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# BIMSTEC Energy Outlook for Energy Integration : Overview, Energy, Capacity, Policy Frameworks

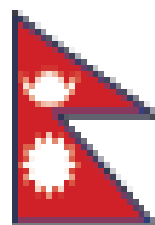
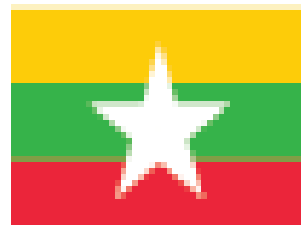
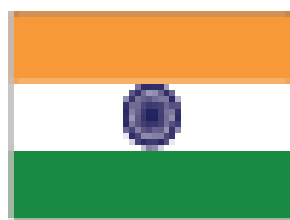
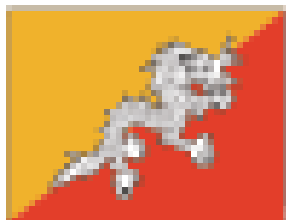
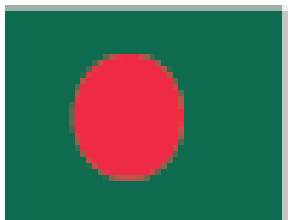


**Dhaka, Bangladesh**

**25<sup>th</sup> Feb 2020**

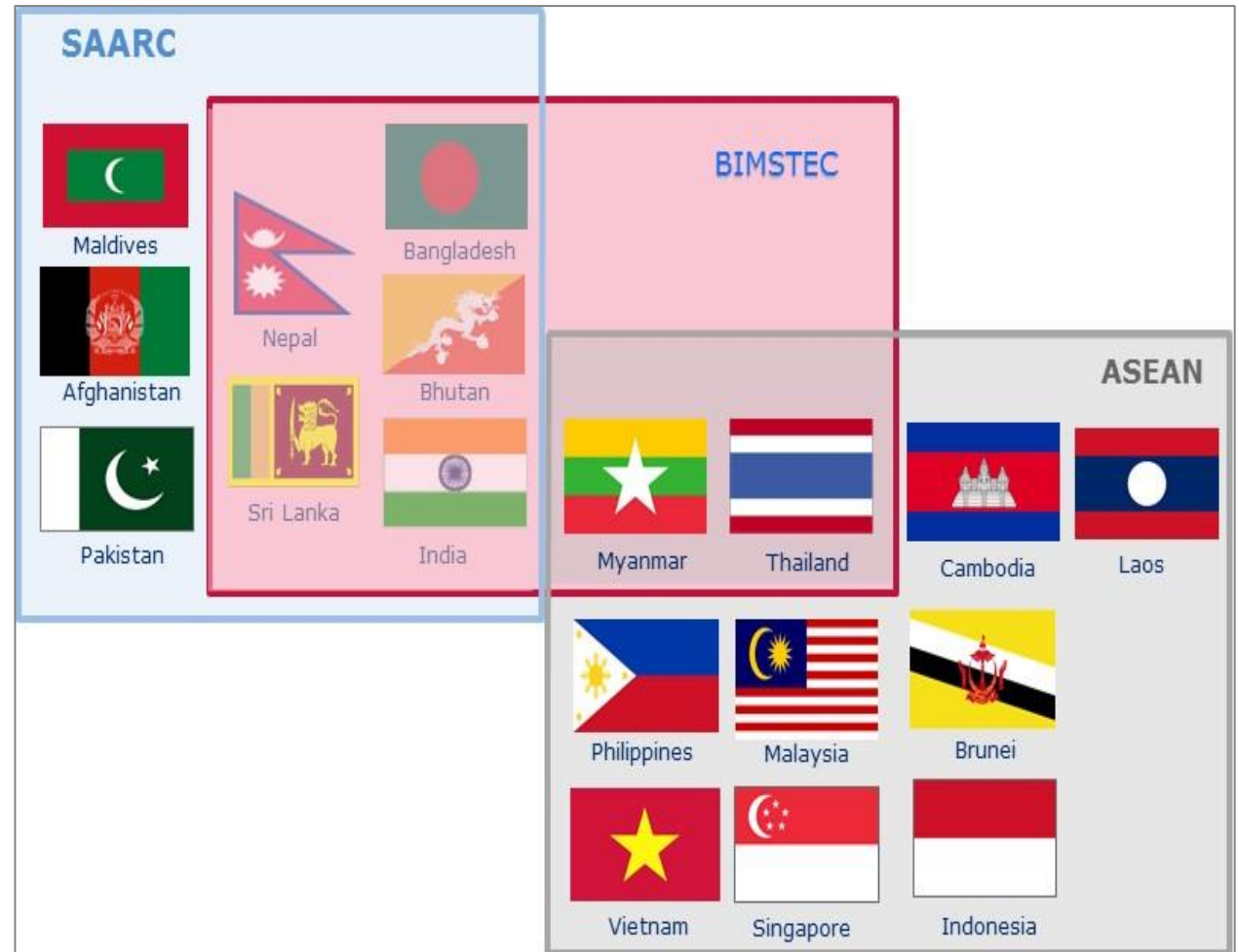


***Pankaj Batra, Project Director SARI/EI/IRADe***



# BIMSTEC - The bridge between South Asia & South East Asia

- The Bay of Bengal Initiative for Multi-Sectoral Technical and Economic Cooperation (BIMSTEC) is a regional organization comprising seven Member States around the Bay of Bengal
- Established in June 1997 with four members (Bangladesh, India, Sri Lanka and Thailand Economic Cooperation). Myanmar joined in December 1997.
- The group expanded in 2004 with the admission of Nepal and Bhutan





## About BIMSTEC

- BIMSTEC is a sector-driven regional cooperation organization.
