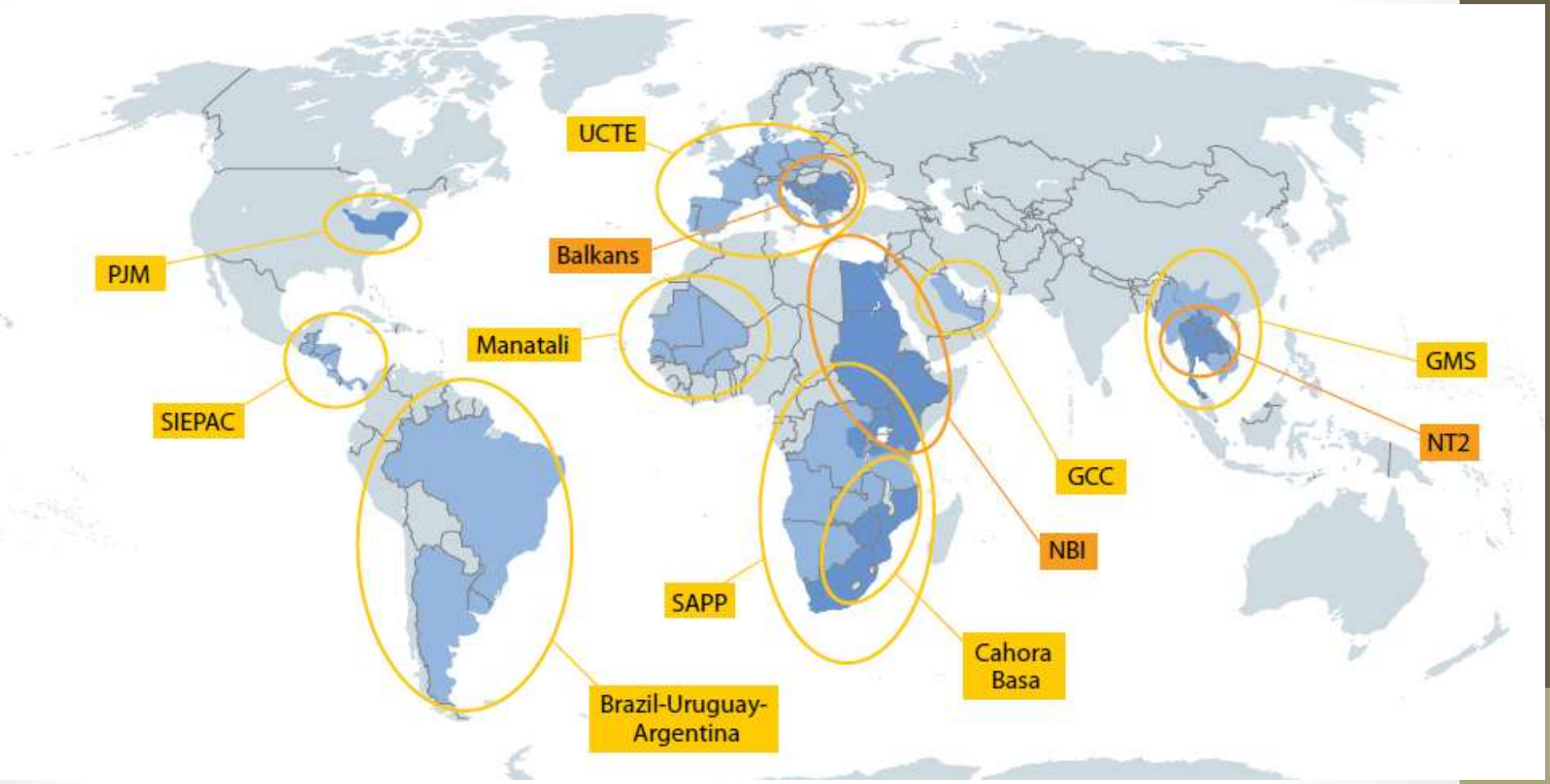
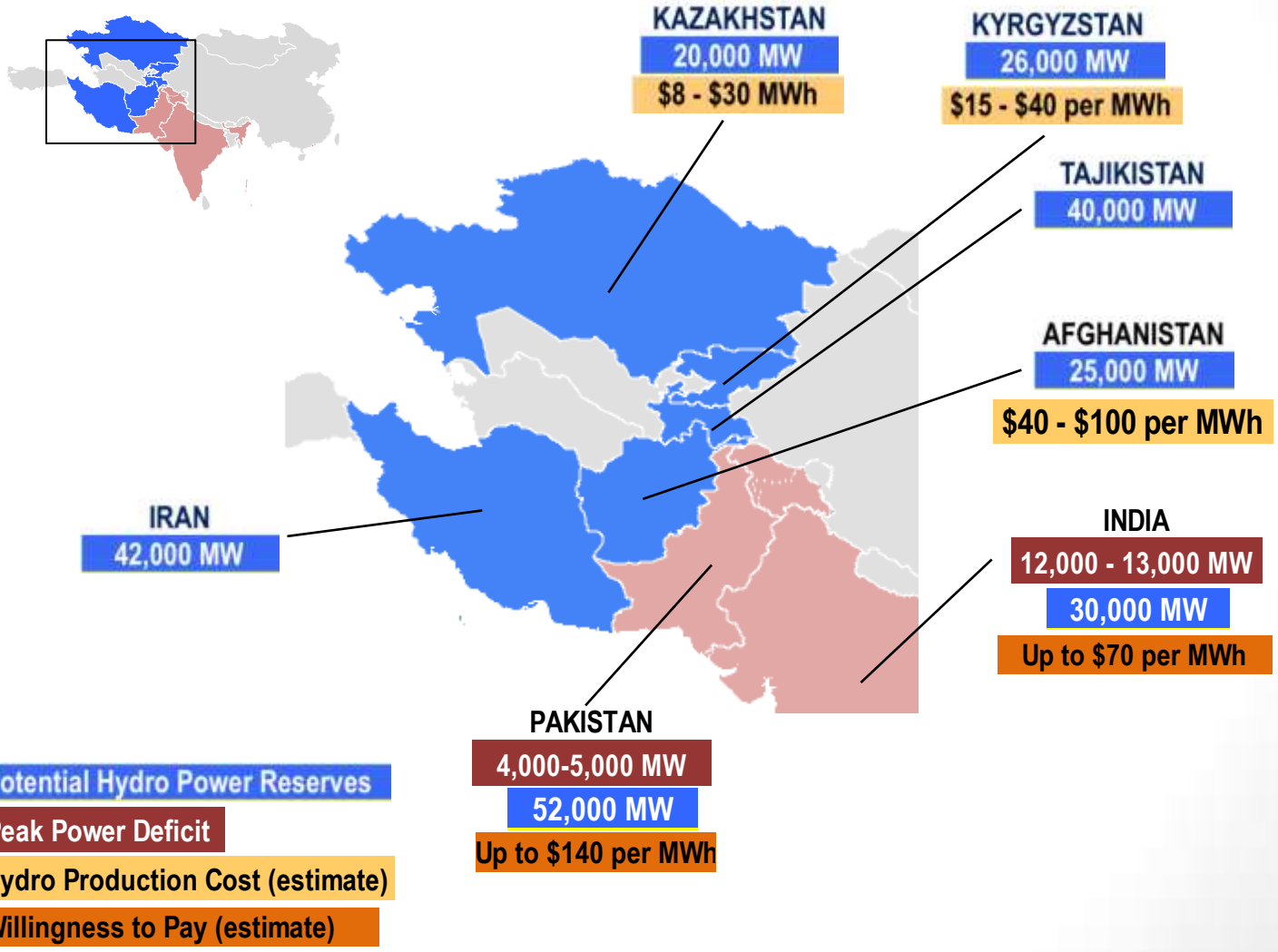
Realizing a Central Asia-South Asia Regional Electricity Market: CASA-1000

