Energy Cooperation in South Asia

From Bilateral to Multilateral

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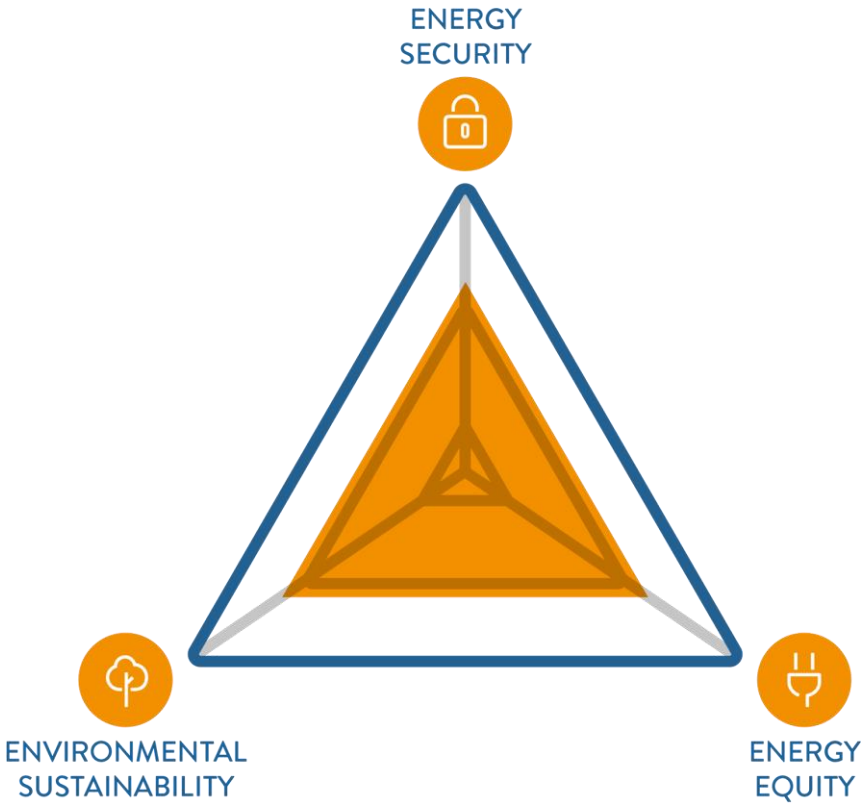
Energy Challenges in the 21st Century



Regional Energy Cooperation in South Asia

- What is the present status?
- What are the challenges?
- And, how those can be addressed?