- Began with identified **six priority sectors of focused cooperation, including energy**; however, **over time, eight more sectors were identified for cooperation.**
- Given the importance of **energy** in the economic development of the country, various initiatives were taken in the
  - a) **oil and gas sector**
  - b) **power/electricity sector**
  - c) **non-conventional sources of energy.**

# BIMSTEC Resource Potential

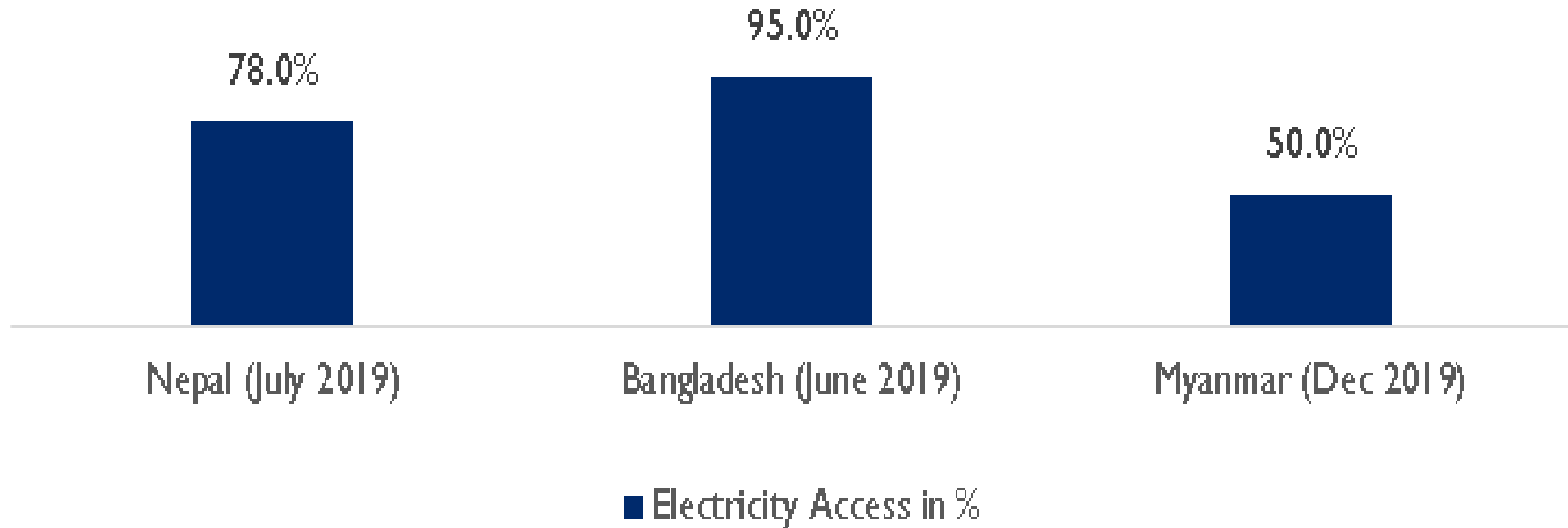
Resources Country	Coal (Million Tonnes)	Oil (Million Tonnes)	Gas (Trillion Cubic Feet)	Bio- mass# (MT)	Hydro (GW)	Renewable * (GW)
<b>Bangladesh</b>	3,300	-	5.7	218	-	3.67
<b>Bhutan</b>	1	-	-	625	23.8	12.76
<b>India</b>	3,19,020	600	45.5	4,150	145	1000
<b>Myanmar</b>	120	64.3	41.3	3,303	100	60.7
<b>Nepal</b>	<1	-	-	1,056	42	4.829
<b>Sri Lanka</b>	-	-	-	155.5	2	11.6
<b>Thailand</b>	1,063	-	6.6	1,838	15.2	23.0
<b>BIMSTEC Total</b>	<b>3,23,504</b>	<b>664</b>	<b>99</b>	<b>11,346</b>	<b>328</b>	<b>1,117</b>

