

»» How to finance Renewable Energy Projects in India

„Market Potentials and Business Applications for Renewable Energies & Energy Efficiency in India“

InterSolar Europe 2015

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Bank aus Verantwortung

KFW

»» KfW at a glance

German Development Cooperation

Political framework: BMZ, BMF, BMUB, AA and others

Implementation


Development Bank





Financial Cooperation Task:

Promote reform processes and public investment

- **Provision of capital**
- **Complementary advisory services**

Cooperation with **state** and state-guaranteed private institutions

Corporate Financing Task:

Financing of private investment in developing and industrializing countries

- **Provision of capital**

Establishment and expansion of **private business** structures

Technical Cooperation and Personnel Support Task:

Enhancing the capabilities of people and organizations

- **Provision of expertise**

»» Indo-German financial cooperation in energy

An overview

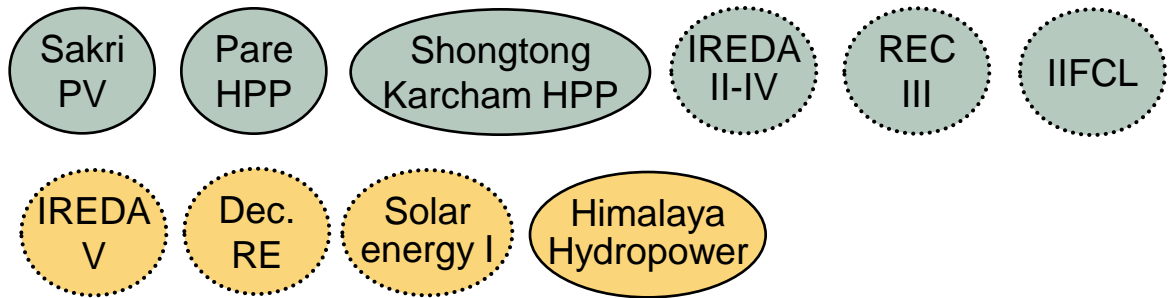
- › Germany and India have been partnering in the energy sector in **over 40 years** of development cooperation.
- › **Overall objective:** Contribute to an inclusive, technically and economically efficient, socially and ecologically sustainable energy supply and use.
- › **Current Portfolio:**
 - ~2.1 bn. EUR of ongoing projects plus
 - ~1.2 bn. EUR project pipeline



»» KfW Development Bank's Energy Portfolio in India

Renewable Energy (RE) Generation

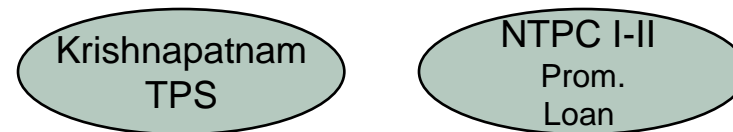
Ongoing: 903 mn. EUR
Preparation: 587 mn. EUR



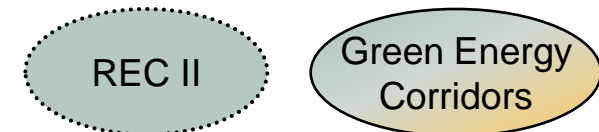
Supply Side Energy Efficiency and Access

