

# ***India-Pakistan Energy Trade: Potentials and Prospects***

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# *India-Pakistan Energy Trade: The Context*

- among the lowest per capita incomes in the world
- per capita energy consumption is also among the lowest in the world
- poorly endowed with conventional energy sources
- huge energy gap and energy poverty
- energy demand likely to grow by three times in the next two decades
- Energy scarcity affecting economic growth in Pakistan
- Why the two countries should trade?
  - Complementarity of resources?...NO
  - Complementarity and efficiency in infrastructure
  - Technology, skills and investment
  - The regional context is important

# *Key Energy Indicators*

Country/Region	TPES/Pop (toe/capita)	TPES/GDP (toe/thousands 2000USD)	TPES/GDP (PPP) (toe/thousands 2000USD)	Elect Cons (KWh/capita)	Population with access to electricity (%)
India	0.54	0.75	0.14	616	66.3
Pakistan	0.50	0.74	0.21	457	62.4
South Asia	0.50	0.72	0.15	555	62.2
OECD Europe	3.35	0.17	0.14	6287	100
Africa	0.67	0.75	0.26	571	32.4
World	1.83	0.30	0.19	2782	74.1

# *Existing Energy Trade in South Asia*

India-Bhutan-Nepal-Bangladesh (Power)	Bhutan is the only country in the region with surplus power generation and exports large part of it to India. Bangladesh and Nepal import power from India in limited quantity
India-Nepal, Bangladesh, Sri Lanka (petroleum products)	Bhutan, Sri Lanka While Nepal and Bhutan are entirely dependent on India for petroleum products, Sri Lanka and Bangladesh import from India
India- Bangladesh (Coal)	Bangladesh imports from India
Pakistan-Afghanistan	Afghanistan imports power from Pakistan. However, power situation is improving in Afghanistan which may not import power for long.

## *Progress at Regional Level (1/2)*

<b>January 2000</b>	<b>Technical Committee on Energy</b>
<b>January 2004</b>	Specialized Working Group on Energy
<b>October 2005</b>	First meeting of energy ministers, Islamabad:  Formation of Expert Group on energy conservation and efficiency and Roadmap for SAARC region
<b>March 2006</b>	Establishment of the SAARC Energy Centre in Islamabad
<b>March 2007</b>	South Asia Energy Dialogue: Recommendations to promote cooperation
<b>April 2009</b>	Meeting of the Working Group: Establishment of expert groups on a) oil and gas, b) electricity, c) renewable energy, d) technology and knowledge sharing

## *Progress at Regional Level (2/2)*

<b>December 2009</b>	<b>Meeting of the Working Group: Presentation of the Task Force draft report on the technical and commercial aspects of the electricity grid interconnections</b>
<b>April 2010</b>	Concept of SAARC Market for Electricity in the 16th SAARC Summit Declaration
<b>January 2011</b>	Expert Group on Electricity in its Meeting considered the (i) Concept Paper on the Road Map for developing SAARC Market for Electricity (SAME)) and (ii) concept paper on SAARC Inter-Governmental Framework Agreement for Regional Energy Cooperation.
<b>September 2011</b>	Energy Ministers Meeting reviews the progress on SAME and SAARC Inter-Governmental Framework Agreement for Regional Energy Cooperation.

# *Bilateral Initiatives (1/2)*

- India-Bhutan: A success story – Significant impact on Bhutan's GDP, Export, Revenue and Human Development – Bhutan has plans to increase up to 10000MW with Indian guarantee of purchase of half of it
  - Can it be replicated? Will India fund projects in other countries with similar terms? If yes, how much
- So far Bhutan story is more about political and diplomatic success
- India- Sri Lanka power connection – being discussed since 2006 but little progress. Now deadline of 2014 has been fixed

## *Bilateral Initiatives (2/2)*

- India-Bangladesh: 250MW is flowing, Bagerhat JV project, PPA signed in March 2012 – Price agreed is not market based, but more electricity would be accessed by Bangladesh from Indian market
- India-Nepal: Existing linkage is minimal. Several projects are in pipelines. Not much progress
  - Long history of cooperation (?) – some unfulfilled expectations – once Nepal was keen but India was not, then India changed its position but situation changed in Nepal
  - Political differences/opposition from CSOs
  - Private companies (Sutlej/GMR) are interested but govt. is slow