- EITHER RESOURCE IS NIL OR VALUE LESS THAN 0.5; \*SOLAR, WIND & SMALL HYDRO; # FOREST & OTHER WOODDED LAND)  
 Source: BP Statistical Review 2019; Sectoral and National Plans of individual countries, IRENA, UN, ADB, Government Statistic Report, Government Portals, European Journal of Sustainable Development Research

# Drivers of economic growth in BIMSTEC

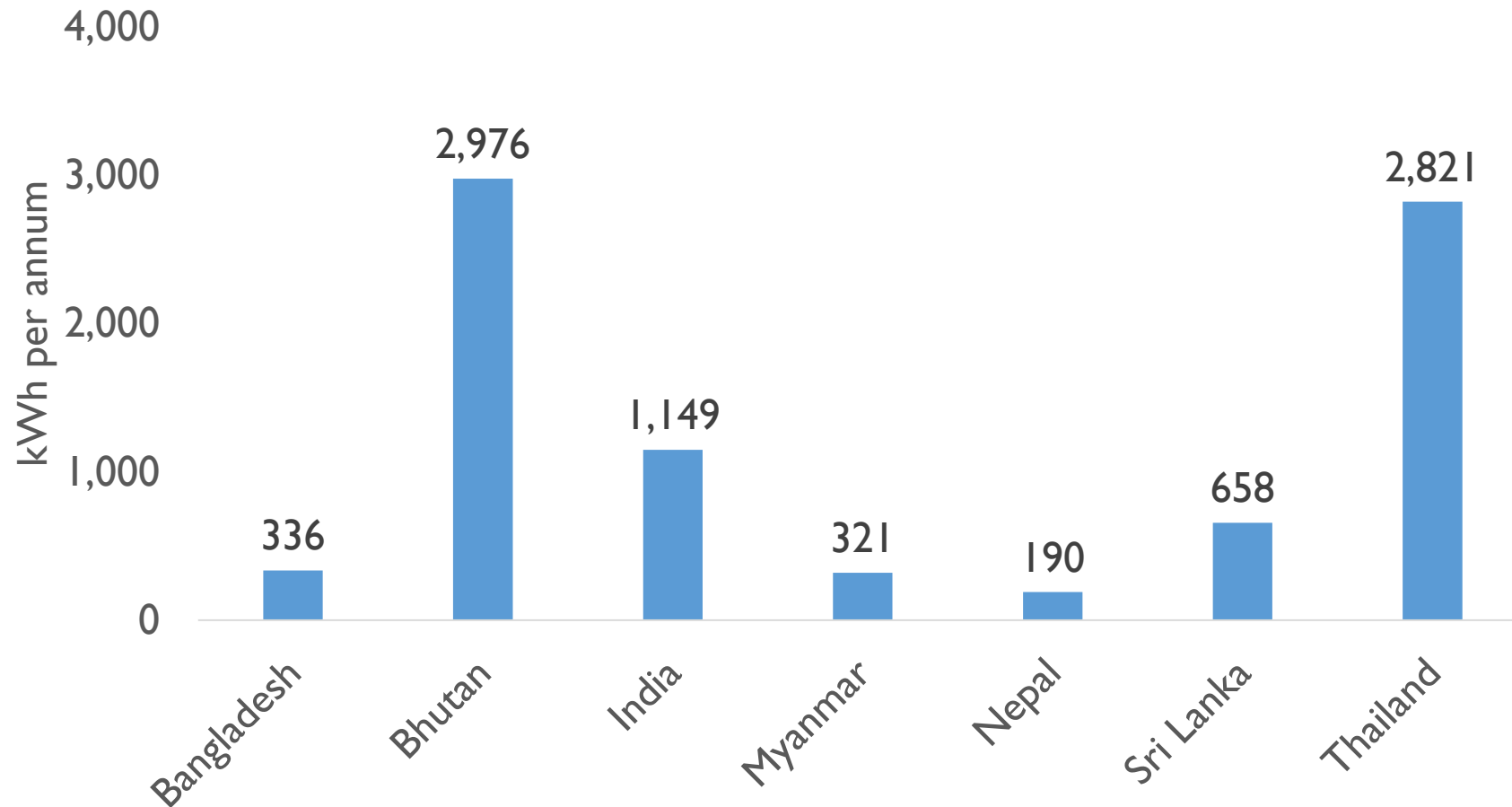
- Energy Access
- Per capita electricity consumption
- Per capita GDP and its growth
- Foreign Direct Investment
- Cheap electricity