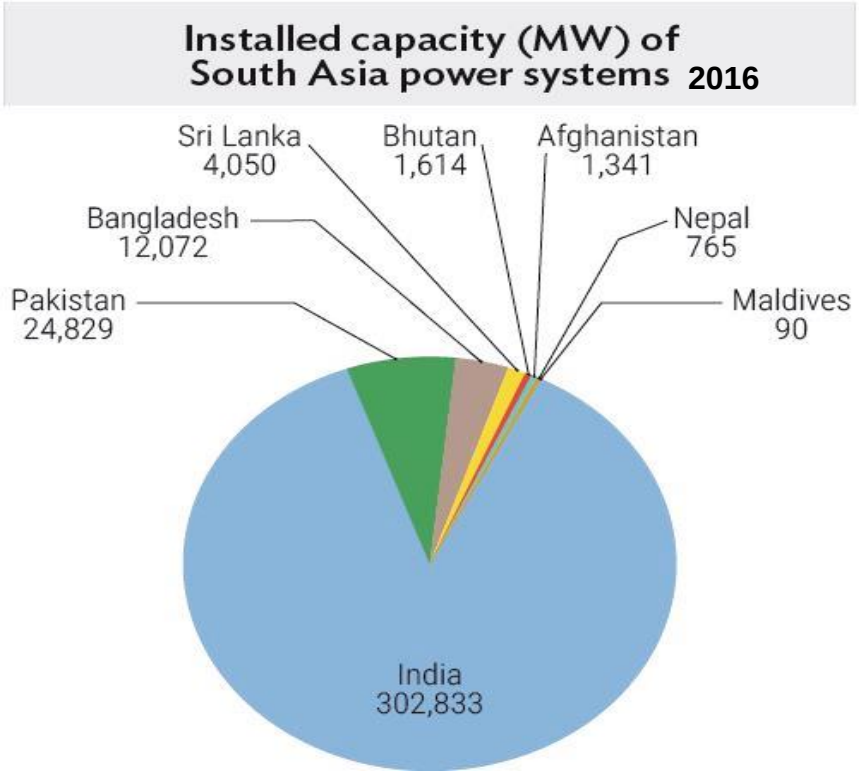
Energy Scenario In South Asia

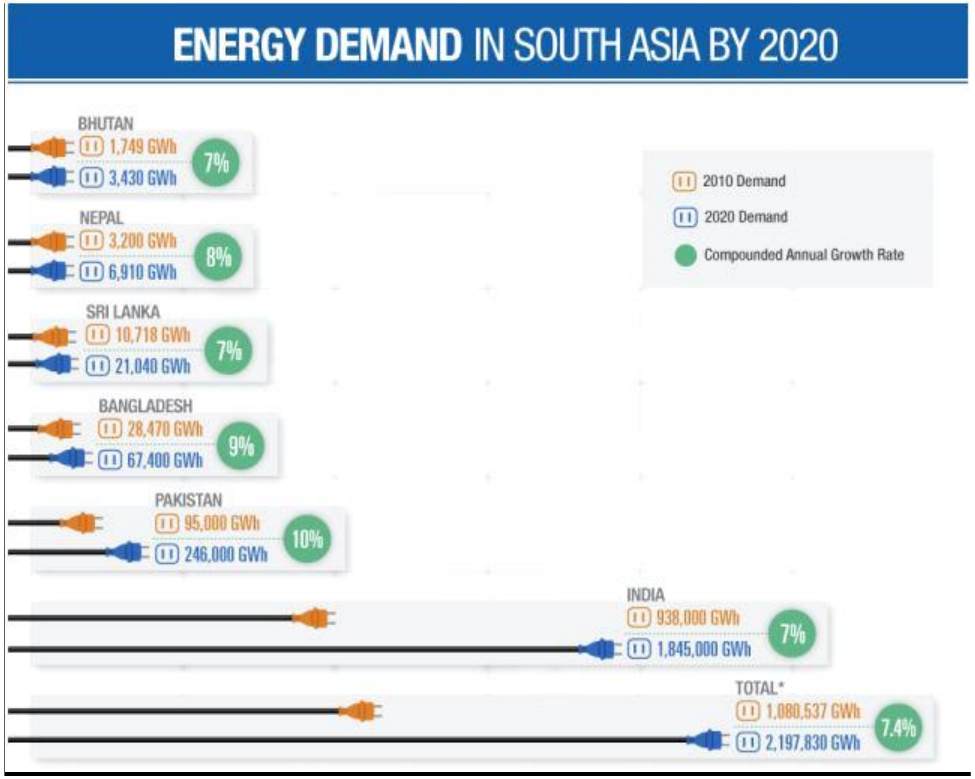
Potential Generation Capacity and Energy Endowments

	Generation Capacity			Available Resources			
Country	Wind (MW)	Utility-Scale Solar (MW)	Hydropower (MW)	Coal (MT)	Oil (MB)	Natural Gas (TCF)	Bio Mass (MT)
Afghanistan	67000	220,000	23,000	440	NA	15	18-27
Bhutan	4825	-	263,000	2	0	0	26.6
Bangladesh	-	-	4000	884	12	8	0.08
India	102,778	750,000	150,000	90,085	5,700	39	139
Maldives	-	-	-	0	0	0	0.06
Nepal	3000	-	733,000	NA	0	0	27.04
Pakistan	131,800	169000	60,000	17,550	324	33	NA
Sri lanka	24,000	-	21000	NA	150	0	12
Total	333,403	1,139,000	1,254,000	108,961	5,906	95	223

Source: Compiled from UNESCAP, *Integrating South Asia's Power Grid for a Sustainable and Low Carbon Future*, Bangkok: ESCAP Publications Office, 2018. And Sultan Hafeez Rahman, Priyantha D C Wijayatunga, Herath Gunatilake, P N Fernando, *Energy Trade in South Asia: Opportunities and Challenges*, Mandaluyong City, Philippines: Asian Development Bank, 2012, p. 15.

Energy Scenario In South Asia





Bilateral Initiatives in South Asia

Bangladesh-India:

- 1,110 MW power imported from India
- *Ongoing Projects:* Multiple power plants in Bangladesh
  - 1,320 MW plant in Rampal
  - 750 MW plant in Meghnaghat

India-Nepal:

- Cross border electricity transmission capacity is about 1500MW
- Four hydroelectric schemes implemented
- *Upcoming Projects:* 900 MW plant on the Arun River.