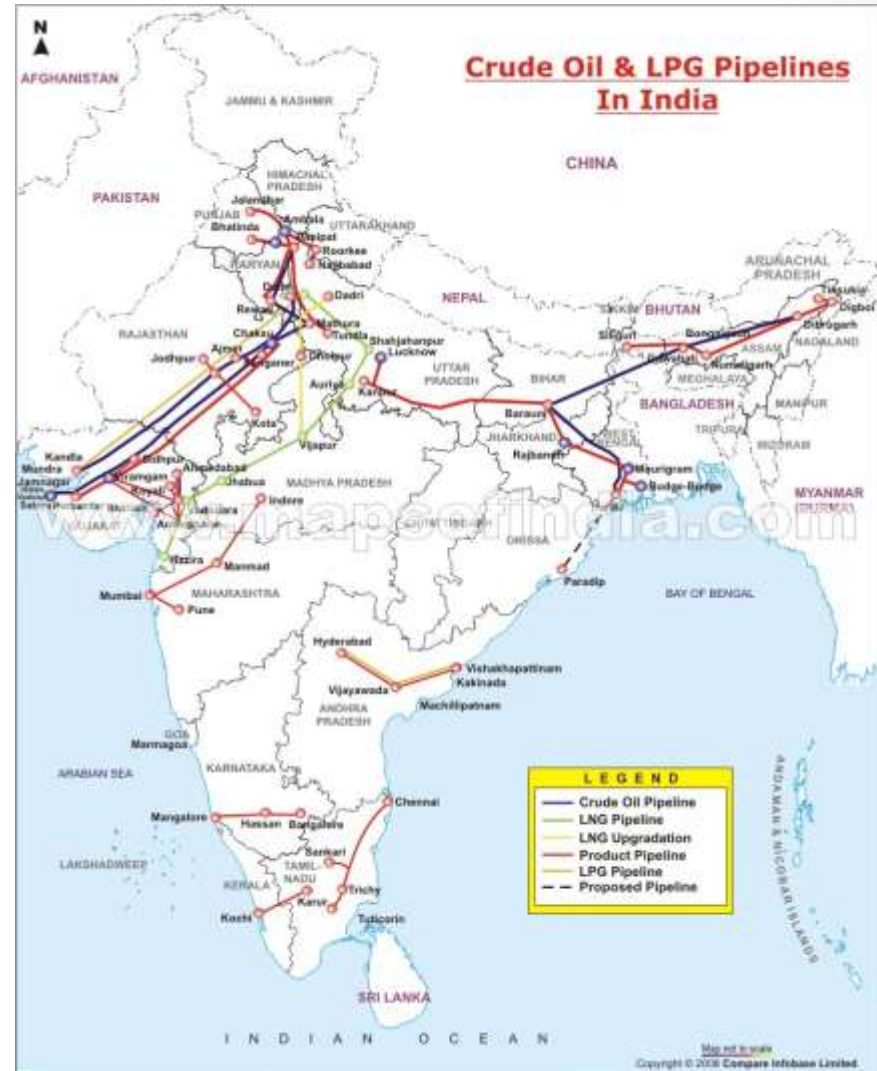


# *India-Pakistan: Petroleum products*

- India has become a major exporter of petroleum products- UAE is the second largest destination after Singapore
- UAE happens to be major source of import for Pakistan
- It is now recognized in Pakistan that if it imports gasoline and diesel from India it would largely benefit Pakistan and would result in saving of \$300 million. Presently, gasoline and diesel is imported through Karachi and then it is shipped to upper country and if it lands in Lahore from India through the Wagah Border, it would save cost and time.

