Credit Enhancement for Renewable Energy Projects in Uzbekistan

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Uzbekistan is...

- Heavily dependent on the natural gas with the abundant renewable energy potential untapped.
- Characterized with high carbon intensity, overall energy inefficiency across the electricity supply chain.
Development Constraints in Energy Sector

- **Absence of integrated energy planning and climate management**
  - Heavy reliance on fossil fuel, policy deficit for energy transition
  - Reorientation of the government’s roles on policy formation and execution is needed

- **Poor financial performance worsened by growing subsidies**
  - Lack of commercial principles: non-cost reflective tariff, inadequate collection rates and revenue leakage
  - Significant currency depreciation in 2017

- **Constrained private investment and inadequate investment on critical infrastructure**
  - Heavy reliance on the sovereign financing and subsidies
  - Under-developed regulatory framework, lack of independent regulations and market principles disabling private sector participation

- **Vertically integrated utility with weak sector governance, and opaque regulatory framework**
  - Combined regulatory/policy function with operational functions
  - Lack of competition, independence, and transparency

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**Historical Energy Sector Reforms in Uzbekistan**

- Prior to 2001, power sector directly managed by the Government of Uzbekistan under Ministry of Energy and Electrification (MOEE)
- 2001, Uzbekenergo created as the vertically integrated utility and took of MOEE functions (MOEF abolished)
- Minor organizational changes of Uzbekenergo and divestment of minor shares of generators (~2009)
- In 2009, the electricity law formulated the single-buyer model still within the framework of Uzbekenergo
- In 2017, Uzbekhydroenergo unbundled from Uzbekenergo
- In 2019, Uzbekistan initiated a fundamental sector with assistance of ADB and other development partners
ADB pioneered solar energy development in Uzbekistan in 2011
- ADB’s technical assistance supported the development of solar energy policy and development road map
- Uzbekistan solar institute was also established to build up national capacity in the solar energy development.

A very first 100 MW utility-scale Samarkand Solar Power Project initiated in 2013
- ADB committed $110 million for the project
- Vertically integrated monopoly utility, Uzbekenergo, led the project initiation and implementation

Project faced significant implementation challenges, resulting in cancellation
- Preparation of tender documents took 2.5 years to address various internal concerns
- Various reasons brought up to terminate EPC contract (grid stability, lack of capacity, price competitiveness, transparency)

Key Lessons Drawn from Project
- General capacity gap existed within Uzbekenergo
- Uzbekenergo, a vertically integrated monopoly and de-facto, energy ministry, faced various resistance to renewable energy development:
  - Concerns on the grid stability
  - No economic incentives to develop alternative fuels due to heavily subsidized natural gas
  - Internal dynamics among different departments
- Fundamental lack of independence and transparency under combined regulatory/policy/operations functions
Formulation of Enabling Environment for Energy Transition

Upstream Policy Reforms
- Analytical support and capacity building for the sector reforms –
  - High-level policy dialogues
  - Development of power sector masterplan, laying out energy transition roadmap
- Support for institutionalization of the Ministry of Energy (MOE), and subsequent unbundling of Uzbekenergo to remove structural restrictions
- PPP Law, Renewable Energy Law formulated; Amendment to Electricity Law initiated
- MOE announced its first long-term sector development plan for energy transition, and RE development by private investors
- Provision of crucial budgetary support to absorb the financial impacts of the reforms

Midstream
- Transaction advisory support for identification of RE projects on PPP basis [ADB was mandated to develop 1GW solar program]
- Support the deal structuring, development of contractual agreements, and tendering process
- Support for the contract negotiations until the financial closure

Downstream financing support
- Provision of long-term financing for private sector investors
- Provision of credit enhancement instrument to mitigate the nascent market and off-taking risks of state-owned offtaker
- Continued investments in strengthening and modernizing state-owned T&D assets

MOE’s Renewable Capacity Growth Plant (2019 – 2030)