Bilateral Initiatives In South Asia

Bhutan and India:

- Bhutan's power export to India is about 1,000-1,200 MW
- Total transfer capacity will increase to 4250MW.
- Indian Financial support for hydropower

Srilanka- India:

- MoU signed with plans of energy cooperation
- *Specific Projects:*
  - 500 MW capacity LNG fired power plant in Kerawalapitiya;
  - 50 MW solar power plant in Sampur

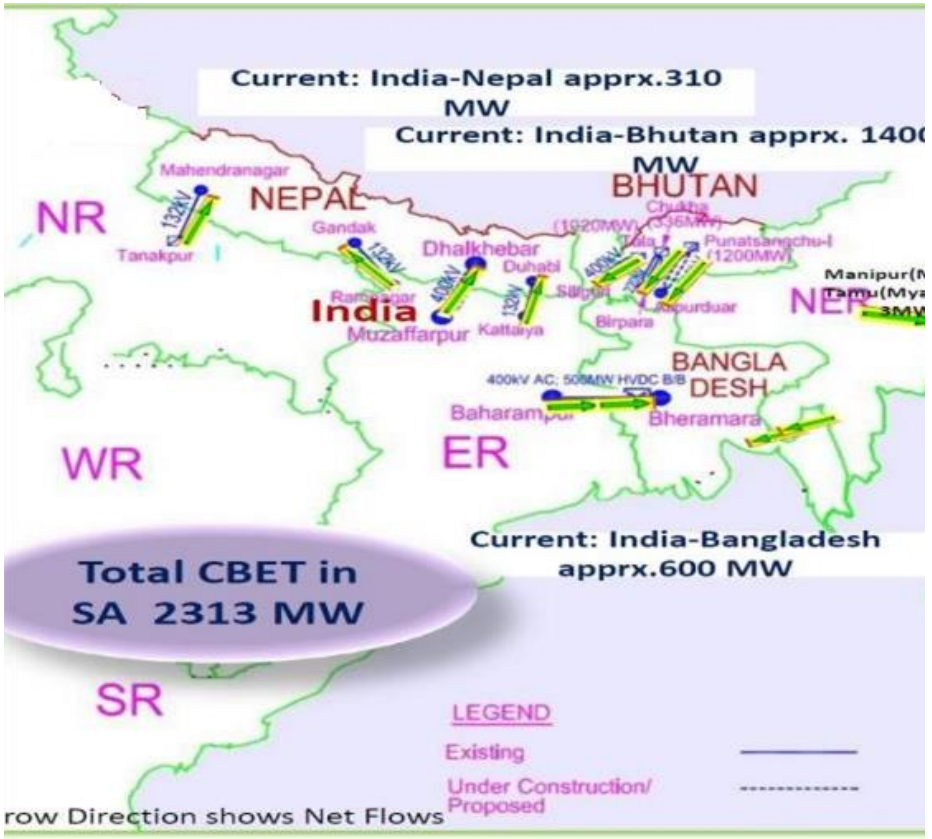
Bilateral Initiatives in South Asia

Nepal-Bangladesh

MoU for cooperation in the energy sector signed in 2018

Bangladesh-India-Bhutan

A trilateral investment of 1,125 MW hydro-power project (Dorjilung hydropower project) in discussion



Multilateral Initiatives In South Asia

SAARC

2000: Technical Committee on energy was set up.

2005: SAARC Energy Center in Islamabad.

2009: South Asia Energy Ring

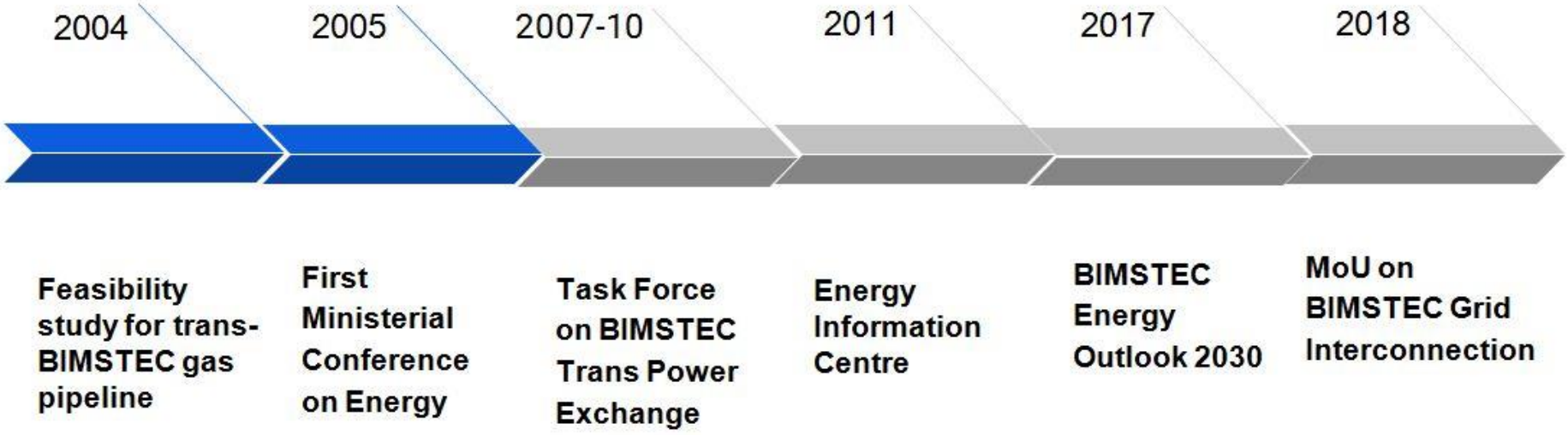
2014: SAARC Framework Agreement for Energy Cooperation (Electricity) signed.

