Challenges for Investing in Small Scale Renewables in Thailand

Outline

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

Appendix
- Project Financing
**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

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
How each stakeholder enhance the project structure...

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

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

Financiers
- Industry knowledge
- Dedicated team
- Total comprehensive financial solution

EPC / Operator
- Contract terms
- Pricing mechanism
- Reliable customers

Sponsors Undertaking
- Credit Facility Agreement

EPC O&M Contract
- Offtake Agreement

Raw Material Suppliers

Product Offtakers
- Supply Purchase Agreement

Project Financing

Indicative terms and conditions

| Facility Types | Tranche A: Long Term Facility  
|               | Tranche B: Working Capital and/or Trade Finance Facility  
|               | Tranche C: Hedging Facility (IRS) |
| Purpose       | To support the development and construction of a renewable power project |
| Benchmark Interest Rate | Either MLR or THBFIX and apply the applicable margin |
| Tenor | Not exceeding the tenor of the government’s subsidy (Adder period) |
| Key Security | 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 |
| Key Covenants | 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 |
**Successful Case**

### 1. Solar Project Financing

- **Power Purchase and Tariff**
  - "Favorable term with 10-year fixed Adder"

- **Technology / Supplier**
  - "Proven technology and supplier provides long term PV Module Performance Warranty"

- **Solar Project**

- **Construction and Operation**
  - "Fixed price, date certain EPC Contract, favorable warranty schemes, Performance and Delay LD"

- **Solar Resource**
  - "Robust and statistically reliable source of solar data"

### 2. Solar Project Financing (Con't)

#### Key Stakeholder

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

2. Wind Project Financing

“Strong experiences in studying and developing wind farm power projects”

“Proven technology and strong EPC Contractors together with well operation and maintenance plans”

“On site wind measurement more than 2 years by specialist in wind data analysis”

“No legal constraint on land usage and having strong relationship with local community”

Sponsors’ Synergy

Technology Operation and Maintenance

Wind Project

Site Selection

Wind Measurement

Successful Case

2. Wind Project Financing (Con’t)

Key Stakeholder | Strengths Provided
--- | ---
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