Private Sector Perspective and Efforts for Green Growth and Sustainable Development

Jakarta, 8 April 2014

PT Sarana Multi Infrastruktur (Persero)

Joint Crediting Mechanism (JCM) Business Forum
AGENDA

I. PT Sarana Multi Infrastruktur (Persero) (“SMI”)

II. Low carbon initiatives: Opportunities and Challenges

III. Lesson learned in accessing climate funds in Indonesia
PT Sarana Multi Infrastruktur (Persero) (“SMI”) was established on February 26, 2009 with a purpose to become a catalyst for accelerating infrastructure development in Indonesia.

**Ownership:**
100% owned by the Government of Indonesia

**Vision:**
“A leading catalyst in the acceleration of the National Infrastructure Development Program”

**Mission:**
1. To become a strategic partner to the government in promoting and accelerating infrastructure development in Indonesia.
2. To establish synergy with third parties, e.g. private institutions, banking sector, local government, state-owned enterprises, or multilateral organizations in order to increase the capacity of infrastructure fund

Our services

1. **We provide Commercial Financing**
   - Promoter Funding
   - Senior Term Loan
   - Equity
   - Take Out Financing
   - Subordinated Loan
   - Refinancing
   - Working Capital Loan
   - Mezzanine
   - Bridge Loan

2. **We provide Advisory Services**
   - Financial & Investment Advisory Services
   - Transaction Advisory Services
   - Training & Capacity Building

3. **We provide PPP Project Preparation Services**
   - Project Development Financing
   - Advisory to Contracting/ Tendering Agencies
   - Limited Capacity Building
What does the Outlook for Low Carbon Projects, especially in the renewable energy?

<table>
<thead>
<tr>
<th>Growth factors</th>
<th>Opportunity factors</th>
</tr>
</thead>
<tbody>
<tr>
<td>High demand new and renewable energy for national power security</td>
<td>Geothermal field exploration and production activities</td>
</tr>
<tr>
<td>Investment in geothermal exploration and production</td>
<td>Geothermal production service provider</td>
</tr>
<tr>
<td>The second biggest geothermal sourcing</td>
<td>Geothermal power plant development</td>
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<tr>
<td><strong>Geothermal</strong></td>
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<tr>
<td>High demand new and renewable energy for national power security</td>
<td>Biomass power electricity production development</td>
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<tr>
<td>Investment in biofuel</td>
<td>Biofuel plant</td>
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<tr>
<td>Investment in biomass power production facilities</td>
<td>Biofuel transportation technology</td>
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<tr>
<td>Petroleum reserves is depleting</td>
<td>Biomass energy source production (e.g. waste processing plant)</td>
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<tr>
<td><strong>Bioenergy</strong></td>
<td>Biomass and biofuel tools and equipment</td>
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<tr>
<td>High demand new and renewable energy for national power security</td>
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<tr>
<td>Investment in hydro and micro hydro power plant</td>
<td>Hydro power plant development</td>
</tr>
<tr>
<td>The biggest power energy source potential in Indonesia</td>
<td>Equipment and service in hydro power plant</td>
</tr>
<tr>
<td><strong>Hydropower</strong></td>
<td>Micro hydro power plant is the most popular for hydro energy source</td>
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<tr>
<td>High demand new and renewable energy for national power security</td>
<td></td>
</tr>
<tr>
<td>Investment in solar energy power source</td>
<td>Solar PV equipment (solar cell, battery and power storage) producer and provider</td>
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<tr>
<td>High potential in solar source</td>
<td>Solar PV equipment service maintenance provider</td>
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<tr>
<td><strong>Solar Energy</strong></td>
<td>Solar energy for power electricity investment</td>
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National energy mix strategy is supported by diversified Renewable Energy sourcing in Indonesia.

