

India-Pakistan Energy Cooperation: Potentials and Prospects

Nitya Nanda

The Energy & Resources Institute (TERI)

Energy Security in India and Pakistan

- India has very limited reserves of oil and gas but reasonably large reserves of coal
- India's hydro as well as solar and wind power potentials are also substantial
- Pakistan has only limited gas but substantial coal and hydropower potentials – solar and wind potentials are also good
- Energy access, both in terms of absolute lack of access as well as average use are pretty low in both countries
- Imported energy constitutes some 31 and 23 per cent of total supplies in India and Pakistan
- Energy imports put substantial pressure on BoP for both India and Pakistan comprising about 40 and 60 per cent of total exports respectively

Key Energy Indicators in India, Pakistan and Select Countries/Regions 2012

Country/Region	TPES/Pop (toe/capita)	TPES/GDP (toe/thous 2000USD)	TPES/GDP (PPP) (toe/thous 2000USD)	Elect Cons (KWh/capita)
South Asia	0.62	0.58	0.14	580
OECD	4.19	0.13	0.13	8090
World	1.90	0.24	0.16	2970
Africa	0.68	0.55	0.18	590
India	0.64	0.57	0.14	760
Pakistan	0.48	0.62	0.12	450

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 and cooperate?
 - Complementarity of resources?...NO
 - Complementarity and efficiency in infrastructure
 - Technology, skills and investment
 - The regional context is important

State of Regional Cooperation in South Asia

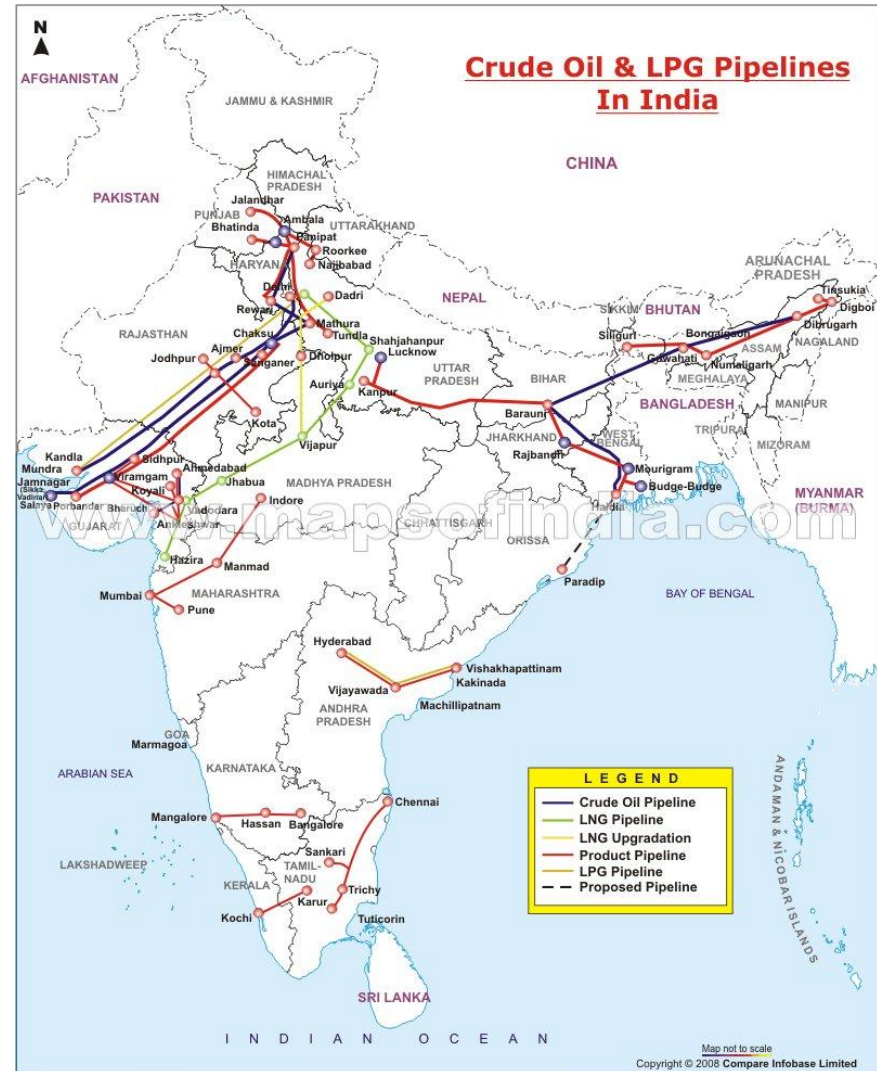
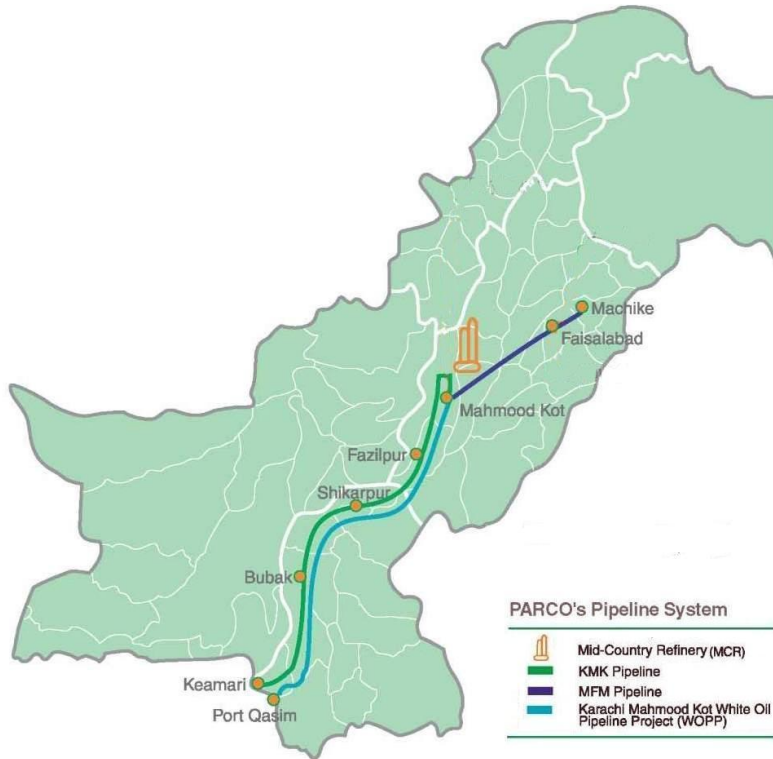
- “Sustainable energy for all” has been identified as one of the SDGs
- SAARC (of which both India and Pakistan are members) recognized need for regional cooperation including common grid as well as common market for electricity
- Progress on the ground is almost nothing
- Some progress at bilateral levels involving India in one hand and Bhutan, Nepal and Bangladesh on the other
- India-Sri Lanka energy cooperation to be a reality soon
- BIMSTEC involving Bangladesh, India, Nepal, Bhutan, Sri Lanka and some other countries include energy cooperation as an agenda item
- Pakistan is missing from the picture (Except CASA)