<table>
<thead>
<tr>
<th>Year</th>
<th>RE Capacity</th>
<th>NE Capacity</th>
<th>Total Capacity</th>
</tr>
</thead>
<tbody>
<tr>
<td>2019</td>
<td>12.9 GW</td>
<td>11</td>
<td>23.9 GW</td>
</tr>
<tr>
<td>2025</td>
<td>22.3 GW</td>
<td>15 (32.7%)</td>
<td>37.3 GW</td>
</tr>
<tr>
<td>2030</td>
<td>29.3 GW</td>
<td>17.5 (40.2%)</td>
<td>46.8 GW</td>
</tr>
</tbody>
</table>
Sherabad Solar Power Project

- **ADB has been mandated to develop 1GW solar program on PPP basis**
  - 1st project, Sherabad solar project, is selected from the candidates in the pre-developed solar road map.

- **ADB developed a project structure, contract packages, and assisted the government in running tender process**
  - Standard contract packages, incorporating international best practices, provided to improve project’s bankability
  - Credit enhancement mechanism and public support for supporting infrastructure improves the project attractiveness

- **Project allowed flexibility for bidders to propose optimal design and interconnection to the national grid system.**
  - Set only the minimum capacity
  - Including substation/transmission line development and transfer the ownership to the state grid company upon completion to avoid interconnection risk
### Issue: Offtaker Risk

- JSC NEGU is the off-taker under 25-year PPA.
- JSC NEGU was established in 2019 as a result of unbundling of Uzbekenergo.
- Currently, JSC NEGU’s revenue is transferred from the total revenue collected on a fixed percentage basis.
- Given the above issues, the Offtaker Risk of JSC NEGU may be perceived as HIGH.

### Solution: Credit Enhancement Mechanism

- **Government credit support:** Credit support is needed in order for the off-taker (JSC NEGU) to maintain Project’s bankability.
- **PCG to L/C bank with Sovereign Counterindemnity** - PCG to cover a letter of credit issued by a commercial bank in favor of the solar project company (IPP).
- **L/C will support the payment obligations of JSC NEGU to the IPP under the Power Purchase Agreement (PPA).**
- **L/C, with a PCG covered by ADB’s AAA rating, will provide comfort to investors by mitigating payment risks.**
Credit Enhancement Mechanism

- Application of Standby Letter of Credit for liquidity support for the state-owned off-taker
  - IPP projects (or similar PPP projects) anchor on the revenue stream from off-taker
  - State off-taker, Joint Stock Company National Electric Grid of Uzbekistan, newly created in 2019 with no proven track records

- ADB’s partial credit guarantee to support Standby Letter of Credit
  - Certain credit rating requirement is applicable to L/C Issuing bank, which is normally international.
  - ADB (AAA credit ratings) guarantees the payment in case of default by off-taker to replenish SBLC

- Counter-indemnity by Government of Uzbekistan
  - ADB will recourse the payment to the government under counter-guarantee.
  - Leveraging strong commitment of payment due to cross-default provision across all ADB projects.
Credit Enhancement Mechanism

1. Power Purchase Agreement
2. Guaranteed L/C
3. Reimbursement & Credit Agreement
4. Investment Agreement
5. Partial Credit Guarantee
6. Counter Guarantee and Indemnity Agreement


### Lessons Learned

- **Project result demonstrates...**
  - Involvement of renowned private sponsors, contractors and lenders means projects incorporate international best practices making projects much more robust and reliable
  - Well-structured tender with bankable PPAs results in true price discovery and better terms for the off-taker although this mainly depends on the PPA bankability, resource abundance, land availability, regulatory certainty and off-taker credit rating
  - Additional optimizations such as the inclusion of a credit enhancement mechanism and public support for public infrastructure significantly improves the attractiveness of projects for the private sector and, hence, deliver better results for the buyer of power

![Bids Received Chart](image)
Thank you.