BBIN

- Joint Working Groups (JWG) on on Water Resources Management and Power/Hydropower" meetings
- Meetings held in 2015 and 2016

Multilateral Initiatives In South Asia

BIMSTEC Energy Cooperation Timeline



Key Observation

- Bilateral Initiatives are more successful than Multilateral ones
- Multilateral Initiatives confined with ‘Soft’ Component of the Energy Connectivity

Challenges of Energy Cooperation

i) Technological

ii) Institutional

iii) Financial and

iv) Political

Challenges (contd.)

Technological: none is un-surmountable.

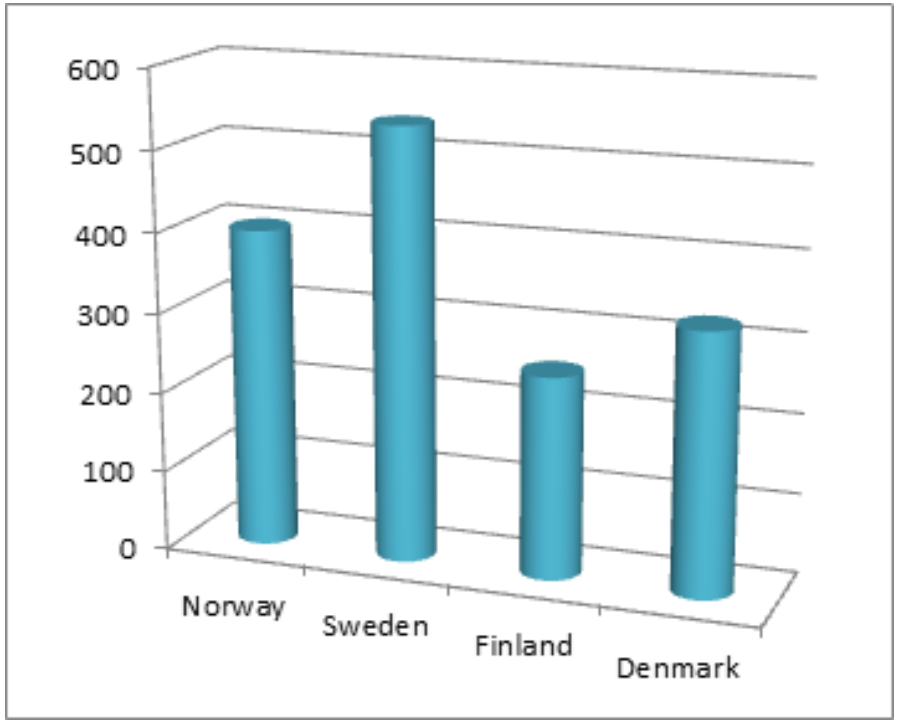
Institutional: Many of the thorny issues have been dealt already in several studies.

Financial: World Bank and ADB have long been advocating for multilateral energy cooperation. So, money should not be a problem.