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

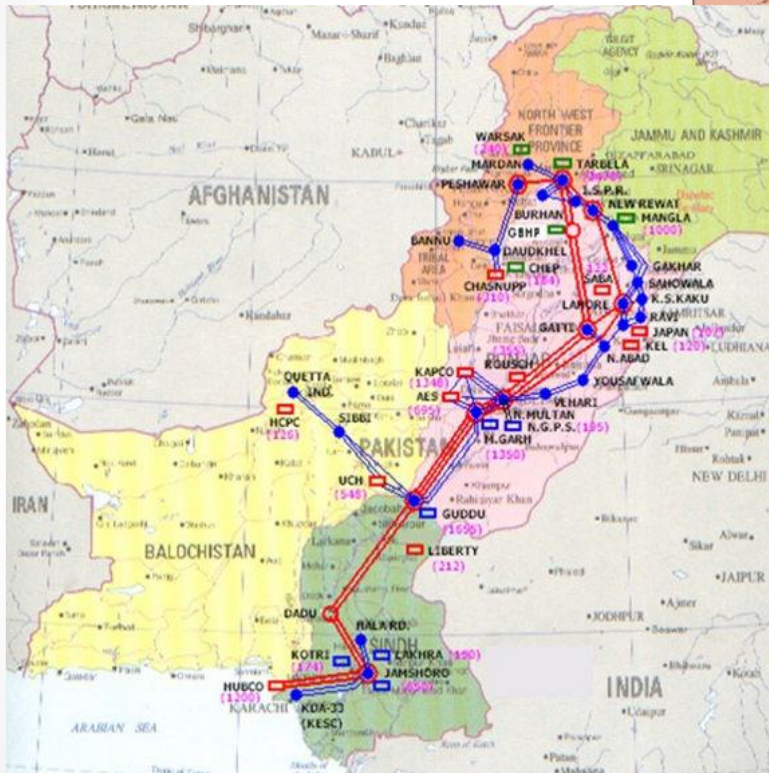


India-Pakistan: Electricity Trade

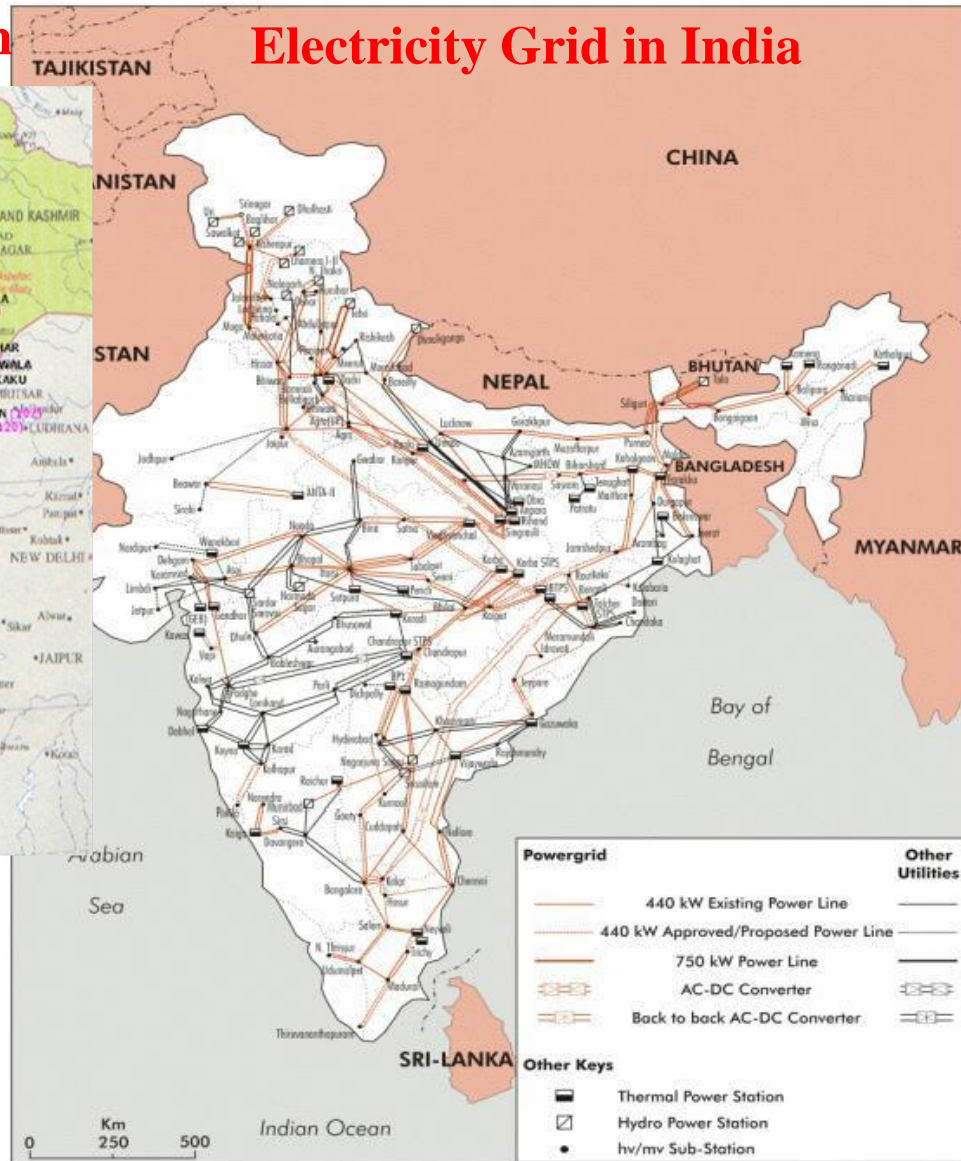
- In 1998, India proposed power import from Pakistan but could not materialize due to price issue (India offered 2.2 cents(US)/unit while Pakistan demanded 7.2 cents)
- In changed situation, Pakistan is interested to import from India (initially 500MW)
- Pakistan's 500 KV transmission system extends 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-Pakistan: Electricity trade