**National Energy Mix**

- **2011**
  - Oil: 47%
  - Natural Gas: 24%
  - Coal: 24%
  - NRE: 5%

- **Target on 2025**
  - Oil: 20%
  - Natural Gas: 30%
  - Coal: 33%
  - NRE: 17%

**Renewable Energy Potential in Indonesia**

<table>
<thead>
<tr>
<th>Energy Source</th>
<th>Installed capacity</th>
<th>Resource Potential</th>
<th>Undeveloped Potential (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hydropower</td>
<td>4.264 MW</td>
<td>75.760 MW</td>
<td>94</td>
</tr>
<tr>
<td>Geothermal</td>
<td>1.052 MW</td>
<td>27.510 MW</td>
<td>96</td>
</tr>
<tr>
<td>Mini-hydropower</td>
<td>86.1 MW</td>
<td>500 MW</td>
<td>83</td>
</tr>
<tr>
<td>Biomass</td>
<td>445 MW</td>
<td>49.810 MW</td>
<td>99</td>
</tr>
<tr>
<td>Solar</td>
<td>12.1 MW</td>
<td>4.8 kWh/m²/day</td>
<td>-</td>
</tr>
<tr>
<td>Wind</td>
<td>1.1 MW</td>
<td>9.190 MW</td>
<td>99</td>
</tr>
<tr>
<td>Ocean</td>
<td>0.0 MW</td>
<td>35 MW</td>
<td>100</td>
</tr>
</tbody>
</table>

**National Electrification Ratio**

- 2009: 66.28%
- 2010: 67.15%
- 2011: 73.50%
- 2012: 75.90%
- 2013E: 77.65%

Source: PLN & Ministry of Energy and Mineral Resources Republic of Indonesia

Source: Ministry of Energy and Mineral Resources Republic of Indonesia
The energy sector in Indonesia is dominated by four key policies and objectives as the basis of green energy regulatory framework.

<table>
<thead>
<tr>
<th>Diversification</th>
<th>Rational Energy Pricing</th>
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<tbody>
<tr>
<td>“A key objective of the Government of Indonesia is to reduce dependence on oil &amp; coal by expanding the use of gas, and renewable energy resources”</td>
<td>“The Government of Indonesia recognizes that it can no longer sustain uniform pricing for electricity and petroleum products across the country, and it has begun to eliminate subsidies.”</td>
</tr>
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</table>

<table>
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<tr>
<th>Energy Sector Reform</th>
<th>Rural Electrification</th>
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<tr>
<td>“The combination of decentralization of government decision-making to give greater involvement to regional authorities, and the need to attract capital investment in the energy sector call for energy sector reform that introduces greater transparency to planning and decision-making”</td>
<td>“The Government of Indonesia wants to bring electricity to 90 percent of the population by 2020”</td>
</tr>
</tbody>
</table>
Overall, the key drivers and restraints of the Low Carbon investment in Indonesia

**Market Drivers**
- High power demand and low electrification ratio
- Abundance of new energy and RE potential resources
- Rational tariff for commercially investment
- Indonesian high economic and industry growth
- National energy policy (energy mix) & incentives

**Market restraints**
- Land acquisition issues and long chain of bureaucracy
- Investment issue and subsidy scheme
- Limited information and awareness
- Need for more expertise

**High**

**Low**
Case study: Financing Low Carbon Projects

- Sponsor
  - Limited equity
  - Limited flexibility of financing

- Operator
  - Included in sponsor
  - Convensional management

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

- Bank
  - Not many banks or other financial institutions are interested in providing financing to small hydro projects power

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

- Low Carbon Projects

- Source of Energy Supply
  - Sustainability issues
  - 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)
## Financing Low Carbon Projects: Sources of Financing

<table>
<thead>
<tr>
<th>Typical Financing Mix</th>
<th>Financing Institutions</th>
<th>Source of Funds</th>
</tr>
</thead>
<tbody>
<tr>
<td>70% - 80% Debt</td>
<td>Banks</td>
<td>e.g. deposits (mostly short term for domestic banks) &amp; capital market</td>
</tr>
<tr>
<td></td>
<td>• International Banks</td>
<td></td>
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<tr>
<td></td>
<td>• Large Domestic Banks</td>
<td></td>
</tr>
<tr>
<td></td>
<td>• Local Branch of Foreign Bank</td>
<td></td>
</tr>
<tr>
<td></td>
<td>• Small-to-medium Domestic Banks</td>
<td></td>
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<tr>
<td></td>
<td>ECAs</td>
<td>e.g. government, private investors</td>
</tr>
<tr>
<td></td>
<td>multilaterals/bilaterals</td>
<td>e.g. multilaterals/bilaterals member countries, capital market</td>
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<tr>
<td></td>
<td>Infrastructure Financing Institutions (PT SMI/IIF)</td>
<td>e.g. Government, multilaterals/bilaterals, private investors &amp; capital market</td>
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<tr>
<td></td>
<td>• Strategic Investors</td>
<td>e.g. private investors, multilaterals/bilaterals, capital market</td>
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<tr>
<td></td>
<td>• Private Equity / Hedge Funds</td>
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<tr>
<td></td>
<td>• Infrastructure Financing Institutions (PT SMI/IIF)</td>
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<td></td>
<td>• Carbon Development Credit or JCM ??</td>
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</table>
Background: there are many climate/ green funds for emissions reduction projects