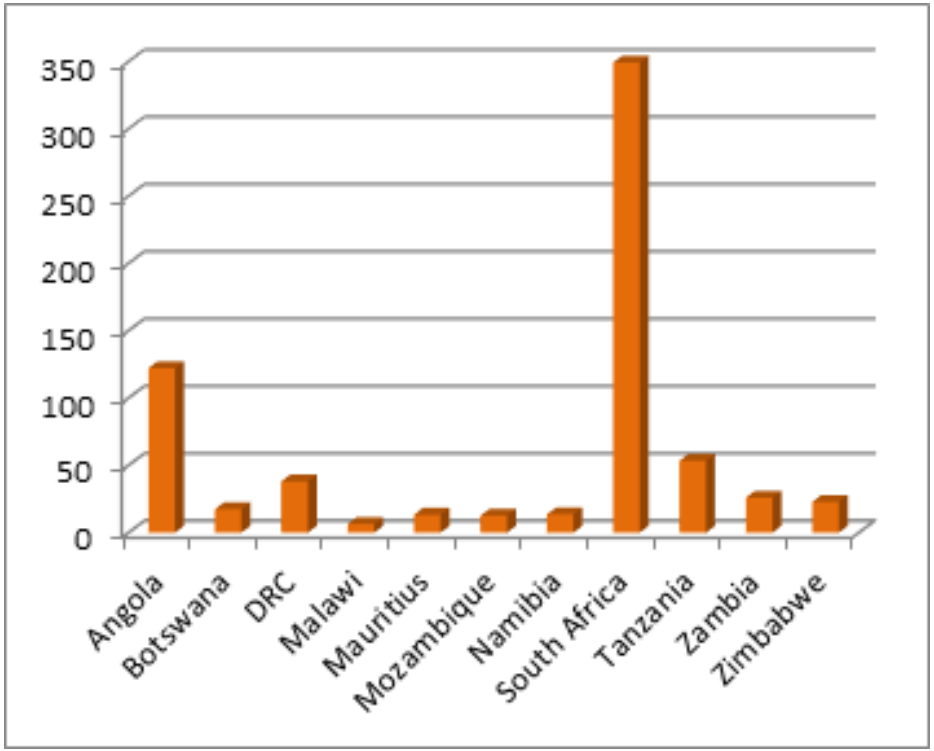
Political: Lack of political will and trust deficit - ***This is the real barrier.***

To delineate the factors that are obstructing a successful energy cooperation in South Asia, I will compare the situation of South Asia with Nord Pool and SAPP.

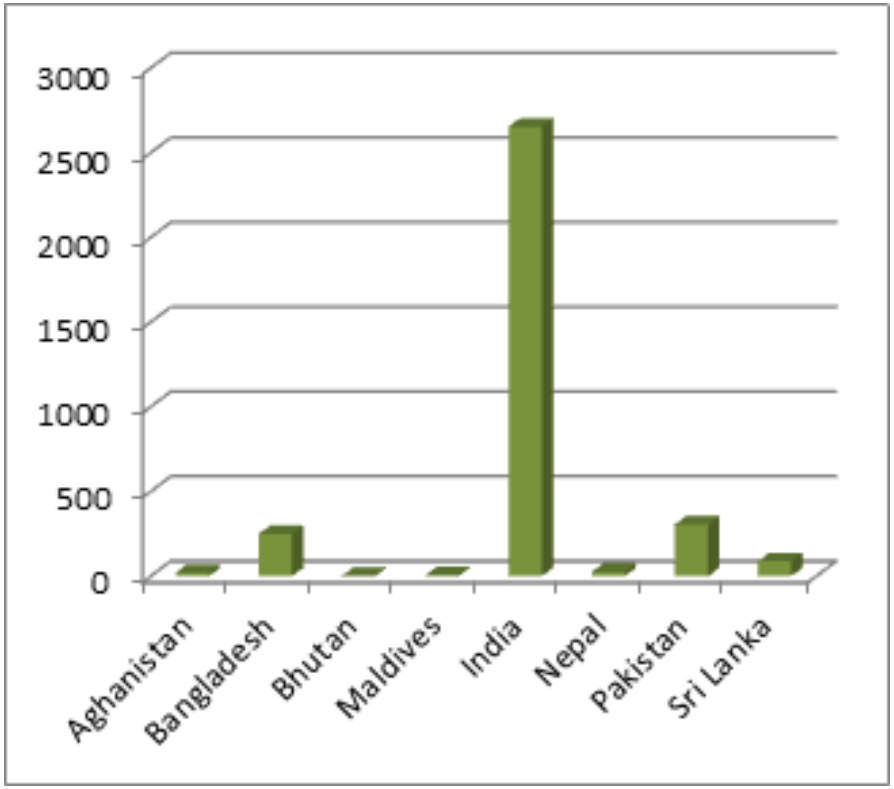
GDP, Nord Pool Countries (Billion USD)



GDP, SAPP Countries (Billion USD)



GDP, South Asian Countries (Billion USD)



- Main actors of Nord Pool are developed economies who are more or less similar in terms of GDP and GDP per capita.

- In case of SAPP, South Africa clearly stands up among other member countries, a situation close to South Asia.

Against this backdrop of differing comparative economic context, it is natural that the driver of energy cooperation would not be similar for these three regions.

Driver of cooperation (Nord Pool)

- Countries are self sufficient in energy.
- Pursuit of gain emanating from connectivity and cross border power trade led them to create and expand Nord Pool.