## Countries with low electricity access in BIMSTEC



Source: NEA Annual Report, BPDB Annual Report, [Press Release of Myanmar's President's Office](#)

## Per-capita Electricity Consumption - FY18



Values for Bhutan, Myanmar and Nepal are calculated from sales and population.

Source: [BPDB Annual Report 2018](#), [Statistical Year Book of Bhutan 2019](#), [Central Electricity Authority's Executive Summary of Power Sector for March 2019](#), [Myanmar Statistical Year Book 2018](#), [NEA Annual Report 2019](#), [Nepal Central Bureau of Statistics](#), [CEB Statistical Digest 2018](#), [Thailand Energy Policy and Planning Office](#)

## Economic Indicators

Country	GDP (Current Price) Per Capita	GDP (Constant Price) Growth Rate	Consumer Price Inflation	Average Exchange Rate for National Currency	
	US\$	(%)	(%)	Per US\$	Local Currency
Bangladesh	1,827 #	8.13% #	5.5	83.47	Taka
Bhutan	3,331	3.03%	2.7	68.39	Ngultrum
India	1,899	6.80%	4.9	68.39	Indian Rupee
Myanmar	1,185	6.80%	6.8	1,429.81	Kyat
Nepal	1,034	6.81%	4.1	108.93	Nepali Rupee
Sri Lanka	4,104	3.21%	2.1	162.46	Sri Lankan Rupee
Thailand	7,069	4.00%	1.1	32.31	Baht
<b>BIMSTEC</b>	<b>2,091##</b>	<b>6.46%##</b>			

# - CY/FY 2019; All other figures related to CY/FY 2018

## - Weighted average with population as the weight ### - Weighted average with total current GDP as the weight

Source: [Bangladesh Statistical Yearbook 2018](#), [Bangladesh Economic Review 2019](#), [Bhutan Statistical Year Book 2019](#), [Bhutan National Accounts Statistics 2019](#), [India Statistical Year Book 2018](#), [India National Accounts Statistics 2019](#), [Myanmar Statistical Year Book 2018](#), [Myanmar Statistical Information Service](#), [Nepal Central Bureau of Statistics](#), [Sri Lanka Statistical Pocket Book 2019](#), [Thailand Statistical Year Book 2019](#), World Bank's World Development Indicators 2018, ADB