Conference on Normalizing India-Pakistan Trade
Salman Zaheer, The World Bank
New Delhi, January 22, 2014

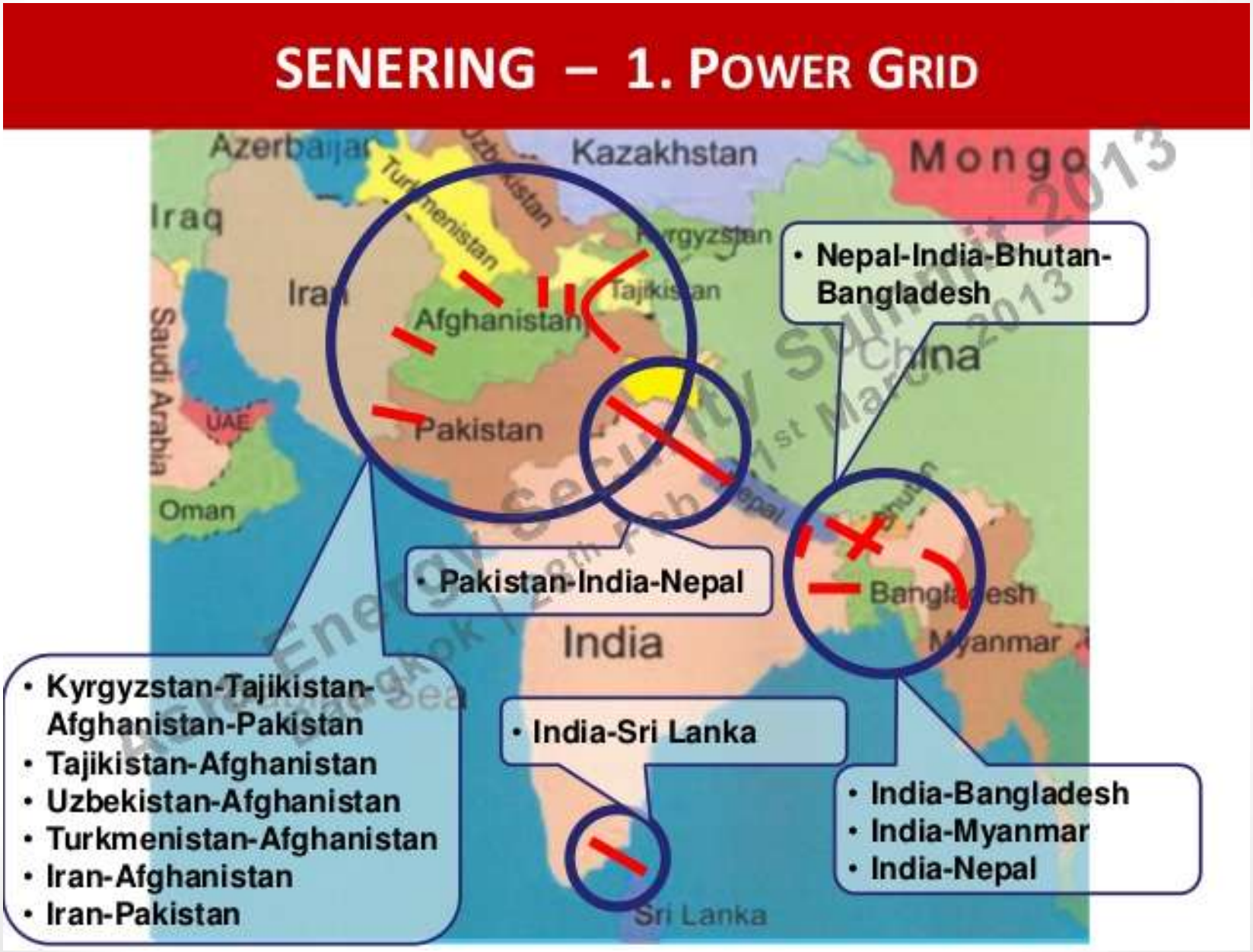
Examples of Regional Power Sector Coordination are Widespread