Energy Balances, Nord Pool Countries (ktoe)

Country	Production	Import	Export	Consumption
Finland	18159	26328	9790	24716
Denmark	16843	18653	16402	13631
Sweden	35080	28599	12034	32341

Driver of Cooperation (SAPP)

- South Africa was the energy leader.
- On the northern side DRC, Zambia and Angola were energy surplus country.
- Hydro rich North and Coal rich South.

Generation Capacity at the Outset of SAPP (1996)

Surplus country	Capacity (MW)		Deficit country	Capacity (MW)
South Africa	2160		Zimbabwe	388
DRC	1985		Botswana	128
Zambia	604		Lesotho	76
Angola	145		Swaziland	75
Malawi	7		Mozambique	36
			Namibia	14
			Tanzania	1

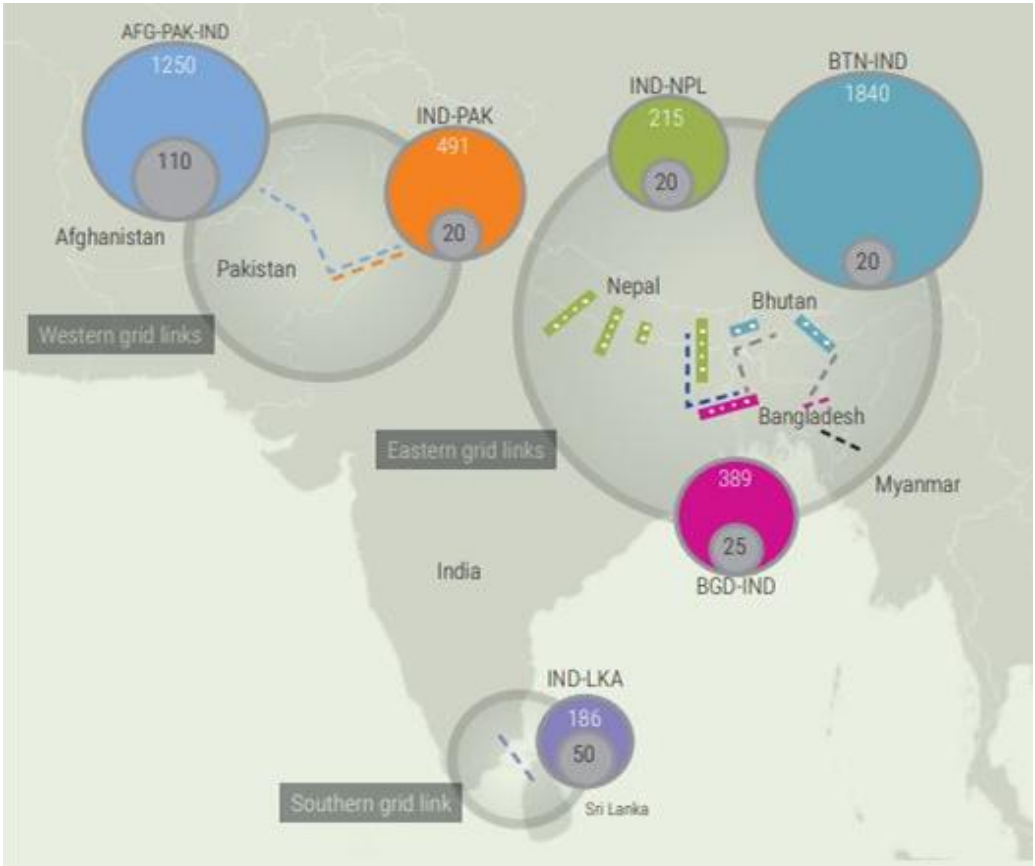
Driver of Cooperation (SAPP)

- South Africa’s surplus in cheap electricity.
- 1992 drought triggered the cooperation.
- Fitted well in South Africa’s agenda of promoting regional solidarity in post apartheid period.