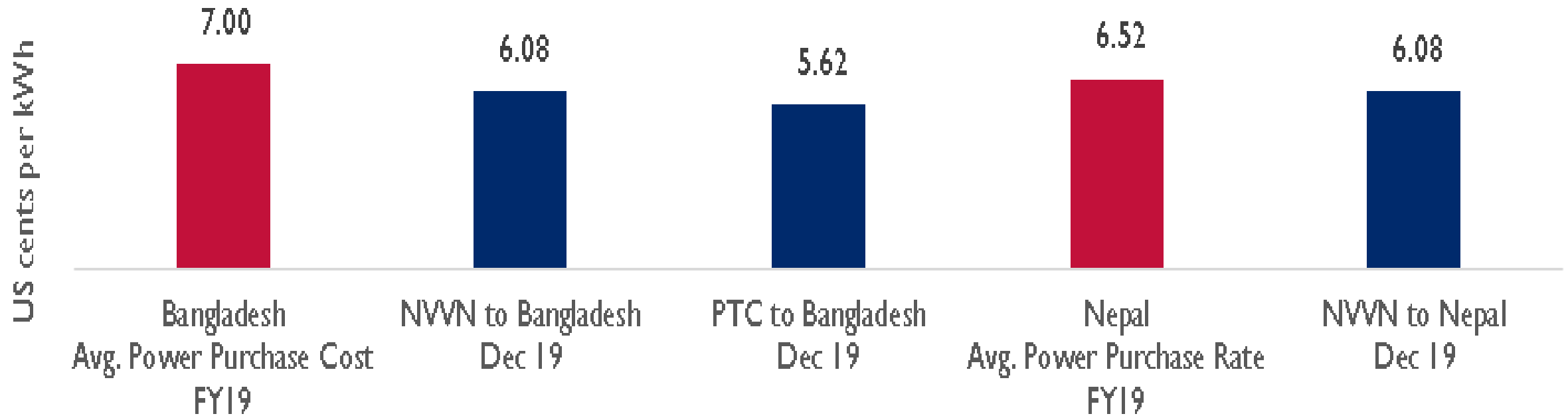


# Foreign Direct Investment

Grouping	FDI Inflows (USD Billions)	Share in world FDI (%)	FDI Inflows (USD Billions)	Share in world FDI (%)
	2017		2018	
<b>ASEAN</b>	144.2	10%	148.6	11%
<b>BRICS</b>	269.5	18%	261.28	20%
<b>BIMSTEC</b>	54.4	3.6%	61.7	4.8%
<b>SAARC</b>	47.3	3.2%	50.7	3.9%

