Theme Presentation & Context Setting on

“The Role of External Partners in BIMSTEC Energy Cooperation and Way Forward”

Presented by
Rajiv Ratna Panda, Technical-Head, SARI/EI/IRADe

Working Session 4: The Role of External Partners in BIMSTEC Energy Cooperation and Way Forward
Conference on Enhancing Energy Cooperation in the BIMSTEC Region, 25-26 February 2020, BIMSTEC Secretariat, Dhaka
Contents

- Moving towards Regional Energy Sustainability and Investment Requirements
- Future Energy Investment Opportunities
- External Support required for BIMSTEC Grid integration & for regional energy projects
- Enabling the development of BIMSTEC Regional Grid
- De-Risking of Energy Projects: Risk mitigation instruments
- Existing Regional initiatives to support regional energy cooperation projects
- New Approach: Role of Targeted Technical Assistance and Support
- Points for Discussions
BIMSTEC: Electricity Sector by 2030

Projected BIMSTEC Power Mix by 2030

Electricity peak demand 482 GW
Installed Capacity-940 GW (RE-383 GW-42%)

Investment Requirement by 2030

BIMSTEC Energy Investment Requirement US $ (Billion) by 2030


Clearly the focus is one Clean energy and Sustainability
BIMSTEC: Future Energy Investment Opportunities

- De-carbonising Power Generation
- Cleaner and Efficient Public Transport
- Renewable Energy
- Electric Vehicle & Charging Infrastructure
- Natural gas, LNG and Region Gas Grid
- Modernising power grid, smart grid, smart utility
- Cross Border Hydro Power Projects and Cross Border Power Transmission

BIMSTEC: Role of External Partners

**Conceptualize/Strategize**
- Promote economic development & Growth through Energy Infrastructure
- Create a Conducive Environment, Communicate the Potential Benefits Clearly.
- Facilitate long term Policy thinking and Transition Road Map,
- Facilitate in Shaping Thought process & Mindset
- Develop strategy for Shaping Thought process & Mindset of stakeholders

**Facilitate**
- Building fundamental Ecosystem for Change
- Facilitating Social Energy Transitions
- Help in Building Consensus, strengthening trust among parties
- Invest in Fundamentals: Building Regulatory Frameworks, Strengthening Capacity,
- Investment where private sector do not invest

**Thinking of Change**
- Build Fundamentally Ecosystem for Change
- Evolve Ecosystem for Transition to a regional setup

**Implement**
- Risk Capital/Resources
- Investment facilitation, Pilot Projects, Project Financing

---

*"The Role of External Partners in BIMSTEC Energy Cooperation and Way Forward"* by Rajiv Ratna Panda, Technical Head / SARI/EI/IR

ADE: Conference on Enhancing Energy Cooperation in the BIMSTEC Region , 25-26 February 2020 , BIMSTEC Secretariat, Dhaka
Development partners need not view such project in isolation. Multiple development agencies can come together to support the projects, thereby utilizing blended financing to reduce the risk to their financial support.

Example: Blended financing to reduce overall risk exposure – 216 MW Upper Trishuli-1 HPP in Nepal
- The $453 million UT-1 project is co-financed with IFC, ADB, AIIB and other institutions - CDC, FMO, Proparco, K-EXIM, KDB, OFID. Along with lending, IFC also acted as the lead arranger for the entire debt package.
Enabling the development of BIMSTEC Regional Grid

- **World Bank** provided $136 Million of **soft loans** for the 400 KV line and three substations.
- Also provided **technical assistance**; development of **Transmission System Master Plan** & implementation of ERP in NEA

**400 KV New Bhutwal (Nepal) – Gorakhpur (India) cross border transmission line**

- Proposed under the $500 Million under the Nepal compact of **Millennium Challenge Corporation**. Entire $500 Million, including the cost for 400 KV line with be developed under **grant financing** from MCC.
- The MCC compact includes a **technical assistance** for **Energy Regulatory Commission and NEA**

**400 KV Dhalkebar (Nepal) – Muzaffarpur (India) cross border transmission line**

- **ADB** provided $100 Million **soft loans** for the Bangladesh portion of the 400 KV cross border line, 400 KV Back-to-Back HVDC substation, and a 230 KV line.
- ADB also provided technical assistance for the project.

**400 KV Baharampur (India) - Bheramara (Bangladesh) cross border transmission line**

- Multilateral development agencies

---

De-Risking of Energy Projects: Risk mitigation instruments

Regional energy projects will benefit from access to low cost finance from development partners. However, support is required for regional energy projects, not just for financing, but also for risk mitigation.

<table>
<thead>
<tr>
<th>Risk mitigation instruments</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Political risk insurance</td>
<td>Risk insurance against events such as nationalization by the Government, breach of contract by the Government, currency transfer restrictions, war, terrorism and civil unrest.</td>
</tr>
<tr>
<td>Partial risk guarantee</td>
<td>Partial risk sharing between the insurer and the Government, typically through a dedicated fund. This lowers the moral hazard associated with 100% insurance.</td>
</tr>
<tr>
<td>Partial credit guarantee</td>
<td>Covers part of the debt service default by the borrower regardless of the cause of default.</td>
</tr>
</tbody>
</table>

Examples:
- Bangladesh - Sirajganj 220MW CCPP – MIGA guarantee of $70 million against risk of non-honoring of sovereign financial obligations.
- Bangladesh – Sembcorp 414 MW CCPP – MIGA guarantee for equity, against risk of breach of contract.
- Sri Lanka – ADB’s Partial Risk Guarantee for $31 million and Partial Risk Insurance for $21 million for 163 MW diesel plant of AES. The Guarantees provided protection to the local commercial lenders of the project.
- Maldives - $16 million of IDA (World Bank Group) guarantees for solar projects under ASPIRE program. The guarantee provides backstopping for payment delays under PPA and ensures compensation in case of contract termination by Government.

