Energy Connectivity in SAARC Region: The CASA Project Model

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The Lessons Learnt in the Implementation of CASA-1000 Project may prove invaluable for SAARC Cross-border Connectivity Plan.

There is no doubt that the CASA project had been languishing for a long time without taking concrete shape.

However, in the last 18 months significant progress was made in finalizing its Agreements & it is about to enter construction phase.

The Core Project Agreements are now ready and the EPC contracts for Convertor Stations due to be signed by Sept 2015; Commissioning still exp 2018.
CASA Project Concept

- The Concept of CASA Project is based on the surplus energy available in Tajikistan & Kyrgyz Republic during the 5 summer months (1st May to 30th September) as most of their generation capacity is hydropower based.
- The total power available is 1300 MW out of which Pakistan’s share is 1000 MW & Afghanistan’s share is 300 MW.
- The Project envisages the transport of electricity from the 2 Central Asian countries to Afghanistan and Pakistan via D/C transmission lines.
CASA-1000: Scope

The CASA-1000 project consists of:

- 750km 500 kV HVDC T/L between Tajikistan and Pakistan via Afghanistan;
- Converter stations at Sangtuda (1000 MW), Kabul (300 MW) & Peshawar
- A 477km 500kv AC link between the Kyrgyz Republic (Datka) and Tajikistan (Khoudjand)
- AC system upgrades on existing lines
Contractual Arrangement

- The CASA-1000 Project is being implemented as a contractual joint venture with all 4 participating countries owning parts of the project located in their territories.

- The “Core Project Agreements” consist of 4 PPAs; a Master Agreement between all four (4) parties; an Account Bank Agreement; Technical Code; Co-ordination Agreement between Kyrgyz Republic and Tajikistan; & Host Government Agreements.
Contractual Arrangement (Contd.)

The Contract documents cover, among others:

- The Risks, Rights and Obligations of all four countries
- Cost and Tariff structure
- Payment Mechanism
- Security and Guarantees for Payment and Performance Obligations
- Interconnection and transmission line protocols
- Compensation for Termination
- Force Majeure Conditions
Cost & Funding

- The estimated cost of the CASA-1000 Project is US $1170 million including US $208 million IDC & Taxes
- Most of the funding for the project is being provided by the World Bank
- Funding for the Afghan portion (T/L & Convertor Station) is fully secured while there is about 20% funding gap in other countries
- The gap is expected to be filled due to WB’s serious commitment to the project
Energy & Tariff

- The Tariff is energy based (US Cents/kWh) on must run basis
- The hydrological risk is borne by the Sellers, i.e., have to deliver the guaranteed energy or pay LDs
- Purchaser will have to pay LDs if it does not off-take the energy
- The tariff has 3 tiers:
  - P1 for the Min Guaranteed Quantity per annum;
  - P2: for Min Guaranteed Quantity for 5 yr block;
  - P3: for Excess Quantity
- The total yearly quantities committed by the Sellers vary between 4072 to 4434 GWh
Tariff Components

- **Transmission Charge** Based on Actual Bid Cost & Agreed ROI (6%): Estimate: 3 Cents/kWh; Includes:
  - Kyrgyz T/L & Tajik T/L & Convertor Station Costs
  - Afghan T/L cost
  - DC & AC Operators’ cost
  - Reserve Fund
  - Tajik Transit fee payable on Kyrgyz energy

- **Energy Charge** (Payable to Sellers): 5.15 Cents/kWh

- **Transit Fee** {Payable to Afghanistan (1.25 Cents/kWh)}

- **Total tariff** is US Cents: 9.3/kWh
Lessons from CASA for SAARC Connectivity

- A Secretariat with a full time Executive Director is necessary for co-ordination and arranging regular meetings is a must.
- A Project Company be formed with share-holding from all SAARC countries for implementing the project.
- Funding for bearing expenses of such an office is necessary: JICA/Other IFIs can perhaps fund?
- My experience is that meetings are easier to arrange if some costs (hotel expenses) are borne by the Secretariat/ Funding agency.
- Other soft costs, e.g., Feasibility Study etc should also be arranged by donor agency.
- Joint Working groups have to be formed from each country to move the project(s) forward.
Moving Forward on SAARC Energy Connectivity

- The Core Security documents for CASA (PPAs, MA & the Host Govt Agreement) were prepared by world class lawyers; Should be utilized as a template for cross border electricity trade by SAARC countries

- A Feasibility Study to explore spare energy & T/L capacity as well as prepare a Master Plan for Transmission Interconnectivity in SAARC needs to be taken up immediately

- The Pre-Feasibility Study for Pak-India Interconnection via Wagah border needs updation

- Commitment at the highest govt levels by all SAARC countries to realize the dream of SAARC Energy Connectivity
Thank You