The Financing of RE projects outside the EU

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Brussels, 26th April 2017
The EIB: the EU bank

- Created in 1958
- Shareholders: 28 EU Member States
- Driven by EU policy
- Around 90% of lending is within the EU
- Operates outside EU through specific Mandates

Investing in Europe’s growth
# EIB products

We help catalyse investment

<table>
<thead>
<tr>
<th>LENDING</th>
<th>BLENDING</th>
<th>ADVISING</th>
</tr>
</thead>
<tbody>
<tr>
<td>Loans</td>
<td>Combining EIB finance with EU budget (Project Bond Initiative)</td>
<td>Prepare, evaluate and support the implementation of projects (JASPERS)</td>
</tr>
<tr>
<td>But also: Guarantees (trade financing)</td>
<td>Higher risk projects for innovation (InnovFin)</td>
<td>Support for public/private partnerships (EPEC)</td>
</tr>
<tr>
<td>Equity participation</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Attracting FUNDING for long-term growth
In the lead up to COP-21, the EIB committed to increase its climate finance for developing countries to 35% by 2020.
EIB Group financing in 2016: EUR 83.8bn

Signatures

- EFTA & Enlargement Countries: EUR 3.35bn
- Eastern Neighbours: EUR 1.65bn
- Africa, Caribbean, Pacific, South Africa: EUR 0.77bn
- Asia and Latin America: EUR 0.98bn
- Southern Neighbours: EUR 1.63bn
- European Union: EUR 75.4bn
- Outside EU: EUR 8.38bn

Total EUR 83.8bn
EIB Energy Lending

EIB Energy Lending Breakdown 2012-2016 (EUR bn)

Security of Supply
Energy Networks
Energy Efficiency
Renewable Energy

Total EUR 62.8 bn

EIB RE Lending Breakdown 2012-2016 (EUR bn)

RDI
HYDRO
CSP
PV
WIND ONSHORE
WIND OFFSHORE
BIOMASS
GEOTHERMAL
MIXED
GRID INTEGRATION

Total EUR 23.1 bn
EIB RE Lending outside the EU in 2012-2016

Close to 20% of EIB RE financing was outside the EU

Total EUR 4.5 bn
EIB RE Lending outside the EU in 2012-2016

By Region

- Asia: 1,218
- Mediterranean: 455
- Candidate: 339
- Latin America: 521
- ACP: 637
- South Africa: 171
- Eastern Europe: 318
- EFTA: 614

Total EUR 4.5bn

By Technology

- HYDRO: 1,194
- CSP: 205
- WIND ONSHORE: 215
- GEOTHERMAL: 222
- SOLAR PV: 876
- GRID INTEGRATION: 55
- BIOMASS: 614
- MIXED: 1152

Total EUR 4.5bn
Since the early 1980s, EIB has been supporting KenGen – which is the leading generation company in Kenya with an installed capacity of 1617 MW, about 80% of the country’s installed capacity.

The Bank has provided EUR 207 million total financing in favour of the development of the Olkaria field through 5 consecutive loans and also support for drilling programmes ca EUR 12.6 million through EDF grants.

The 280 MW Olkaria I & 4 Power Stations project is the world’s single largest geothermal project and is a success story in geothermal power plants in Kenya. It was voted the clean energy project of the year in 2015 and has been key in supporting Kenya’s effort to replace expensive thermal power generation and has had a direct impact on tariff for end-users.
The project was developed at a total cost of EUR 836 million with financial support of EUR 119 million from EIB and was commissioned in late 2014.

Looking ahead; the EIB’s Board of Directors approved in July 2016 the financing of an additional unit of 70 MW for the Olkaria I plant and construction is expected to start before the year end.
Lake Turkana Wind Project - Kenya

- The site, covering 40,000 acres, is located in Loyangalani District, Marsabit County in northern Kenya.
- The wind farm will have an installed capacity of 310MW and includes 365 turbines, a 33 kV electricity grid system, and a 33/200 kV substation and related utility services including civil works, housing and buildings.
- The project is on course with full capacity expected to be achieved in June 2017.
- With EUR 625 million project costs this makes it the single largest wind power project to be constructed in Africa and is, to date, the largest private investment in the history of Kenya.
- EIB Loan of EUR 200 million and EUR 25 million contribution from EU-ITF under Sustainable Energy for All Window (SE4All) – invested by EIB as preferred equity share.
Project location
Wind Turbines and OHL Lines Installation

WTG erection in progress
Ouarzazate Solar Complex - Morocco

• One of the biggest solar power complexes in the world (>500MW)

• Once completed, it will have over 580 MW installed capacity, provide electricity to 350 000 homes in Morocco and reduce carbon emissions by 17.5 million tons over 25 years.

