

Energy Connectivity in SAARC Region: The CASA Project Model

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SAARC Energy Connectivity & CASA-1000 Project

- ❑ 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 Converter 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 (Khoujand)
- 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 & Converter 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 & Converter 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