Financing Low Carbon Projects

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Accelerating Private Sector Participation Towards Low-Carbon Development in Indonesia: Workshop on Joint Crediting Mechanism

Jakarta, 30 November 2016
1. Corporate Finance

*Lender relies on cashflows from all corporate activities*

2. Project Finance

*Lender relies on cashflows from the specific project only (Project 3)*

Project Finance is relying on the project’s cashflow as the principal repayment source
Case Study: Key Issues in Renewable Energy Financing in Indonesia – Risk Perspective

- **Sponsor**
  - Limited equity
  - Limited flexibility of financing

- **Operator**
  - Included in sponsor
  - Convensional management

- **Bank**
  - Limited financing products end up on senior loan.

- **Government**
  - Licensing
  - Land (Acquisition, or Usage Permission of Forestry)

- **Off taker**
  - Proven Off taker
  - Certain/Regulated Pricing (<10 MW)
  - Simple procurement

**Renewable Energy Project**

- **Supply Sources**
  - Sustainability issues
  - Solar/Wind/Bio supply have no sufficient database
  - Difficult to access location

- **Machine Supplier**
  - Simple technology
  - Low maintenance

- **Contractor**
  - Lower middle
  - Unproven project management capabilities
  - Lack of ability to handle cost overruns case

- **Project Preparation Consultant**
  - Small and medium class
  - Less comprehensive feasibility study (probability of cost overruns and design changes)
## Project Key Considerations and Concerns

### Key Considerations

1. Optimal sharing of risks – principle is that risks should be allocated to the party best suited to manage or minimize it

2. Having a conducive regulatory environment

### Key Concerns

1. **Strong project sponsor**
2. EPC contractor with good track record
3. **Stable cashflow**
4. Solid project fundamental
5. Suitable financing structure
6. Professional parties

### Typical Project Risks of Renewable Energy Projects

<table>
<thead>
<tr>
<th>Planning</th>
<th>Construction</th>
<th>Operation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Project Sponsor Eligibility</td>
<td>Construction Delay &amp; Cost Overrun</td>
<td>Operation Failure</td>
</tr>
<tr>
<td>Project Consultant Screening</td>
<td>Constructor Default and Insolvency</td>
<td>Sustainability of Resources</td>
</tr>
<tr>
<td>Operator Screening</td>
<td>Environmental and Social Impact</td>
<td>Unexpected Operation and Maintenance Costs</td>
</tr>
<tr>
<td>Land Topography</td>
<td>Natural Disaster</td>
<td>Offtaker</td>
</tr>
<tr>
<td>Grid Distance</td>
<td>Access to Infrastructure</td>
<td>Law and Regulation Changes</td>
</tr>
<tr>
<td>Supplier Screening</td>
<td>Law and Regulation Changes</td>
<td>Tariff Adjustment and Approval</td>
</tr>
<tr>
<td>Land Acquisition</td>
<td>Land Acquisition</td>
<td>Contract Termination</td>
</tr>
<tr>
<td>Transport and Logistic Costs</td>
<td>Standard Quality</td>
<td></td>
</tr>
</tbody>
</table>
The Debt Service Coverage Ratio (DSCR) is the ratio of cash available for debt servicing to interest, principal and lease payments.

- It is a popular benchmark used in the measurement of an entity’s (person or corporation) ability to produce enough cash to cover its debt (including lease) payments. The higher this ratio is, the easier it is to obtain a loan.
- The minimum DSCR, particularly for new sector, for the banking acceptance is about 1.4-1.5 x...
**Case Study: Improving Project Bankability**

<table>
<thead>
<tr>
<th>Indicative Ratio</th>
<th>Remarks</th>
</tr>
</thead>
<tbody>
<tr>
<td>Financing size = 30%</td>
<td>- Indicator of project’s bankability&lt;br&gt;- With mezzanine portion, senior lenders will more secure or comfortable to finance the project&lt;br&gt;- Limitation of senior debt portion due to new sector&lt;br&gt;- Using cash waterfall mechanism</td>
</tr>
<tr>
<td>Financing size = 40%</td>
<td>- Using bullet payment mechanism for principal&lt;br&gt;- Reduce cash flow’s burden during senior debt’s tenor&lt;br&gt;- Using cash waterfall mechanism</td>
</tr>
<tr>
<td>Equity size = 30%</td>
<td>- Equity sponsor still has room for excess cash&lt;br&gt;- Using cash waterfall mechanism</td>
</tr>
</tbody>
</table>
Project Finance: Mini-hydro Power Plant