# India-Pakistan: Petroleum products

## Oil Pipelines in Pakistan



# *India-Pakistan: Electricity trade*

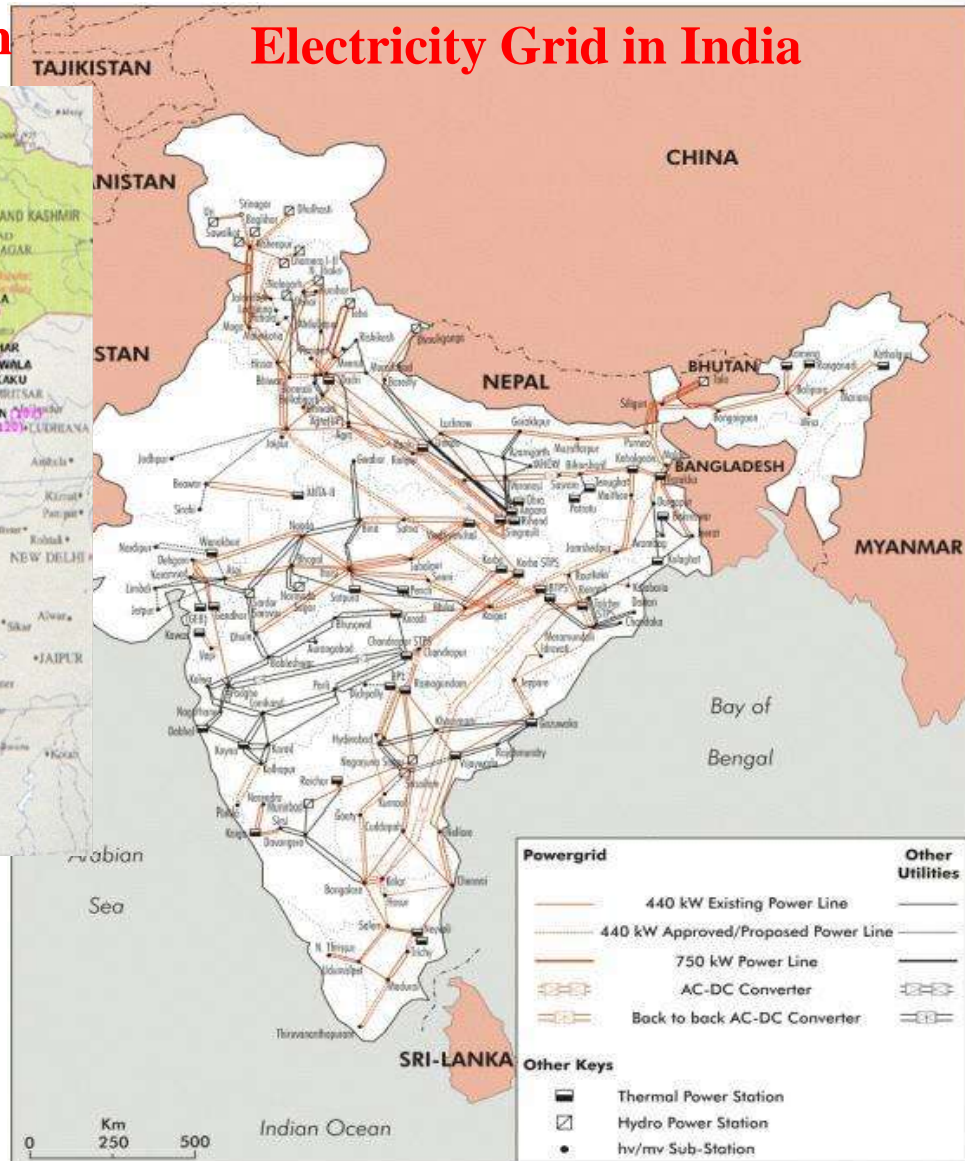
- In 1998, India proposed power import from Pakistan but could not materialize due to price issue (India offered 2.2 cents(US)/unit while Pakistan demanded 7.2 cents)
- In changed situation, Pakistan is interested to import from India (initially 500MW)
- Pakistan's 500 KV transmission system extends from Jamshoro in the south to Tarbela and Peshawar in the north. These lines run very near to the adjoining borders of India Dinanath (Lahore) in Pakistan and Patti (Amritsar) in India are designated substations. Bangladesh example
- India can collaborate on utilizing coal resources in Pakistan