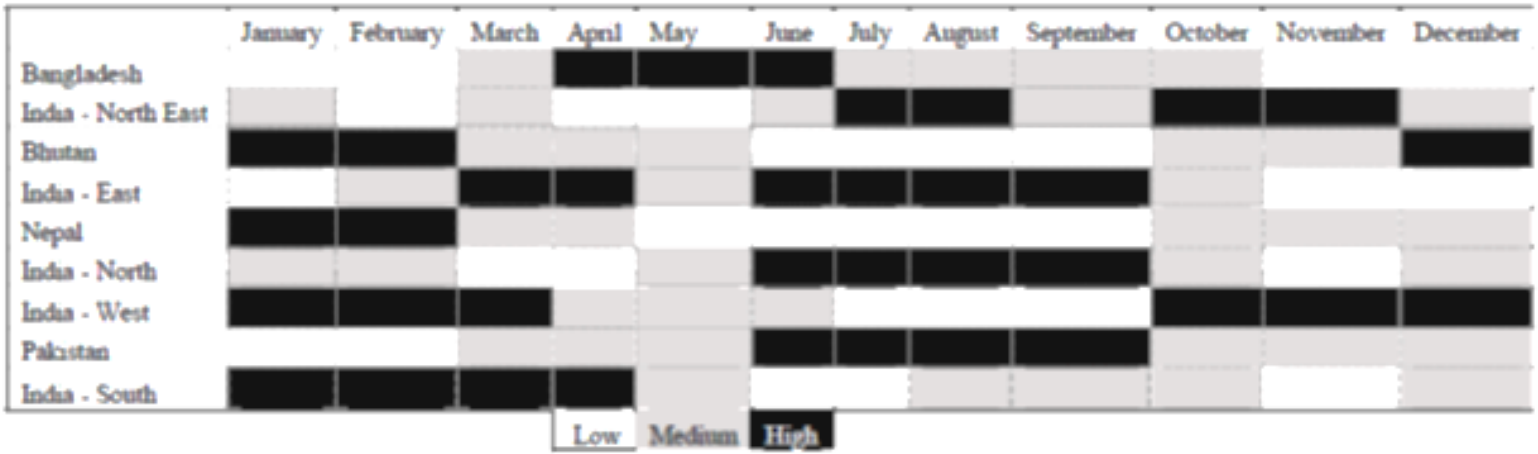
Prospect of South Asia for Energy Cooperation

- Diversity in resource endowment.
- Prospect of huge gains from increased electricity integration.
- Most important of all, presence of strong complementarity.

Energy Connectivity Gain in South Asia



Seasonal Complementarity in Monthly Electricity Load Profile in South Asia

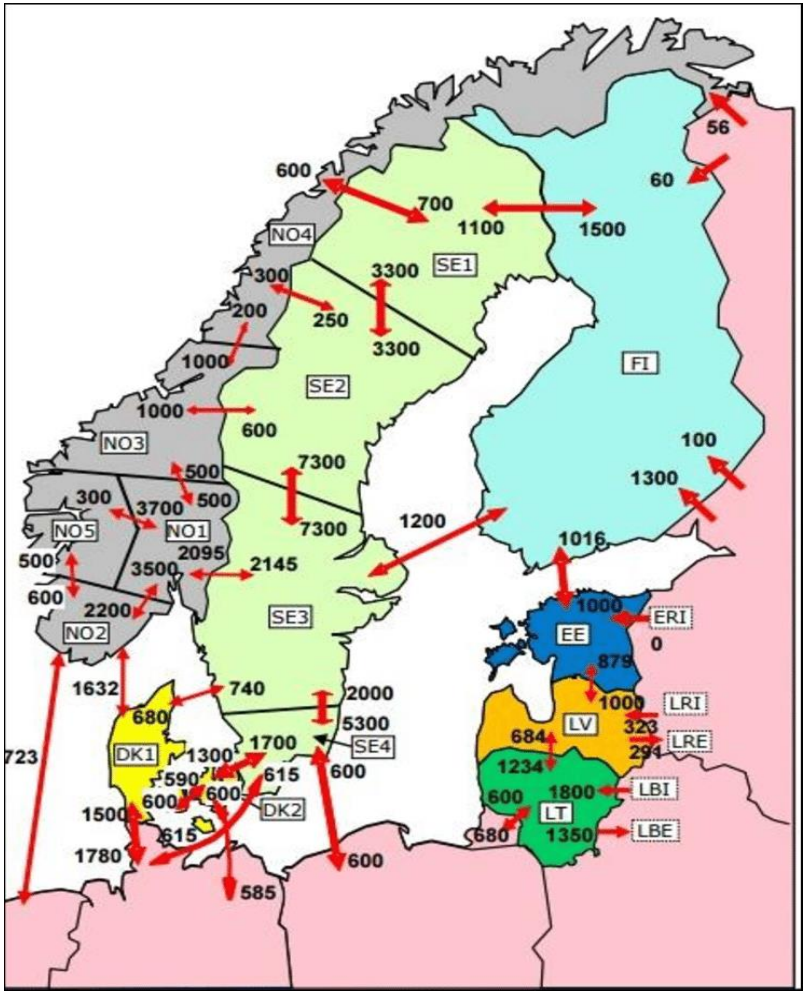


- In terms of comparative size of economies, South Asia is not very different from South Africa.
- Like South Africa and Nord Pool countries, South Asia also enjoys diversity in resources.
- ***Why then Nord Pool and SAPP succeeded but South Asia not so much?***

- One obvious reason is **geography.**

- South Africa had no option but to go for building regional grid if it wants to sell its excess electricity.
- Same is true for Nord Pool.
- But this is not the case for South Asia.