Ongoing: 1,090 mn. EUR
Preparation: 400 mn. EUR

Thermal Power

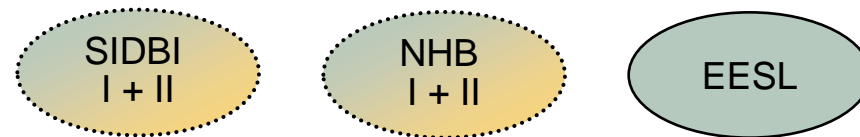


Transmission & Distribution



Demand Side Energy Efficiency


Ongoing: 154 mn. EUR
Preparation: 211 mn. EUR



 Line of Credit with Financial Intermediary

 Individual Project / Direct Financing

 Ongoing Project

 Project under Preparation

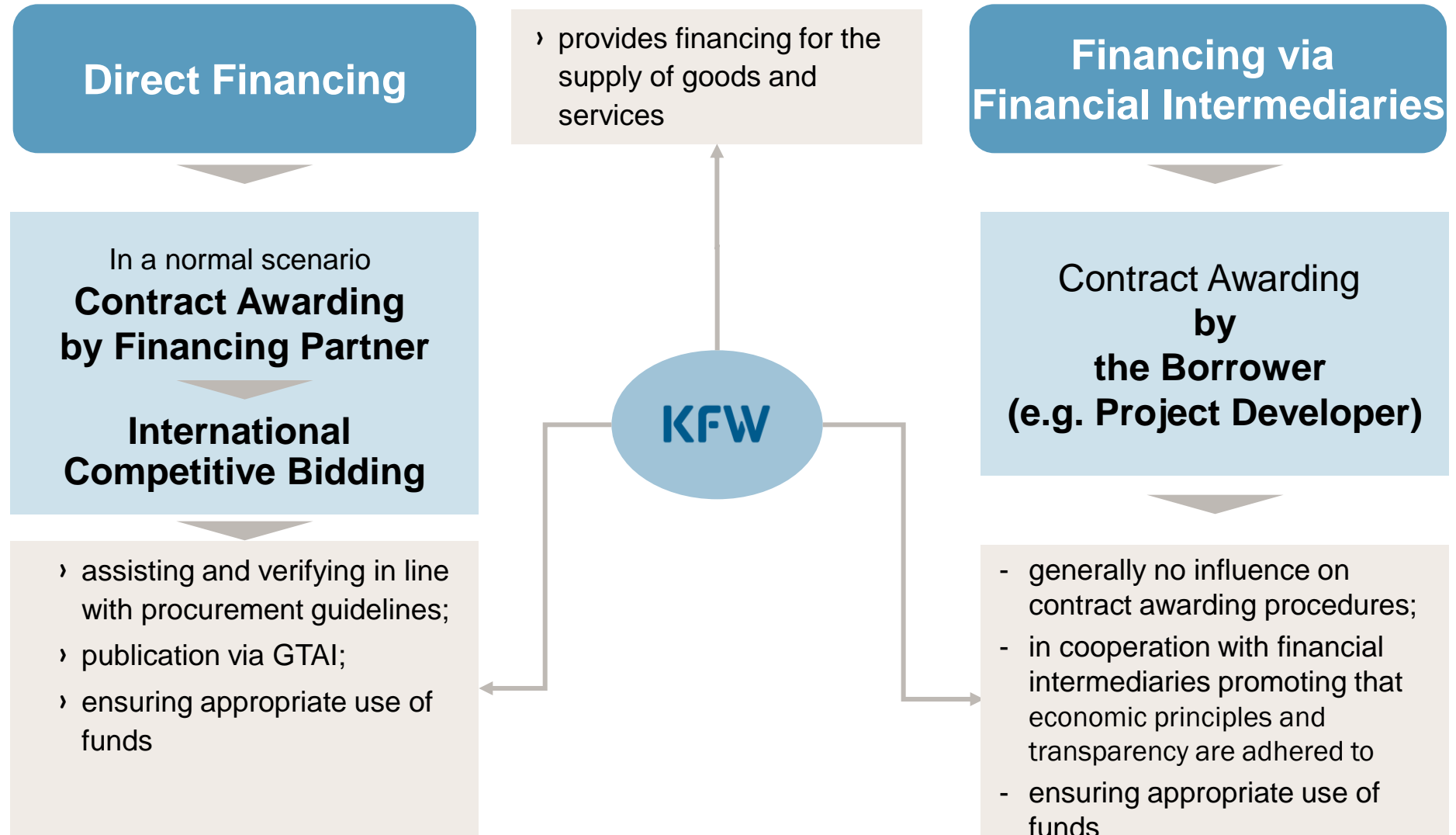
»» Projects financed under ongoing IREDA LoCs with KfW