# India-Pakistan: Electricity trade

## Electricity Grid in Pakistan



## Electricity Grid in India

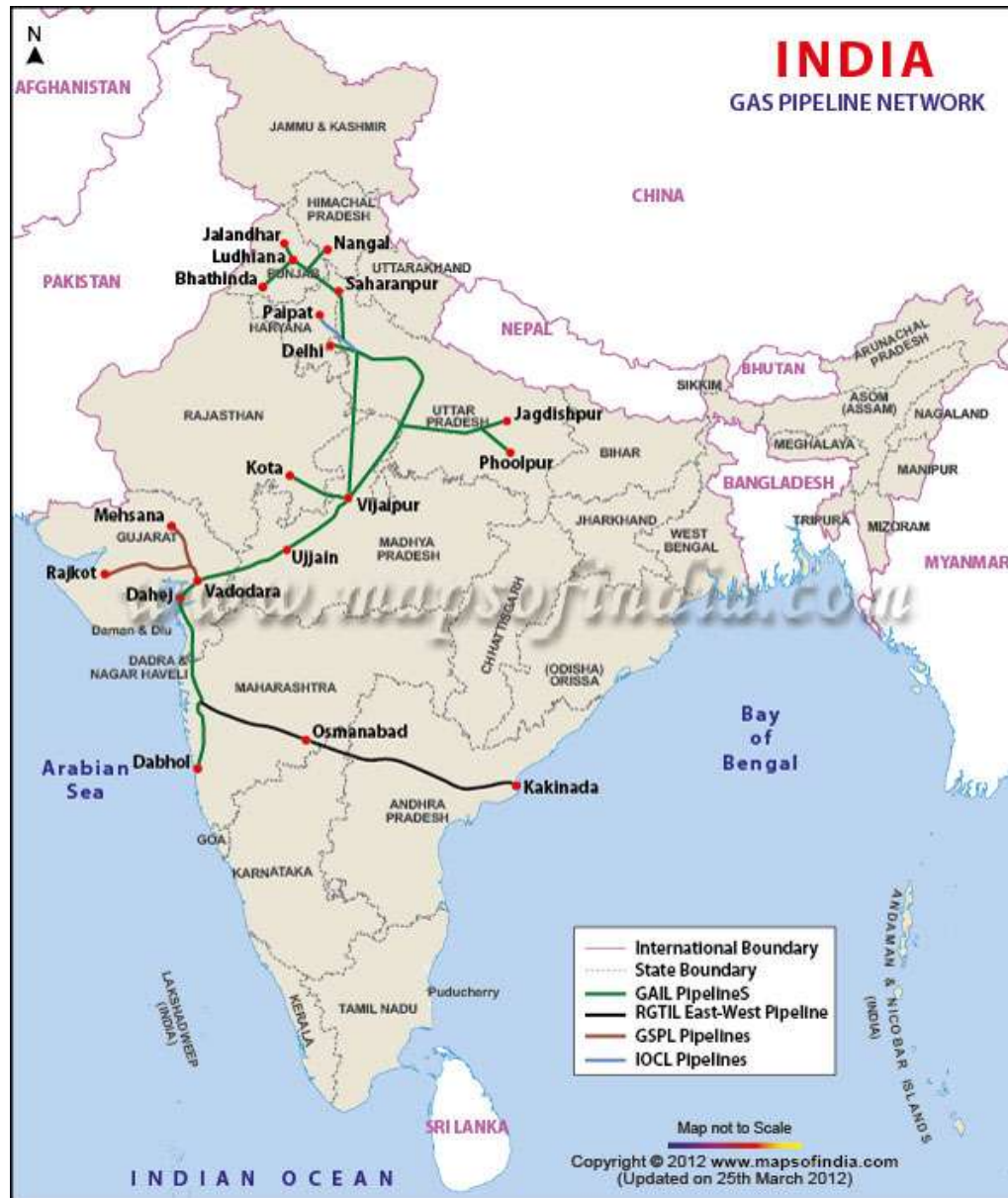


## *India-Pakistan: Natural Gas trade*

- Except India nobody in SA engages in NG trade as there is no infrastructure
- Proposal to extend to Lahore a natural gas pipeline India has recently installed from the west coast to Bhatinda in Indian Punjab which is around 25-km away from the India-Pakistan border.
- Imported LNG can move through the Dahej-Vijaipur -Dadri-Bawana-Nangal-Bhatinda pipeline and then into Pakistan
- Pakistan may experience its worst gas crisis in 2016 when the deficit is expected to hit 3.021 bcfd. Pakistan has not built any LNG import terminal so far. The LNG terminal will take a minimum of four years to build while the existing pipeline can be expanded into Lahore within months.



# India-Pakistan: Natural Gas trade



# *India-Pakistan: Regional Gas Grid?*

- Major international gas pipeline plans: IPI, TAPI, MBI – India was most keen on MBI but could not make any progress due to bilateral differences – even IPI progress is hindered due to bilateral differences (?)
- Recent developments related to Iran could help
- Pakistan went ahead with IP but funding is an issue
- Why TAPI but not IPI? Any lessons from MBI history?
- Will a regional approach help? What about Nepal and Bhutan's needs for natural gas? Can that help in addressing Indian apprehensions?

## *Final Remarks*

- Can complement infrastructure development for energy supplies and bring synergies
- Can promote efficiency and optimum utilization of resources
- Can support each other in times of contingencies
- Energy trade and cooperation can act as confidence building measures by involving large number of stakeholders who may not be competitive (just like European Coal and Steel Community)



***Thank You***