"The Role of External Partners in BIMSTEC Energy Cooperation and Way Forward" by Rajiv Ratna Panda, Technical Head /SARI/EI/IR
ADE: Conference on Enhancing Energy Cooperation in the BIMSTEC Region, 25-26 February 2020, BIMSTEC Secretariat, Dhaka
# Existing Regional initiatives to support regional energy cooperation projects

<table>
<thead>
<tr>
<th><strong>USAID</strong></th>
<th><strong>Asian Development Bank</strong></th>
<th><strong>The World Bank</strong></th>
</tr>
</thead>
</table>
| South Asia Regional Initiative for Energy Integration (SARI/EI)  
Multi-year program for policy and regulatory harmonization and CBET promotion | Technical assistance through **South Asia Subregional Economic Cooperation Regional Energy Cooperation Project, 2018**  
Feasibility studies for establishing power trading companies in Bangladesh and Nepal | Financing for the construction of 400 KV Dhalkebar – Muzaffarpur cross border transmission lines under Nepal-India Electricity Transmission and Trade Project |
| Enhancing Growth and Development through Energy (EDGE)  
A U.S. government effort to grow sustainable and secure energy markets throughout the Indo-Pacific | Technical assistance under “**Harmonizing the Greater Mekong Subregion Power Systems to Facilitate Regional Power Trade**” ADB support GMS Power Integration  
Funding of Bangladesh portion of 400 KV Baharampur (India) - Bheramara (Bangladesh) line | Development of business plan for Power Trading Company of Nepal |

New Approach: Role of Targeted Technical Assistance and Support

Moving from Concepts to Implementation

- The landscape for TA projects are also changing.
- TA is now no more about merely providing advice and support.
- More successful TA projects have some implementation component.
- RISE supported the development and implementation of multiple pilot projects for enhanced renewable energy integration.
- Leads to Adoption of New Technologies and Reforms

USAID’s Renewable Integration and Sustainable Energy (RISE) project
Pilot Projects under RISE and Greening the Grid initiatives

01 Battery Energy Storage System (BESS)
02 Dynamic Compensation for Large Solar Park Integration
03 Flexible Power Generation
04 Automatic Generation Control (AGC)
05 Real-time monitoring of rooftop solar PV and net-load forecasting for DISCOMs
06 Regional platform for reserves sharing
07 Automated Demand Side Management (ADSM) Pilot*
Points for Discussions

1. How crucial is the role of External Partners in moving towards Regional Energy Sustainability and setting the long-term clean energy transition agenda.

2. Building cross border transmission often challenging. What is the Strategy for Financing Cross Border Transmission Infrastructure: Business/Financing Models?

3. What are the innovative market instruments/ financing mechanisms for financing regional energy cooperation projects?

4. How the development partner can help in focusing on De-risking Regional Energy Infrastructure Projects: Instruments and modalities.

5. The Role of Technical Assistance and Support and pilot project in new energy technologies areas.


Thank You

Contact
rajivratnapanda@irade.org
rajivratnapanda@gmail.com
+91-9650598697
BIMSTEC: Role of External Partners

**Conceptualize/ Strategize**
- Create a Conducive Environment
- Identify Common goals/targets
- Build Consensus
- Overcome political hurdles -
- Help build consensus, trust among parties
- Communicate Benefits

**Facilitate**
- Develop Policy and regulatory frameworks
- Identify financing instruments
- Create regional platforms for collaboration
- Capacity building and training
- Establish Legal and contractual benchmarks

**Implement**
- Develop investment/ PPP frameworks
- Undertake pilot projects to establish proof of concept
- Catalyze private investments in creation of infrastructure
- Innovative financing – risk capital
- Advanced technologies
- Replication and scaleup

**Develop strategy for Shaping Thought process & Mindset of stakeholders**

**Conceptualize and evolve Ecosystem for Transition to a regional setup**

**Investment facilitation**
2.2. c) Fully recover the costs and share benefits equitably, resulting from the reductions in investments on generation, transmission systems and fuel cost;

GCC Transmission Interconnection Cost, Principle of Cost Sharing and Funding Modalities

- The capital cost of the three phases of the project was estimated at:
  - US$1.1 billion,
  - US$300 million and
  - US$137 million, respectively

- It was agreed among the GCC countries that costs would be shared in proportion to the net present value of estimated reserve capacity savings.

- Each country was responsible for sourcing their share of the capital required, which could be from combinations of debt or equity as decided by each member state.

<table>
<thead>
<tr>
<th>Country</th>
<th>Phase I</th>
<th>Phase I &amp; III</th>
</tr>
</thead>
<tbody>
<tr>
<td>Kuwait</td>
<td>33.8%</td>
<td>26.7%</td>
</tr>
<tr>
<td>Saudi Arabia</td>
<td>40.0%</td>
<td>31.6%</td>
</tr>
<tr>
<td>Bahrain</td>
<td>11.4%</td>
<td>9.0%</td>
</tr>
<tr>
<td>Qatar</td>
<td>14.8%</td>
<td>11.7%</td>
</tr>
<tr>
<td>UAE</td>
<td>-</td>
<td>15.4%</td>
</tr>
<tr>
<td>Oman</td>
<td>-</td>
<td>5.6%</td>
</tr>
<tr>
<td>Total</td>
<td>100.0%</td>
<td>100.0%</td>
</tr>
</tbody>
</table>