- SMI as a Senior Lender
- PE as a Mezzanine Lender

Our case: financing Structure in RE project (e.g: Mini-hydro Power Plants)

- SMI as a Senior Lender
- PE as a Mezzanine Lender

- Intl Institution & SMI as a Mezzanine Lender
- On the next stage: PE overseas & SMI as a Mezzanine Lender
## Typical Financing Structure of Renewable Energy Projects

### Typical Financing Mix

<table>
<thead>
<tr>
<th>Debt</th>
</tr>
</thead>
<tbody>
<tr>
<td>Banks</td>
</tr>
<tr>
<td>• International Banks</td>
</tr>
<tr>
<td>• Large Domestic Banks</td>
</tr>
<tr>
<td>• Local Branch of Foreign Bank</td>
</tr>
<tr>
<td>• Small-to-medium Domestic Banks</td>
</tr>
<tr>
<td>ECAs</td>
</tr>
<tr>
<td>Multilaterals/bilaterals</td>
</tr>
<tr>
<td>Infrastructure Financing Institutions (PT SMI/IIF)</td>
</tr>
</tbody>
</table>

### Financing Institutions

<table>
<thead>
<tr>
<th>Equity</th>
</tr>
</thead>
<tbody>
<tr>
<td>Quasi-Equity</td>
</tr>
<tr>
<td>• Sub-Loan</td>
</tr>
<tr>
<td>• Mezzanine</td>
</tr>
<tr>
<td>Convert</td>
</tr>
<tr>
<td>Equity</td>
</tr>
<tr>
<td>Grant</td>
</tr>
<tr>
<td>• Donors</td>
</tr>
<tr>
<td>• Multilaterals/bilaterals</td>
</tr>
</tbody>
</table>

### Source of Funds

<p>| | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>e.g. deposits (mostly short term for domestic banks) &amp; capital market</td>
<td></td>
</tr>
<tr>
<td>e.g. government, private investors</td>
<td></td>
</tr>
<tr>
<td>e.g. multilaterals/bilaterals member countries, capital market</td>
<td></td>
</tr>
<tr>
<td>e.g. Government, multilaterals/bilaterals, private investors &amp; capital market</td>
<td></td>
</tr>
<tr>
<td>e.g. private investors, multilaterals/bilaterals, capital market</td>
<td></td>
</tr>
<tr>
<td>e.g. climate funds, green funds, adaptation/mitigation funds, multilaterals/bilaterals funds</td>
<td></td>
</tr>
</tbody>
</table>
PT SMI Business Pillars

Sources of Funds

Conventional
- Capital Injection from GOI
- Capital Market (Bonds, Notes, Securitization)
- Loans and Grants

Sharia*
- Sharia Capital Market
- BPJS, Sharia Insurance
- Hajj & Syirkah Funds
- Sovereign Wealth Fund

FINANCING & INVESTMENT

- Infrastructure Financing
  - Senior loan (Working Capital, Investment Loan)
  - Junior Loan
  - Mezzanine
  - Equity investment
  - Arranger & Underwriter
  - Standby Lender PPP
- Municipal Financing (PIP/RIDF)
- IMBT/Lease with Option to Own
- Murabahah/Installment Sale with Deferred Payment
- MMQ/Diminishing Partnership
- MMOB/Restricted Investment

CONSULTATION SERVICES

- Public Sector Advisory
- Investment Advisory (Conventional and Sharia)
- Training & Capacity Building
- Financial Advisory (Conventional and Sharia)

PROJECT DEVELOPMENT

- Project Development Facility (PDF)
- PPP Project
- PDF & Donor Funds Management
- Renewable Energy Project (Geothermal Exploration)
- TA & Donor Funds Management
- Municipal Projects
- Technical Assistance
- Donor Funds Management