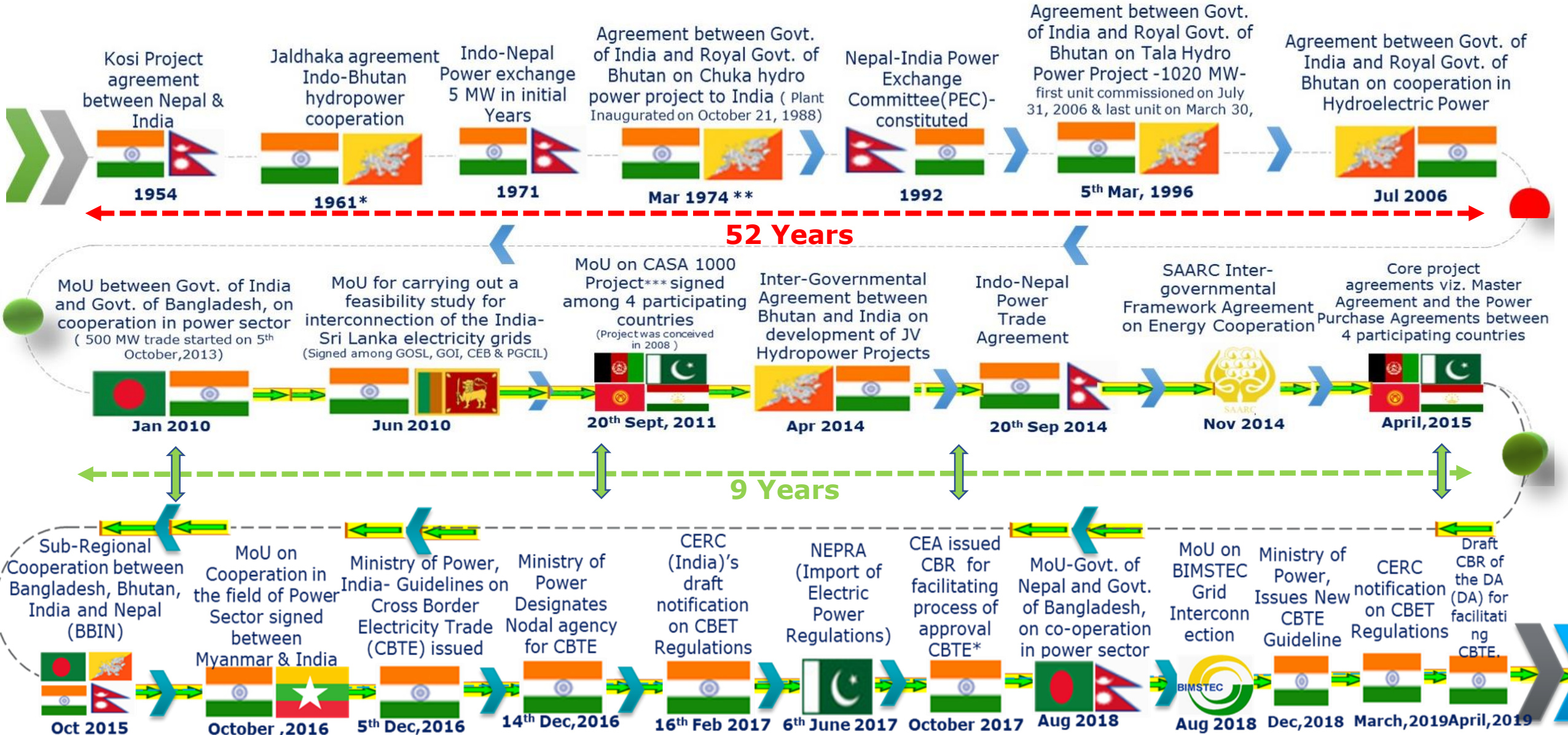
*Source: UNCTAD Country Reports 2018*

## Cheaper costs of imports



Source: BPDB, NEA, NVVNL, PTC India

# Evolution of Energy Cooperation, CBET- Key Policy & Regulatory Development