Electricity Grid in Pakistan



Electricity Grid in India



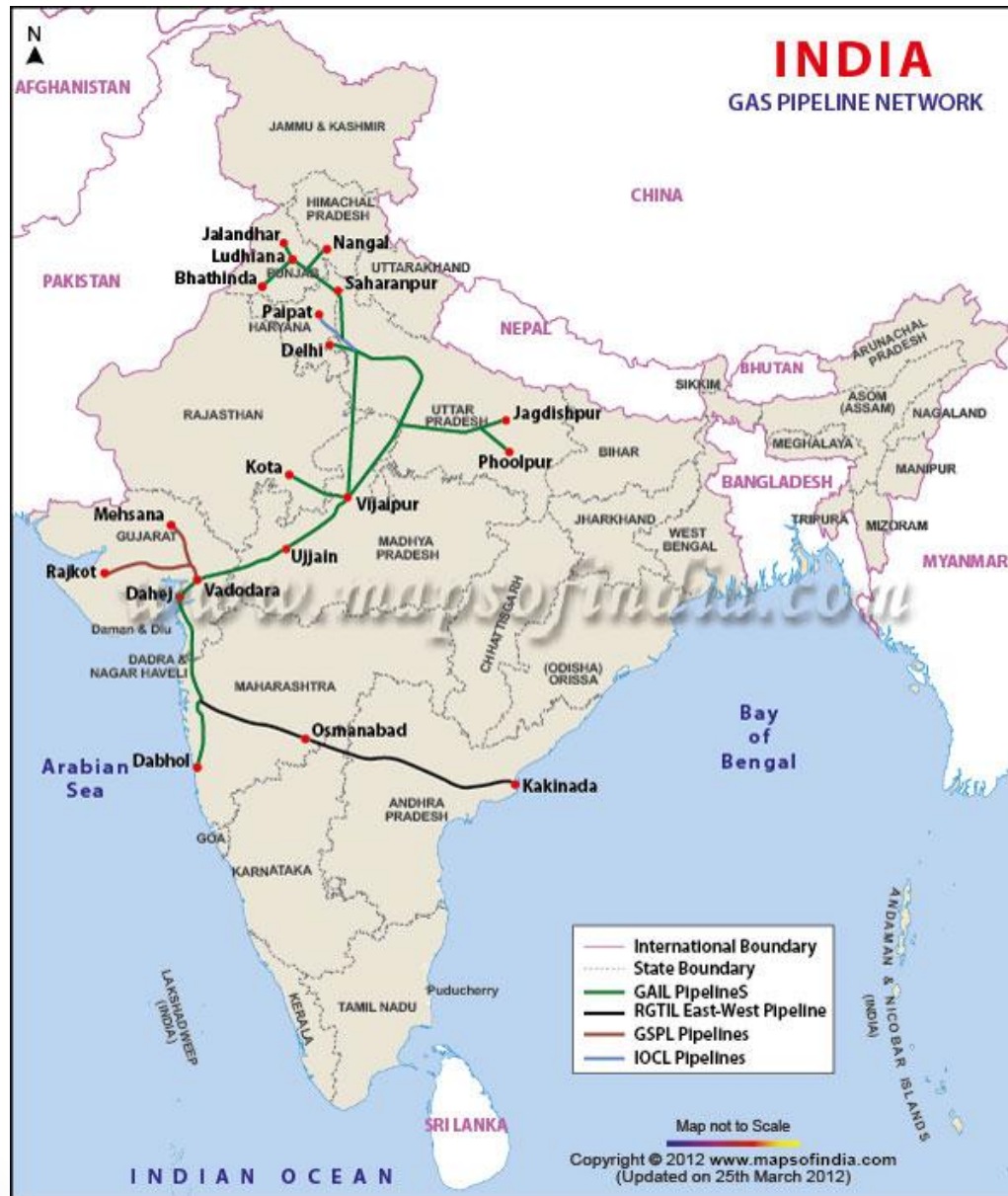
India-Pakistan: Electricity Cooperation

- India can collaborate on utilizing coal resources in Pakistan - One of the world's largest lignite deposits, spread over more than 9,000 km², with assessed potentials of 175 billion tonnes
- 36% of Pak electricity is generated from oil which is expensive and imported – frequent power cuts also leads to higher demand for oil
- Hydropower potential also remains under-utilized
- India's achievements in Renewable energy (solar, wind and biomass) – India can provide technology and finance

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 could not progress due to bilateral differences (?)
- 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)
- For Pakistan it can reduce import dependence and improve energy security
- Though Indian scenario is not too good, Pakistan energy sector is in financial mess and needs serious attention

Thank You