Sectoral Focus

- Electricity
- Transportation
- Telecommunication
- Oil and Gas
- Rolling Stock of Trains
- Energy Efficiency
- Drinking Water
- Road and Bridge
- Irrigation
- Waste Management
- Hospital
- Correctional Infrastructure
- Education Infrastructure
- Region Infrastructure
- Market
- Tourism Infrastructure
- Social Infrastructure

* Islamic Business Unit is expected to be operational at the end of 2016

IMBT= Ijarah Muntahia Bittamlak  MMQ= Musyarakah Mutanaqisah  MMOB= Mudharabah Muqayyadah on Balance Sheet
Sustainable Financing Initiative

Focus
- New & Renewable Energy
- Energy Conservation
- Waste Management

Product
- Loan
- Grant
- Quasi Equity Facility
- Technical Assistance

Strategy
- Create strategic relationship with potential clients
- Create strategic cooperation with multilateral institutions
- Coordination with government institutions

Sustainable Development & Green Growth

- Economical
- Social
- Environmental
PT SMI Eligible Sectors for Sustainable Finance

- Municipal Waste Management
- Low Emission Transportation
- Industrial and Domestic Waste Water Treatment System
- Drinking Water Supply System
- Social Infrastructure
- Irrigation
- New and Renewable Energy
- Energy Efficiency
  - Geothermal Energy
  - Solar PV
  - Biomass Energy
  - Wind Energy
  - Green Building
  - Smart Street Lighting
PT SMI has implemented Environmental and Social Safeguard

**PT SMI ESS Architecture**

<table>
<thead>
<tr>
<th>Policy</th>
<th>Procedures</th>
</tr>
</thead>
<tbody>
<tr>
<td>Compliance of the Environmental and Social Rules and Regulations</td>
<td>Evaluating E&amp;S Risk</td>
</tr>
<tr>
<td>ESS Governance and Management System</td>
<td>Transaction Screening</td>
</tr>
<tr>
<td>Risk Categories</td>
<td>Risk Identification</td>
</tr>
<tr>
<td>Biodiversity and Natural Resources Management</td>
<td>E&amp;S Due Diligence</td>
</tr>
<tr>
<td>Land Acquisition and Resettlement</td>
<td>Conditions of Financing</td>
</tr>
<tr>
<td>Indigenous People and Cultural Heritage</td>
<td>Monitoring E&amp;S Risk</td>
</tr>
<tr>
<td>Gender Policy</td>
<td>Reviewing Client/ E&amp;S Performance</td>
</tr>
<tr>
<td>Consultation and Grievance Handling Mechanism</td>
<td>Managing non-Compliance</td>
</tr>
</tbody>
</table>

**Continuous capacity and capabilities improvement**

**Monitoring and Reporting**
Generic Partnership Model With International Institutions

Co-financing Model
- Climate Fund / Donor
- PT SMI
- Co-financing
  - Loan repayment
  - Loan repayment
  - Loan
- Low-Carbon Projects

Intermediary
- Climate Fund / Donor
- Fund
- PT SMI
  - Loan repayment
  - Loan / TA
- Low-Carbon Projects

Fund Management
- Climate Fund / Donor
- Fund management
  - Assign for fund manager
- Special/Esc. Account
  - Fund disbursement
  - Loan revolving
  - Loan/Grant
- Low-Carbon Projects

Capacity building programme/ PDF
- Structure the project & manage TA Grant
- Training Coordinator

Fund Management
- Climate Fund / Donor
- Fund management
  - Assign for fund manager
- Special/Esc. Account
  - Fund disbursement
  - Loan revolving
  - Loan/Grant
- Low-Carbon Projects
Partnerships in Climate Change Programs

i.e. Renewable Energy

**USD100 million Credit Facility Agreement**

**€400 thousand Technical Assistance Programme**

**USD5 million Quasi Equity Facility**

**USD500 million Loan**

**Regional Infrastructure Development Fund**

**Grant USD3 million TA & Project Preparation**

**Climate Technology Fund (CTF)* Grant USD49 million**

**Global Environment Facility (GEF) Grant* USD6,25 million**

**Grant Facility USD300 thousand**

**Wind Energy Development di Lombok**

**Accredited Entity**

Low-emission and climate-resilient development*

*In Accreditation Phase II*

*) Preparation Phase

**) Planned
THANK YOU

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#baktiuntuknegeri
Roles of PT SMI in Addressing Sustainable Development Issues in Indonesia