• Total project cost is 2,3bn EUR out of which 250MEUR are financed by EIB

• Other EU lenders are AFD, KFW and the EC through a NIF grant. Overall EU funds amount to 60% of the project cost

• Phase I entered into commercial operation at the beginning of 2016 while the other two phases are expected to enter into operation in 2017
160 MW CSP Noor I

150 MW CSP Noor III
The Bujagali Hydropower Plant is a hydro power plant near Bujagali Falls on the Nile River, with a total installed capacity of 250 MWe and with the following main characteristics: a 28 m high earth-filled dam, a powerhouse with five 50 MW Kaplan turbine-generators, various other buildings and structures including spillways and a 132 kV outdoor substation.

Developed at a cost of ca 650MUSD with an EIB contribution of 98.73 MEUR, with commercial operations declared in August 2012.

Benefits

1. Replacement of Thermal Generation. Bujagali replaced expensive thermal generation and enabled the GOU to eliminate subsidies to the electricity sector.
2. Freed up GOU financial resources through the foreign direct investment (FDI) thus allow the GOU is able to channel funds into alternative sectors, e.g. roads, hospitals, schools, etc.
3. Transfer of the asset. At the end of the PPA term, Bujagali Energy Limited (BEL) will transfer the Bujagali asset, which should be worth in excess of US$2B (replacement value), to the GOU for one US dollar.
4. After the transfer to the GOU, the tariff is expected to average less than 2 US cents/kWh for 70+ years.
Jiji Mulembwe Hydropower - Burundi

- The Jiji and Mulembwe Hydropower Project consists of the construction of two run-of-the-river hydropower plants Jiji (31.5 MW) and Mulembwe (16.5 MW) in southern Burundi as well as an 80 km 110 kV transmission line to evacuate the power to the capital, Bujumbura.

- The project will increase the supply of clean and affordable electricity to the national grid. The project also includes the electrification of rural communities in the vicinity of the power plants.

- The project will almost double the installed power capacity in Burundi, allowing increased access to electricity from a current level of around 4% of the population.

- EIB will provide EUR 70 million out of the total project cost of EUR 199 million. The main construction contracts are currently being tendered with project completion projected for 2022.

- Given the population density in Burundi plus the fact that the project is located in a relatively fertile agricultural area, the project facilities will affect private land currently used by the local population. Therefore the project has been subjected to a full environmental and social impact assessment, with public consultation, and Environmental and Social Management Plans (ESMPs) and Resettlement Action Plans (RAPs) have been developed and are under implementation.
Khi Solar One CSP Tower Project - South Africa

- 50 MW concentrated solar power plant
- Located in the Northern Cape
- Part of the SA Government’s Renewable Energy Independent Power Producer (REIPP) programme in July 2011
- Project costs are ZAR 3,910 million (EUR382 million)
- EIB provided a EUR50 million loan
- The project will employ tower technology with direct generation of superheated steam. In addition, it is equipped with thermal storage that allows solar energy to be collected and stored for later dispatch.
- The project also involves a new 13/132 kV substation and a 132 kV overhead tie-line of ca. 5 km length connecting to an existing transmission line.
- Construction commenced in April 2012 and the plant is currently operational
Khi Solar One Tower
Cape Verde: Wind Power PPP Project

- Cape Verde has outstanding wind resources but the country relies heavily on expensive imported fossil fuel for power generation.

- The development, construction and operation of four onshore wind farms on four islands of the archipelago; for a total installed capacity of 25.5 MW, were intended to reduce that dependence substantially, as well as to reduce greenhouse gas emissions (92,000 t CO² per year) and increase access to electricity in Cape Verde.

- It was the first renewable energy public-private partnership (PPP) in sub Saharan Africa and commissioned in 2012.

- The EIB was involved at a very early stage and designated “lead financier” by the Cape Verde counterparty, working closely with the African Development Bank and provided EUR 30 million of the EUR 60 million project cost.

- The government of Cape Verde provided strong support to the project, which it sees as a cornerstone of its renewable energy strategy (50% of energy to be provided by renewable sources by 2020).
The Itezhi–Tezhi project involves the development, construction, operation and maintenance of a new 120MW hydropower plant at the existing Itezhi-Tezhi dam and reservoir (PPP through a JV between TATA and ZESCO), and transmission infrastructure to transport the generated electricity to the grid.

- EIB loan of EUR 50million from a project cost of ca EUR 270 million. Project was commissioned in January 2016 including the transmission infrastructure.
- Reduces the need for generation from fossil fuels in Zambia and the South African Power Pool (SAPP).
- EU-Africa Infrastructure Trust Fund (ITF) provides an Interest Rate Subsidy, as well as TA for project implementation (one single Lender’s Engineer for Itezhi-Tezhi and Kafue-Livingstone projects).
• Renewable Energy is one of the core sectors for the Bank’s lending

• EIB’s lending to RE projects outside the EU is expected to step up over the next years given the higher climate action target

• Support to RE projects can be provided by EIB through a variety of financial products, co-financing and also technical assistance
• Thank You!