Clean Energy Investment (private financing) in selected countries

Source: Deutsche Bank, NEF
### Pros and Cons of regulatory support systems used for RE in different regions of the world

<table>
<thead>
<tr>
<th></th>
<th>Feed In Tariff (“FiT”)</th>
<th>Portfolio Standards</th>
<th>Auctions</th>
<th>Tax Incentives</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Description</strong></td>
<td>Fixed price per kWh for all projects of a technology type</td>
<td>Required % of all power to be sourced from RE, often twinned with RE credit system</td>
<td>Competitive tendering of capacity for specified technologies</td>
<td>Accelerated depreciation and other tax and investment incentives</td>
</tr>
</tbody>
</table>
| **Strength**        | • TLC [Transparency, Longevity, Certainty]  
                      • “Pull” incentive | • Drives competition between RE techs  
                      • Can achieve exact vol. target  
                      • Cost efficient | • Combination of market efficiency and guaranteed price  
                      • Greatest regulator control | • Rapidly pays down capital cost |
| **Weakness**        | • Burden on govt. or consumer  
                      • Long-term liability  
                      • Getting it right is hard | • Low TLC  
                      • Price volatility  
                      • Disadvantage some RE techs  
                      • Complexity  
                      • Bureaucracy | • High transaction costs  
                      • Favors large players  
                      • Risk of non-delivery after aggressive bidding | • Burden on govt. finances  
                      • Stop start with availability of profits to right off  
                      • Less operating incentive  
                      • May disadvantage some RE techs |
| **Application**     | • Europe  
                      • China | • UK  
                      • USA  
                      • Chile | • Brazil  
                      • Uruguay  
                      • Argentina | • USA  
                      • Central America |
Why RE: Fueling Growth and Combating Climate Change

- Developing countries have a clear need to power economic growth and to improve the quality of life of their citizens (e.g. access to lighting and communications)

- Need to diversify generating sources and where possible, deploy indigenous power rather than using foreign exchange to import fuel

- Climate change and environmental concerns given diminishing resources or reserves of coal, gas and even water

- Solar, wind and other forms of renewable energy pose great opportunities for private investors in emerging markets – if capital can be raised and risks overcome.

In 2010, IFC invested $1.6 billion in renewables, which is a 60 percent increase from the previous year. By 2013, IFC aims to increase its climate change business to at least 20% of its total annual commitments.
IFC was established in 1956 to promote private sector development and is a member of the World Bank Group.

**IFC**

- **Provides** equity, quasi-equity, debt, risk management and advice in 179 member countries.
- **FY10**: Committed US$12.7bn, Mobilized US$5.3bn, 528 projects in 104 Countries.

**Power Sector**

- **Committed** US$6.8bn in 205 transactions in 53 countries.
- **Invest in** generation, transmission and distribution.
- **Many firsts**: largest wind farms in LAC and SE Europe, largest solar farm in SE Asia, first merchant wind farm etc.
- **Huge growth in all RE**: wind, solar, geothermal, hydro, biomass.

**RE Power**

- **Committed** >4GW in hydros; >2 GW of wind; >1 GW of biomass; >500MW of geothermal; >100MW of solar PV.
- **Strong pipeline** in many countries esp. India, China, Philippines, Brazil, Mexico.
- **Technical expertise** and sector knowledge/network.

<table>
<thead>
<tr>
<th>Year</th>
<th>No. Power Transactions</th>
<th>% Renewable</th>
</tr>
</thead>
<tbody>
<tr>
<td>2008</td>
<td>10</td>
<td>43%</td>
</tr>
<tr>
<td>2009</td>
<td>20</td>
<td>71%</td>
</tr>
<tr>
<td>2010</td>
<td>30</td>
<td>76%</td>
</tr>
<tr>
<td></td>
<td></td>
<td>80%</td>
</tr>
</tbody>
</table>
IFC has grown and diversified its RE commercial finance portfolio.
Recent RE Capacity Investments

- **Wind**
  - Colombia: $13,500,000 Subordinated Debt and Debt Lead Lender of US$375m financing May 2010
  - Mexico: $75,000,000 Sub Debt and Debt Lead Lender of US$375m financing May 2010
  - Chile: $30,750,000 Loan Project Financing Lead Lender of US$60.75m financing February 2009

- **Small Hydro**
  - Colombia: Century Caruqia $13,500,000 Subordinated Debt and Debt Lender May 2008

- **Solar**
  - Senegal: Office National d'Electricite $750,000 Equity June 2009
  - Thailand: Solar Power Company $1,700,000 Equity May 2010

- **Biomass**
  - India: Auro Mira $3,100,000 Loan Project Financing Lender December 2009

- **Hydro**
  - China: Zhongda Hydro US$23,200,000 Loan Project Financing Lender October 2009
  - Bulgaria: AES Kavarna $52,000,000 Loan Project Financing Lender December 2008

- **Loan Project Financing**
  - China: US$60.75m financing
  - Mexico: US$375m financing
  - Colombia: US$375m financing
  - Chile: US$60.75m financing

- **Equity**
  - Senegal: $750,000
  - India: $3,100,000

- **Additional Information**
  - AES Geo Energy Lead Lender of US$60.75m financing

- **Lenders**
  - acciona
  - AES Geo Energy
  - AES Kavarna
  - Zhongda Hydro
  - Office National d'Electricite
  - Solar Power Company
  - Auro Mira
  - Biomass
  - India
  - Century Caruqia
  - Mexico

- **Countries**
  - Colombia
  - Mexico
  - Chile
  - Senegal
  - China
  - Korea
  - India
  - Thailand

- **Dates**
  - May 2008
  - February 2009
  - December 2009
  - May 2010

- **Financial Details**
  - $13,500,000
  - $75,000,000
  - $30,750,000
  - $13,500,000
  - $30,750,000
  - $750,000
  - $3,100,000
  - US$60.75m
  - US$375m
  - US$23,200,000
  - US$60.75m
  - US$375m
  - US$23,200,000
Climate Change and Sustainability Investments through Lenders

- Network of over 600 clients
- Total volume over $1.25 billion through over 40 lenders
- Leverages over $2.5 billion
- Supports SME EE and small renewable energy
IFC has invested >$200 million in 10 Climate Change PE Funds

South Asia:
- GEF South Asia Clean Energy Fund, $10m
- Aloe II (Green Investment Asia Sustainability Fund I) $19.2m

China:
- China Environment Fund III, $15m

Southern Africa:
- Evolution One Fund, $20m
- GEF Africa Forestry Fund, $20m

East Asia:
- Asia Environment Partners, $25m
- Clean Resources Asia Growth Fund, $25m
- Asia Water Fund, $20m
- Asia Environment Partners, $25m
Significant experience in carbon markets*

* Selected credit purchase, delivery guarantee, and carbon-linked financing transactions shown.

IFC recently launched the €150M Post-2012 Carbon Facility to extend carbon markets and increase access for projects that reduce emissions.
Thank You!

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