Nord Pool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2145
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879
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1632
740
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SAPP

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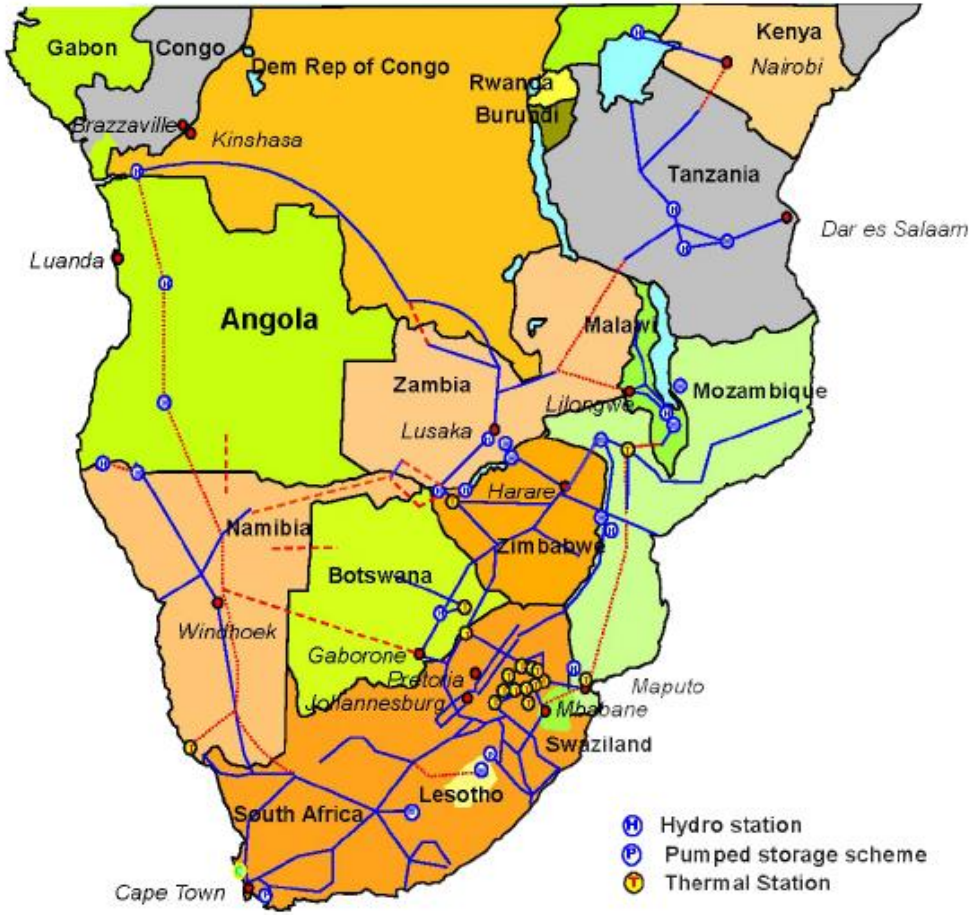
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Malawi
Zambia
Mozambique
Lusaka
Lilongwe
Harare
Namibia
Zimbabwe
Botswana
Windhoek
Gaborone
Pretoria
Maputo
Johannesburg
Mbabane
Swaziland
Lesotho
South Africa
Cape Town
Hydro station
Pumped storage scheme
Thermal Station

South Asia


AFGHANISTAN
PAKISTAN
NEPAL
BHUTAN
BANGLADESH
INDIA
MYANMAR
SRILANKA
MALDIVES

- Nord Pool countries, as equal partners, were open for cooperation.
- In case of SAPP, compulsion was there on both sides to engage in multilateral cooperation.
- But in case of South Asia, neither there is enough openness for cooperation nor there is enough compulsion for cooperation.

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Way Ahead

Continue bilateral cooperation

- Experience of other energy cooperations show that regional cooperation emerges from bilateral cooperation.
- India can play a central role in translating the bilateral connectivity to a regional one.

Way Ahead

Strengthen political will for energy cooperation

- Think Tanks, international bodies and CSOs can play a significant role.

Way Ahead

Address trust deficit

- Increase intra-regional trade.
- Increase people to people connectivity.

Way Ahead

Start regional energy cooperation from the least controversial area

- Research
- Feasibility studies
- Manpower development

THANK YOU