1. Infrastructure Finance Company
   - The only SOE with focus mandate in Infrastructure Development Financing

2. Supports Mitigation Actions
   - The business sectors are very relevant to sustainable development actions, including renewable energy and transportation

3. Future Role as a Development Bank
   - Future role as a Development Bank with a broader eligible sectors will allow SMI to contribute more significantly in addressing sustainable development issue;

4. Supporting Impact to Global Target
   - Plays significant role in supporting relevant infrastructures in sustainable development projects as well as reducing emission in order to achieve global target in sustainable development goals (e.g.: climate change mitigation).
## Partnership between AFD and PT SMI

### Renewable Energy and Climate Change Projects

<table>
<thead>
<tr>
<th>Credit Facility Agreement (CFA)</th>
<th>Quasi Equity Facility (QEF)</th>
<th>Technical Assistance Programme (TAP)-MoU</th>
</tr>
</thead>
</table>
| **Financing of Renewable Energy and Climate Change Investments**  
  - Loan Facility: USD100 million  
  - Tenure: 10 years  
  - Grace Period: 3 years  
  - Project size max: USD50 million  
  - Loan size max: USD25 million for each project  
| **This facility will target either innovative or riskier projects**  
  - Facility: USD5 million  
  - At least 3 projects to be financed with the QEF  
| **This programme amounting to maximum EUR 400,000 will support the two facilities**  
| **At least 50% of the facility must be dedicated to Renewable Energy investments and the rest is for Climate Change investments**  
| **Renewable Energy:** hydropower, geothermal, biomass, solar, wind mills, etc.  
| **Climate Change: Mitigation & Adaptation**  
| **This facility will be provided by means of de-risking mechanism for PT SMI or interest-rate subsidy**  
  - First Loss Mechanism (FLM)  
  - Cost Overrun Junior Debt Mechanism (CJD)  
  - Interest Free Loan for Innovation (IFI)  
  - Innovative Equity Mechanism (IEM)  
| **Scope:**  
  - Support PT-SMI in appraising and assessing Renewable Energy and Climate Change investments  
  - Assist PT-SMI in upgrading its Environmental and Social Risk Management System (ESMS)  
  - Promote Renewable Energy and Climate Change investments in Indonesia  
|
Cooperation in fostering geothermal development in Indonesia

The World Bank channeled grant from Clean Technology Fund and Global Environment Facility to support the Geothermal Energy Upstream Development Project where Government plays important role to absorb the risk of exploration phase.

Government participation during the exploration phase can significantly decreasing the risk of geothermal development which could encourage private sector participation in the exploitation phase.

Some prerequisite arrangements should be fulfilled before the grant could be effectively granted:

- Government should contribute in co-financing scheme
- PT SMI act as the Implementing agency
- The grant should be utilized only for government drilling scheme in certain greenfield area determined by GoI

The aims of CTF & GEF grant:

1. To support Government of Indonesia in unearthing geothermal potential through risk sharing mechanism
2. To encourage investor participation in developing geothermal project
3. To leverage the geothermal fund that's been managed by PT SMI

Grant Clean Technology Fund & Global Environment Facility

Co-financing amounted to $49 mio

THE WORLD BANK

$ 49 mio

+ $ 6.25 mio
**Strategic Partnership between SMI and Global Green Growth Institute:**
Collaboration to promote programs, research and joint activities in support of the development of green projects.

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**Mandalika PV Project**

PT SMI and GGGI will support the preparation of feasibility study of Solar PV Power Plant in Mandalika Tourism Special Economic Zone

<table>
<thead>
<tr>
<th><strong>Location</strong></th>
<th>Lombok, West Nusa Tenggara</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Developer</strong></td>
<td>Indonesia Tourism Development Corporation</td>
</tr>
<tr>
<td><strong>Area</strong></td>
<td>1.255 Ha</td>
</tr>
<tr>
<td><strong>Sector</strong></td>
<td>Eco-Tourism &amp; MICE</td>
</tr>
<tr>
<td><strong>Estimated Energy Demand</strong></td>
<td>110 MW by 2030</td>
</tr>
</tbody>
</table>