Resources and demand in the region - electricity



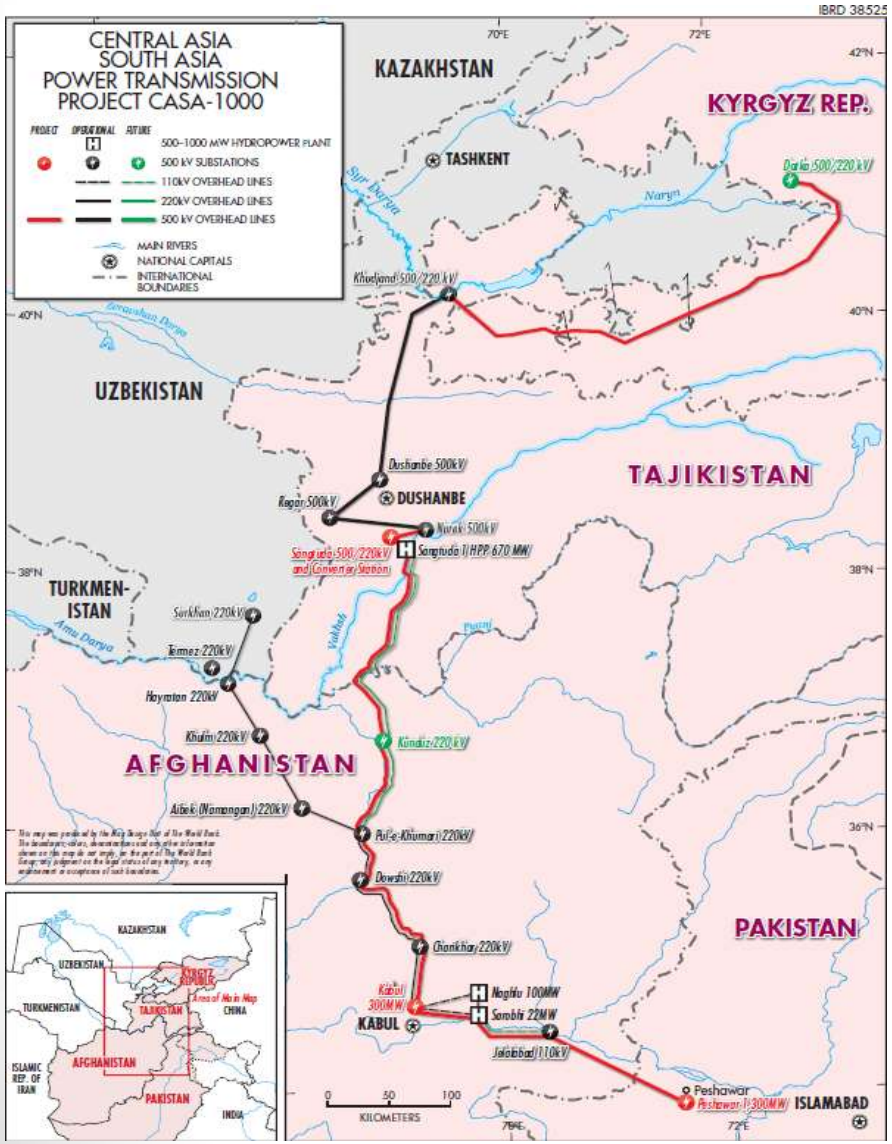
Emerging & Planned Grid



Energy trade is a rational policy choice

- Most countries have varying levels of mismatch between energy demand and supply: seasonal, peak-off peak, etc.
- Diversified energy sources and markets improve national energy security, often at significantly lower costs than through "self-sufficient" or autarchic approaches
- Prospects for shared prosperity improve for all parties:
  - Better utilizing of resources and capital assets
  - Reduced national "reserve" requirements
  - Relief from power shortages – short and longer term
  - Access to wider/deeper pools of finance and institutional capacity
  - Cleaner, more sustainable supply options become possible

CASA-1000: An affordable opportunity to transform relations in the HoA



- 1500 km of transmission lines and related facilities linking Datka (KR) – Sangtuda (Taj) – Kabul (Af) – Peshawar (Pak)
- Contractual + institutional arrangements for fair and sustainable electricity trade
- May-Sept supply: 300 MW (AF); 1000 MW (PK)
- Benefit-sharing w/ local communities along corridor
- "Open Access" for additional countries to participate
- **Total Cost: US$1,160 million**

CASA-1000 Significance

- The [1.0] TWh contracted by AF and [3.0] by PK can save them around $[50-75]m and $[150-200]m per year in fuel costs respectively and/or relieve shortages (20% of PK summer peak)
- Kyrgyz Republic and Tajikistan, the weakest economies in Central Asia, establish new markets and additional revenue streams
- Helps establish mechanisms for Afghanistan to be a viable transit country
- By depending on existing and projected surplus hydropower, CASA-1000 requires no new generation capacity to develop and test new market arrangements
- Offers transmission capacity for other countries during the off-peak season
- Strengthens institutional arrangements – Inter-Governmental Council, contracts, dispute resolution - build confidence among CASA countries and potential new partners

