

SAARC Workshop

Harmonizing Regulations & Policies

For

*Cross-Border Power Trade, Risk Sharing &
Financial Settlement Issues*

25 – 26 June 2014

Hotel Soaltee Crowne Plaza, Kathmandu

Harry Dhaul - Director General, IPPAI

IPPAI's Tribute



'Domestic energy development and bilateral cooperation alone will not solve Power Crisis of SAARC nations. The engagement has to be multilateral'

- Late Sri. Hilal Raja



The SAARC Grid



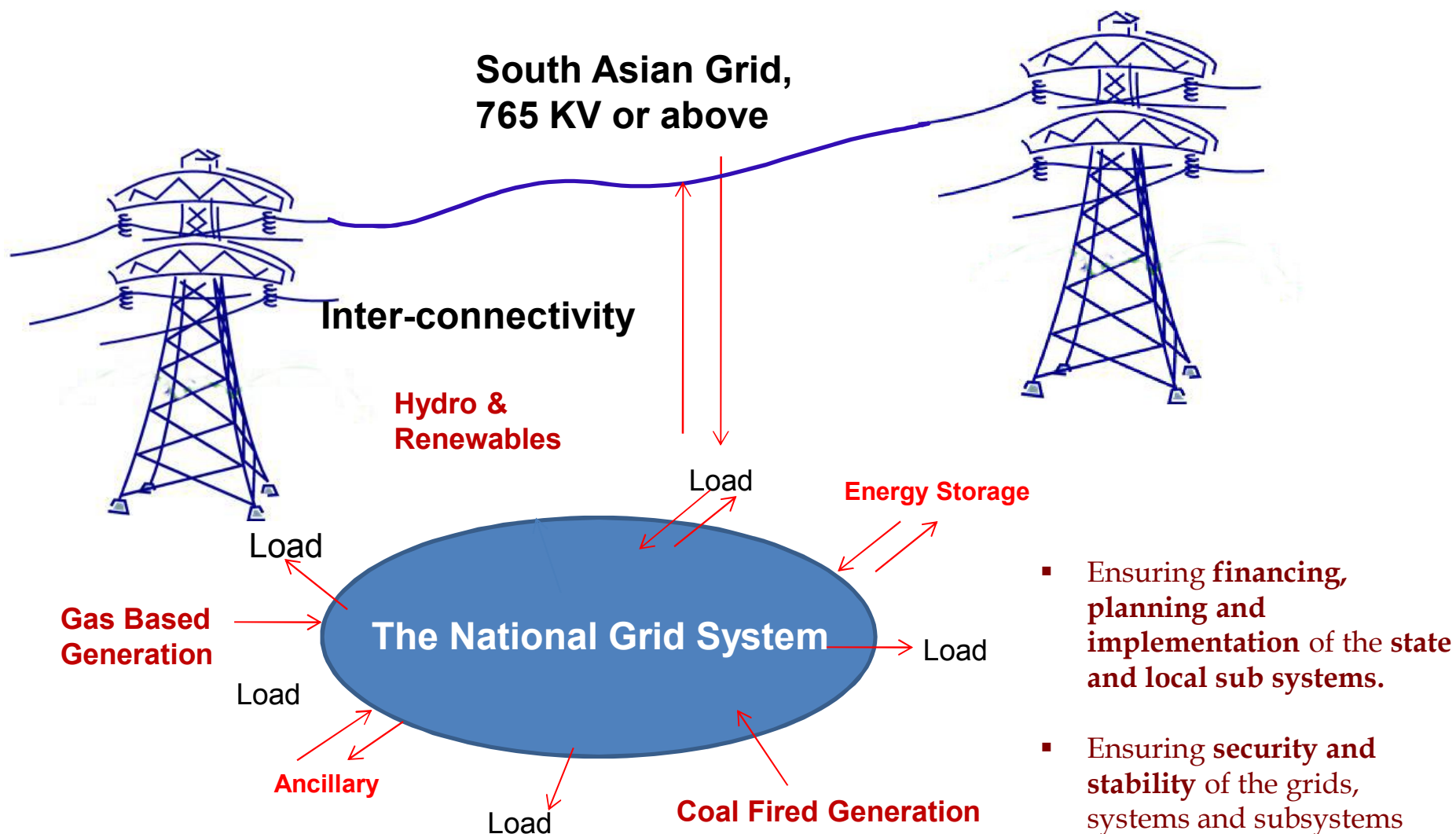
Harnessing the potential of transnational power trade in Asia from Tajikistan to Singapore

