Challenges for Investing in Small Scale Renewables in Thailand

Outline

- Credentials - KASIKORN BANK Group
- Key Barriers
- Risk Mitigations

Appendix

- Project Financing
Credentials

**KASIKORNBANK Group**

- The 4th largest local commercial banks in terms of asset size with THB 2,005 billion as of 30 Sep 12
- The pioneer in commercializing renewable power project financing in Thailand
- The most active bank in providing the integrated financing solution to clients in the renewable space with a variety of optimum financing products both debt and equity
- One of the leading Mandated Lead Arrangers in power sector, Thailand and Asia Pacific [Source: Project Finance Magazine]
- Dedicated power sector team ~20 headcounts

Key Barriers

**Difficulty in accessing long-term debt financing especially for small renewables**

- Scale – Size does matter
- Sponsor
  - Inexperienced Sponsor
  - Long-term commitment and support to the project
- Unfamiliarity with technologies
  - Insufficient track record
  - Uncertainties over their performance
- Specific risks to each type of project
  - Feedstock supplies – for biomass and biogas projects in particular
  - Environmental impact – for WTE projects
Key Barriers

**Difficulty in accessing long-term debt financing especially for small renewables**

- Complexity of project financing structure and process
- Other issues
  - Relatively high transaction costs e.g. Lenders’ Advisors including Technical, Insurance and Legal
  - Resource management pre and post development

Risk Mitigations

- Credit enhancement structure
- Participation/support by local as well as multi-lateral agencies
  - As shareholder
  - As loan provider
- Involvement of strategic investors
- Dealing with size: Establish “Lending Guidelines”
  - Checklist of the required minimum qualifications
  - Standardized project financing package
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Appendix

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Project Financing

• Limited recourse project financing
  – Depend on the risk of Sponsor
  – Sponsor’s support to ensure project completion

• Lending guidelines
  – Checklist of the required minimum qualifications
Project Financing

How each stakeholder enhance the project structure...

- Experience / Technology / Financial strength
- Contract terms / Liquidated damages
- Insurance and Warranty (performance guarantee)
- Independent engineer required

- Financial soundness
- Relationship with communities
- Experience in renewable projects

Sponsors

- Sponsors Undertaking

Financiers

- Credit Facility Agreement
- EPC / Operator
- EPC / O&M Contract

EPC / Operator

- Offtakers
- Offtakers Agreement

- Product Offtakers

Raw Material Suppliers

- Supply Purchase Agreement

- Independent engineer required
- Industry knowledge
- Dedicated team
- Total comprehensive financial solution

Indicative terms and conditions

<table>
<thead>
<tr>
<th>Facility Types</th>
<th>Purpose</th>
<th>Benchmark Interest Rate</th>
<th>Tenor</th>
<th>Key Security</th>
<th>Key Covenants</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tranche A: Long Term Facility</td>
<td>To support the development and construction of a renewable power project</td>
<td>Either MLR or THBFIX and apply the applicable margin</td>
<td>Not exceeding the tenor of the government’s subsidy (Adder period)</td>
<td>i) Conditional assignments of all related contracts and project’s proceeds ii) Mortgage of project’s security iii) Pledge of reserves and waterfall accounts iv) Sponsor supports</td>
<td>i) Debt service ratio – i.e. Debt Service Coverage Ratio (DSCR) ii) Leverage ratio – i.e. Debt to Equity (D/E Ratio) iii) Minimum cash position iv) Sponsor’s undertaking in project ownership</td>
</tr>
</tbody>
</table>

| Tranche B: Working Capital and/or Trade Finance Facility |
| Tranche C: Hedging Facility (IRS) |
Successful Case

1. Solar Project Financing

- **Technology / Supplier**: “Proven technology and supplier provides long term PV Module Performance Warranty”
- **Solar Project**: “Robust and statistically reliable source of solar data”
- **Power Purchase and Tariff**: “Favorable term with 10-year fixed Adder”
- **Construction and Operation**: “Fixed price, date certain EPC Contract, favorable warranty schemes, Performance and Delay LD”

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Successful Case

2. Solar Project Financing (Con’t)

<table>
<thead>
<tr>
<th>Key Stakeholder</th>
<th>Strengths Provided</th>
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</thead>
<tbody>
<tr>
<td><strong>Sponsors</strong></td>
<td>• Experienced Sponsors</td>
</tr>
<tr>
<td></td>
<td>• Proper selection of location and technology as well as matching and cost-effective components</td>
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<tr>
<td><strong>Off-taker</strong></td>
<td>• Strong Governmental Agency</td>
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<td></td>
<td>• Power purchase agreement under strategic and long term governmental support</td>
</tr>
<tr>
<td><strong>Counsels/Consultants</strong></td>
<td>• Understand issues of renewable – supplier warranty, contract termination, performance warranty</td>
</tr>
<tr>
<td></td>
<td>• Understand dynamic of technical development – assessments of area, irradiation yields, physical structure and BOPs</td>
</tr>
<tr>
<td><strong>Financial Advisors/Lenders</strong></td>
<td>• Keen and familiar with renewable projects – understand key specific characteristic of renewable projects</td>
</tr>
<tr>
<td></td>
<td>• Understand project requirements – able to advise and deliver appropriate financial structure</td>
</tr>
<tr>
<td><strong>EPC/Equipment Suppliers</strong></td>
<td>• Strong R&amp;D and track records – traceable and proven records</td>
</tr>
<tr>
<td></td>
<td>• Production readiness – provide quality products within timeframe</td>
</tr>
<tr>
<td></td>
<td>• Commitment of services – ability to provide commitment/warranty</td>
</tr>
</tbody>
</table>
2. Wind Project Financing

**Sponsors' Synergy**
"Proven technology and strong EPC Contractors together with well operation and maintenance plans"

**Site Selection**
"No legal constraint on land usage and having strong relationship with local community"

**Technology Operation and Maintenance**
"Strong experiences in studying and developing wind farm power projects"

**Wind Measurement**
"On site wind measurement more than 2 years by specialist in wind data analysis"

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**2. Wind Project Financing (Con't)**

<table>
<thead>
<tr>
<th>Key Stakeholder</th>
<th>Strengths Provided</th>
</tr>
</thead>
</table>
| Sponsors                       | • Experienced Sponsors  
• Proper selection of location, long period of wind measurement, applied value experiences from both local and foreign Sponsors |
| Off-taker                      | • Strong Governmental Agency  
• Power purchase agreement under strategic and long term governmental support |
| Counsels/Consultants           | • Legal due diligence under new regulations applied to the first wind farm power project in Thailand  
• Technical wind specialist particularly on wind data measurement and analysis |
| Financial Advisors/Lenders     | • KBank understands how to raise fund both equity and debt; and balances and maximizes the benefit of Sponsors and Lenders  
• KBank successfully arranges the strong syndicated lenders with bankable terms and conditions |
| EPC/Equipment Suppliers        | • Proven track record of wind turbines and strong experiences in construction wind farm power projects together with O&M plans  
• Concrete relationship with local community  
• Environmental friendly and high safety standard |