Genesis and Key Milestones

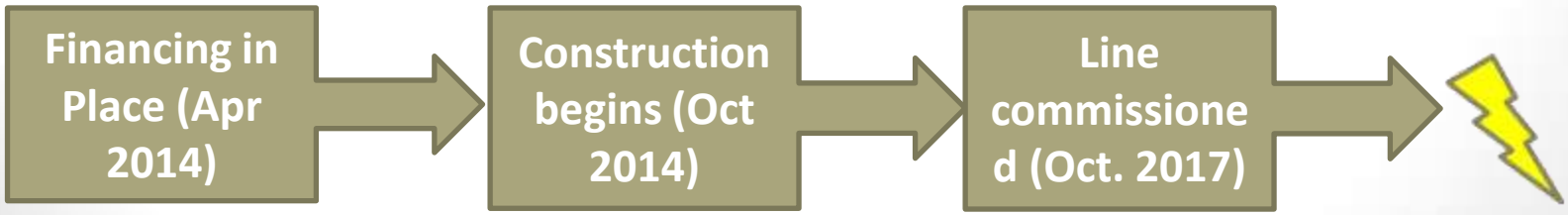
- **2004**: Central Asia Regional Electricity Potential Study (REEPS) identified South Asia as potential export market for surplus electricity from Central Asia
- **2006-2009**:
  - Inter-governmental conferences => Inter-Governmental Agreement (IGA) => establishment of Inter-Governmental Council (IGC) and Secretariat (2007);
  - ADB-funded 2-phase study established Project's techno-economic feasibility
- **2010-Present** – Progress in technical preparation, institutional/contractual arrangements, financing:
  - Feasibility study updated to address gaps and changes in market conditions, e.g. surplus power from existing plants, Pakistan demand, project costs
  - Environmental and social impact studies, security assessment (2012)
  - Project Structure and Commercial Principles approved; Legal, Procurement and Finance Committees established (2013)
- September 2013 IGC meeting (Islamabad) committed to accelerate preparation and close financing gap, start construction by mid-2014, and commission transmission line in 2017

Project Costs & Indicative Financing

Country	AFG	PK	TJ	KR	Total
Costs & Financing	US$m	US$m	US$m	US$m	**US$m**
Total Project costs (incl. contingencies, Taxes, IDC)	395	232	300	233	**1,160**
IDA Financing	300	120	45	45	**510**
IsDB Financing	0	80	70	50	**200**
ACG	0	0	65	40	**105**
Donors and Trust Funds	38	17	15	14	**86**
Borrower/Implementing Agency	57	15	22	33	**123**
Total Financing Sources	395	232	217	182	**1,026**
Financing Gap	0	0	83	51	**134**