<table>
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<tr>
<th>Special Climate Change Fund (SCCF).</th>
<th>Least Developed Countries Fund (LDCF)</th>
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<tr>
<td>“The total amount pledged to date is the equivalent of USD 253.5 million”</td>
<td>“LDCF resources now amount to more than $400 million in grants”</td>
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</table>

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<tr>
<th>Copenhagen Accord</th>
<th>Adaptation Fund (AF), Kyoto Protocol</th>
</tr>
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<tbody>
<tr>
<td>“to mobilize between U.S. $ 30 for the period 2010 to 2012 and to $ 100 billion annually by 2020”</td>
<td>“The Fund is financed with 2% of the Certified Emission Reduction (CERs) issued for projects of the Clean Development Mechanism (CDM) and other sources of funding”</td>
</tr>
</tbody>
</table>

Funding to climate change activities is also available through bilateral, regional and multilateral channels

“African Development Bank (AfDB), WB, Finland, Germany, Norway, Japan (JCM), United Kingdom, United States of America”
What are some of the challenges in accessing those climate/green funds?

### Project developers’ perspective (e.g.: CDM of project)

- Potential project developers are not aware that their projects can generate emission credits.
- Technical issues: CDM project development involves jargons and conditions which are not practical and time consuming to project developers.
- Although consolidated methodologies are built to address this technical issues, data needs may not be easily available.
- Weak understanding of CDM modalities and procedures.
- Little information on and contacts with emission credit buyers.

**Q: What should we do?**

**A: To promote the programs and build capability of project developers.**

### Lack of “Climate Fund (e.g.: CDM development) Awareness” of related institution that may help the project developers

- The institutions that are supposed to support the project developers) are not aware of CDM and its benefits/advantages (e.g. financial institutions, local consultants, local designated operational entities, business associations, local media/press).
- Those who are aware do not have clear understanding on CDM that it provides incentives but not project financing.

**Q: What should we do?**

**A: To promote the programs and build capability of all stakeholders.**
What are some of the challenges in accessing those climate/green funds? (cont’d)

3 Complexities, risks and uncertainties

- Complicated and lengthy process of the CDM procedures, and unavailable support from local institutions
- Some project risks undermine CDM attractiveness (e.g.: Obtaining PPA in power projects to secure underlying financing)
- Certified Emission Reductions (CER) ownership: in some sector CER ownership will be an issue due to national policy/regulation (e.g.: in oil and gas sector, share of CER that could be claimed by the project developer and that should be transferred to Special Task Force for Upstream Oil and Gas Business Activities Republic of Indonesia (SKK Migas) are still unclear)

Q: What should we do? A: To simplify process & procedure to get those incentives
THANK YOU FOR YOUR KIND ATTENTION

Disclaimer

All information presented were taken from multiple sources and considered as true by the time they were written to the knowledge of PT Sarana Multi Infrastruktur (Persero). PT Sarana Multi Infrastruktur (Persero) can not be held responsible from any inaccuracy contained in the material. PT SMI follows all internal and external guidelines and regulations that govern the evaluation process on determining the financing feasibility of an infrastructure project. Every decision to finance or not to finance a project is therefore based on a responsible and thorough due diligence process.

Any complaint in the process of financing irregularities can be submitted to:
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Corporate Secretary PT SMI
Tel : +62 21 5785 1499
Fax : +62 21 5785 4298
Email : corporatesecretary@ptsmi.co.id

Public complaints on PT SMI service will be kept strictly confidential and handled by a special committee to ensure that complaints are addressed appropriately.