Harry Dhaul - Director General, IPPAI

Potential for cross border power trade in SA

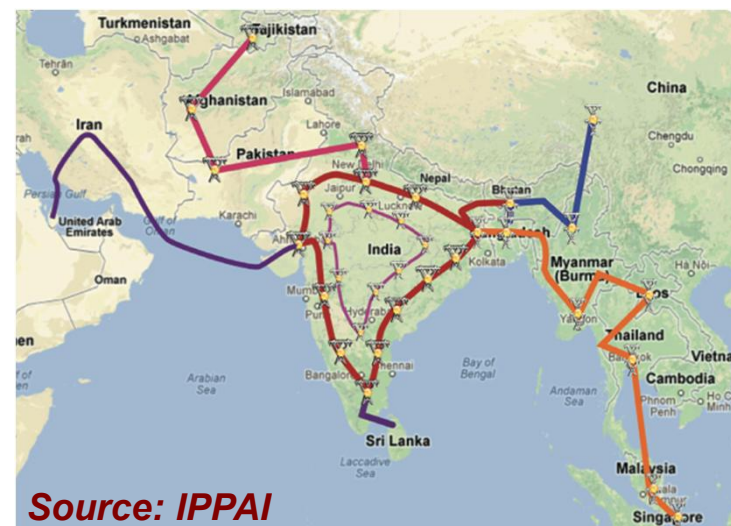
Country	Per Capita Electricity generation (2011) kwh/annum	GDP Growth % 2011-12	Peak Load Season	Primary Energy Resources for Power Generation
Tajikistan	2111	7.5	Winter	Coal and Hydro
Afghanistan	10	10.2	Winter	Oil, Natural Gas, Coal
Pakistan	600	3.7	Summer, Winter	Gas , Lignite
India	700	6.6	Summer, Winter	Coal
Bhutan	764	9.7	Winter	Hydro
Nepal	100	4.6	Winter	Hydro
Sri Lanka	500	6.4	Summer	Biomass, wind
Bangladesh	200	6.1	Summer	Gas, Coal
Myanmar	116	6.3	Summer	Hydro
China	2582	7.8	Summer, Winter	Coal, Hydro, Gas
Thailand	2221	6.4	Summer	Natural Gas
Malaysia	374	5.6	Summer	Coal, Renewable Energy
Singapore	8,508	1.3	Summer	Natural Gas
Iran	2,732	-5.4	Summer	Oil and Natural Gas

SA Power Grid: Systems & Sub Systems



INDIA: *Natural node to accelerate Cross-border Power Trade*

- India by virtue of its geographical position best suits as a interconnecting node between the SAARC Nations
- India can support to balance the mismatch between energy resources available with SAARC country
- Robust, Modular & Operational Power Market Protocol in place
- Extensive enhancement in Transmission capability
- Upgrading interconnected grid(s) and constructing additional interconnectors between India and its neighbours will promote realization of Cross



Types of Cross Border Power Trade

- **Bulk power** - Long, Medium and Short Term
- **Daily and/or seasonal peaking** requirements, especially when these are non-coincidental
- **Ancillary services** (frequency and voltage regulation support, spinning reserves)
- **Emergency black-start** support
- **Electricity spinning** reserves sharing

Required Framework Development

- **Financial framework**
 - Financing of South Asian Power Grid (Transmission Lines)
 - Trade settlement options - Escrow, back stop guarantees from Governments
 - Parity of Taxation/duties within SAARC Trades
 - Managing currency risks
 - For Private sector project development
 - For setting up robust payment security mechanism
- **Policy framework**
 - required for clarifying technical and institutional issues
- **Regulatory framework**
 - for harmonizing regulations for cross border power trade
 - Settlement and Metering Protocols

Barriers in Cross Border Trading of Electricity

- *Absence of uniform and harmonized policies* in the countries on electricity trading
- *Weak institutional capacity* in the countries to deal with complex structure of cross border electricity trading projects
- *Inconsistencies* in *electricity market structure* between the countries that impedes free trading
- *Lack of Power trading experience*
- *Issues in Cross-boundary restrictions* between the countries make it difficult to execute commercial contracts
- *Inconsistencies in the legal frameworks* and *dispute resolution mechanisms* across the countries increase commercial risks for trading counterparts
- *Financial volatility* of the electricity utilities marred with *high AT&C losses*, and *Govt. Subsidy* issues

Cross Border Power Exchange: Future benefit

- Opportunity to nurture cross-border Power Market
- Energy Market Formation
 - Enable flow of foreign investment
 - Market based pricing, stable regulatory framework and market structure
- Exploiting complementarities and comparative advantages in:
 - Primary energy endowments
 - Resource development costs
 - Complementary demand profiles
- Larger markets – greater certainty for investors, economies of scale
- Optimizing fuel mix to reduce costs, improve energy security and better address environmental concerns ; Manage variability of infirm power (hydro, renewables backed by coal, gas power)
- Increased access to electricity in importing countries; increased utilization of generation assets; Reduced cost of supply for all participants

What is required....

To begin with technical evaluation studies covering following aspect should be quickly taken up:

- The feasibility of optimal capacity and configuration of interconnections
- Operational parameters of the networks
- Study for Predictability and sustainability of tradable volumes in cross-country trade option
- Commercial and technical arrangements and agreements on:
 - Voltage levels of operation
 - Operating frequency
 - Fault level standards

The member countries should create appropriate institutional mechanism to focus on cross-border electricity trade

Need of hour

- Structuring of Central Co-ordination agency who will act as technical nodal body to execute trade (e.g. NLDC, India)
- Structuring and setting up of Cross Border Trading Regulatory Body
- SAARC Forum of Regulators
- Transmission infrastructure Development agency for centralized monitoring
- Structuring mutually agreeable Cross-Border Power Trading Rule book to address major issues like:
 - Power Trading,
 - Delivery & Settlement
 - Legal recourse, and
 - dispute resolution mechanism
- Invite and involvement of private sector players for quicker implementation support

Let the deliberations begin...

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