-allocated/approved to finance mini-grids in 25 villages.
- ✓ **DRC Programme:** USD 20 million senior loan for the DRC green mini-grid program approved along with GCF's USD 20 million co-financing.
- ✓ **GMG Market Development Programme:** Critical market support services e.g. GMG help-desk for mini-grid developers, production of market studies.
 - ✓ **Expanding to new countries:** engagement initiated in Togo, Guinea, Madagascar, and Angola all with strong partnerships with GIZ, WB, BOAD, and/or AfDB wider operations.
- ✓ **Results Based Finance (RBF) grant/reimbursable grant instrument:** under development to be deployed for first time in Togo and DRC in 2020.

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SUCCESSFUL CASE BY JAPANESE STAKEHOLDERS



Successful Case : Mozambique LNG Project (Area 1)

The Project

- **LNG Development (13 mtpa)** with gas resource from Golfinho-Atum field in the coast of **Northern Mozambique**. **Total** is an operator.
- An **exemplary project** linking **between Africa** and **Japan** in terms of **trading, investment, financing and technology**, contributing the development in Mozambique and the southern Africa region.

Japanese Stakeholder's Role

- About 30% of LNG will be supplied to **Jera, Tokyo Gas** and **Tohoku Electric Power**.
- **Mitsui & JOGMEC** has 20% share of concessionaire.
- Financed by **JBIC** (USD 3 Billion) as well as commercial banks (**MUFG, Mizuho, SMBC, etc.**) covered by **NEXI's** loan insurance (USD 2 Billion).
- **NYK, MOL,** and **"K" Line** are in negotiation to operate LNG vessels through a separate financing scheme.

Source: African Development Bank

Key Figures

Total Project Cost	20 Billion USD
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AfDB Senior Loan	400 million USD
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AfDB Board Approval	Nov, 2019
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AfDB's Role

Only DFI Participation,
Political Mitigation Role,
TA to enhance local content/governance





THANK YOU !

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