CASA-1000 – Lessons, Status & Milestones

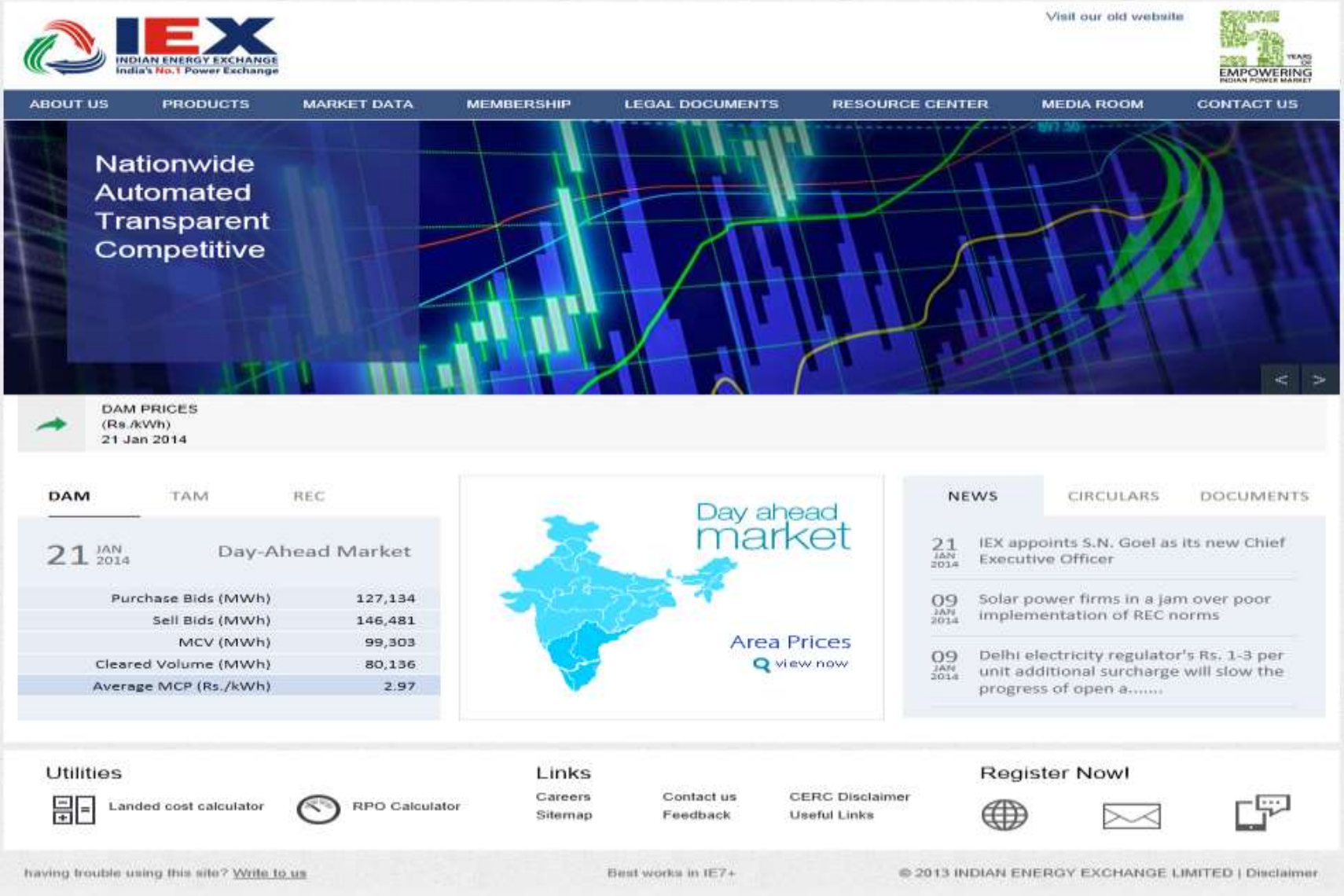
- **Key ingredients for recent acceleration**:
  - Sharpened political awareness => Leadership (esp. PK-AF project alignment), stable/capable tech teams, credible financing (for preparation & implementation)
  - Inter-Governmental Council = Secretariat
- **Status**:
  - Commercial negotiations (Master Agreement, PPAs) advancing
  - Procurement of convertor stations initiated
- **Financing**: Appraisal in process (WB, IsDB, ACC, US, UK)
  - WB Board to consider project in March-April 2014: **$510m**
  - Financing gap: $134m for infrastructure in Central Asia; $30m for Community Dev. in CA + PK; $30m for TA + Capacity Bldg
  - WB establishing **Multi-Donor Trust Fund**



If CASA can can be structured and financed, why not India-Pakistan…..

- India generation – 230,000 MW; PLF 70-75%
- Pakistan shortage of 5000 MW
  - Pakistan-India connectivity would cost $120-140m for 500-1000 MW; only $40m for 200 MW in AC mode
- India Spot trading now around 100 GWh (11% of total). Eq to about 12,000-15,000 MW
- Predominantly coal-based, some hydro and gas; no oil
- More capacity coming on line, increasing role of private sector
- Spot prices seldom more than Rs 5-6 per kWh

Spot market yesterday….max MCP Rs. 4.24/unit



Parting thoughts

- Energy situation in South Asia is a binding constraint to growth, stability and poverty eradication
- The distribution of energy resources, varying levels of institutional & technical capacity, and varying depths of financial and energy markets in the region offer many win-win opportunities
- Realization of even a few opportunities can be potential game changers for stability and the growth trajectory of each country
- Energy trade both drives cooperation and requires it - We are reassured by what is already happening –
  - Uzbekistan-Mazar-Kabul; TJ-AFG
  - Bhutan-India (>1000 MW)
  - India-Bangladesh (500 MW)
  - Construction of Nepal-India transmission (1000 MW)