The ongoing LoC with IREDA currently contains

- › **19 sub-loans**
- › with a **total loan volume by IREDA** of ~ 12.5 bn. INR (~ 188 mn. EUR)
- › for **total investment costs** of ~ 41 bn. INR (~ 619 mn. EUR)
- › in **eleven states** in India
- › with **658 MW of envisaged installed capacity**
- › in **four different sub-sectors**.



»» Contract Awarding Procedures for Financing of Renewable Energy Projects



»» Criteria for FC Financing for Renewable Energy Projects

Prerequisite for Cooperation

- Project Partner must be a public entity or a private institution receiving a state guarantee, be part of the public administration or a company in public ownership
- economic viability of the project
- fulfilment of Environmental and Social Standards

Additional favorable factors

- required approvals and contracts for the implementation of the project are available
- PPA in place
- technical feasibility of the project at the project site has been assessed
- sustainability of components and equipment can be ensured
- sufficient guarantee periods
- EPC-Contractor has sufficient experience with the type of project in question and has a local representation
- costs for operation and maintenance are considered

»» Perceptions by Financing Institutions- Challenges

› **Dispersed Market**

- › Inefficient for individual developers to build ancillary infrastructure which can be aggregated

› **Technical Risk**

- › Several equipment suppliers with varying levels of quality and reliability
- › Testing processes exist that go beyond the minimum standards to differentiate products

› **PPA Bankability**

- › Cost of renewable energy purchase obligations vs the weak finances of the Utility

› **Aggressive Pricing**

- › Developers often make aggressive tariff bids, causing bankability concerns

› **Offtake risk**

- › Risk of curtailment of power feed- in and risk of delayed payments



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BACKUP Slides for Solar Financing Criteria DEG / IPEX

»» Criteria for DEG/IPEX Financing – Solar Power Projects

- › This list concentrates on the most crucial risk aspects yet does not cover all due diligence items:

Financing:

- › Equity ratio of at least 20 %
- › Adequate cash flow oriented structure (i.e. debt service coverage, current ratio)
- › European ECA coverage for IPEX financing

Energy Resources:

- › Availability and reliability of long-term solar-ray data; ground and satellite assessment from 2 independent consultants. Gross output, loss factors, net output (P50) and uncertainty analysis to calculate the standard deviation (P90, banking case) by an independent engineer.

Construction:

- › Expertise of contractors; preferably EPC contract on turn-key basis with completion and performance guarantees
- › Adequate arrangements in place to cover cost overruns
- › Securing of land titles/land use rights
- › European supplies for IPEX financing

»» Criteria for DEG/IPEX Financing– Solar Power Projects

Operation:

- › Long term O&M contract with experienced operator guaranteeing minimum availability (tenor, costs; overall liability like liquidated damages etc.)
- › Proven equipment of reputable suppliers
- › Technical feasibility: grid connection and grid capacity; accessibility of site

Market/Sales:

- › Long-term PPA with defined tariff providing tail beyond loan tenors, adequate coverage of currency exchange rate risk and O&M cost risks;
- › Creditworthiness of off-taker

Environment and Social Standards:

- › In compliance with local, EU and World Bank requirements (IFC Performance Standards)
- › In compliance with international standards of the International Labour Organisation and the UN
- › Crucial aspects: land ownership, relationship to local community

»» Criteria for DEG/IPEX Financing– Solar Power Projects

General:

- › Integrity and transparency of shareholder(s)
- › Track record of shareholder (know how, finance); existing expertise of management
- › International accounting standards
- › Corporate governance
- › Majority interest in the project company through private company and private management
- › Limited governmental influence (independent regulatory authority)
- › Secured local legal framework