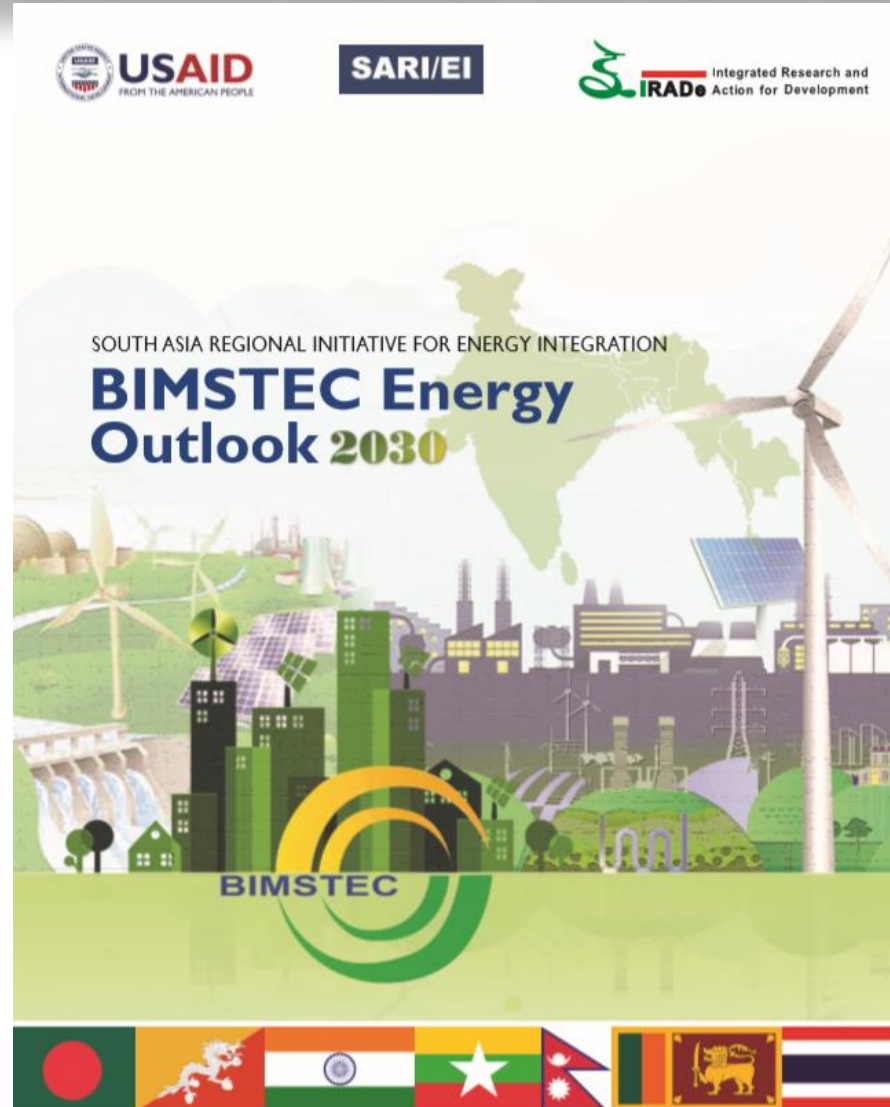


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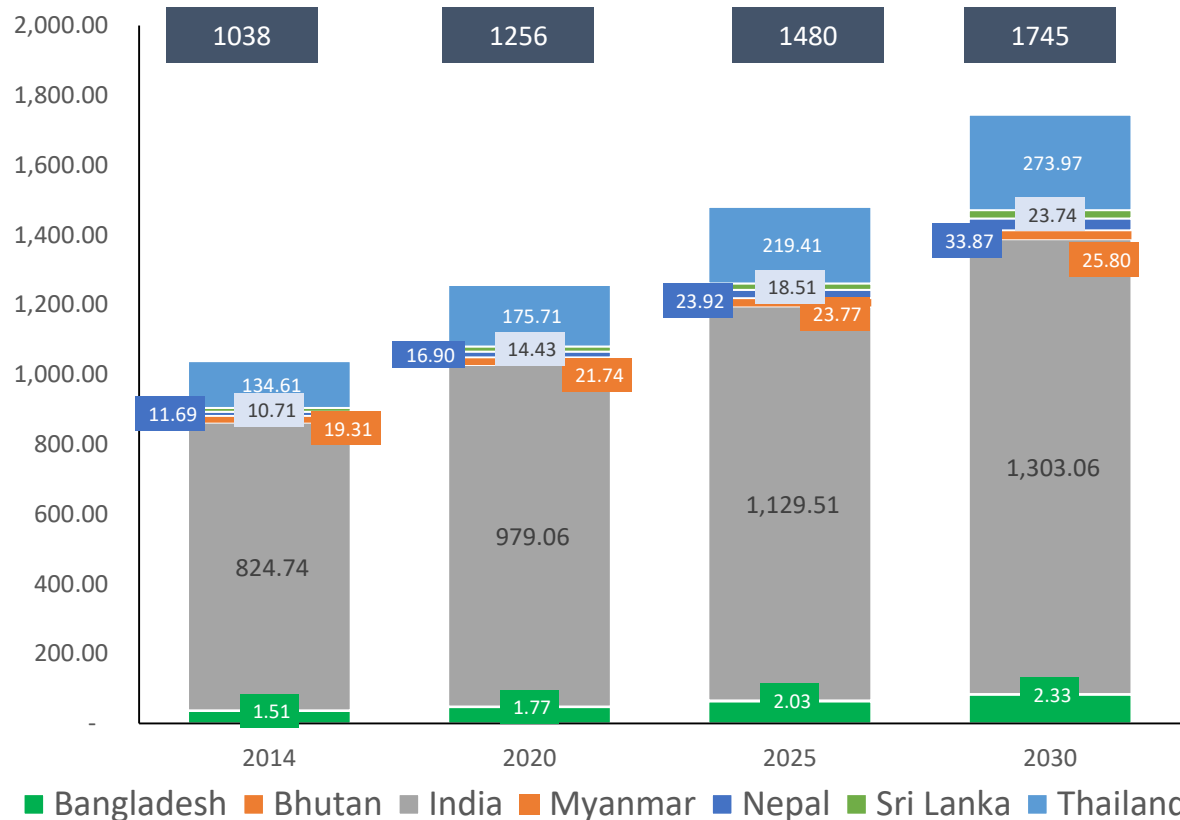
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# BIMSTEC ENERGY OUTLOOK 2030

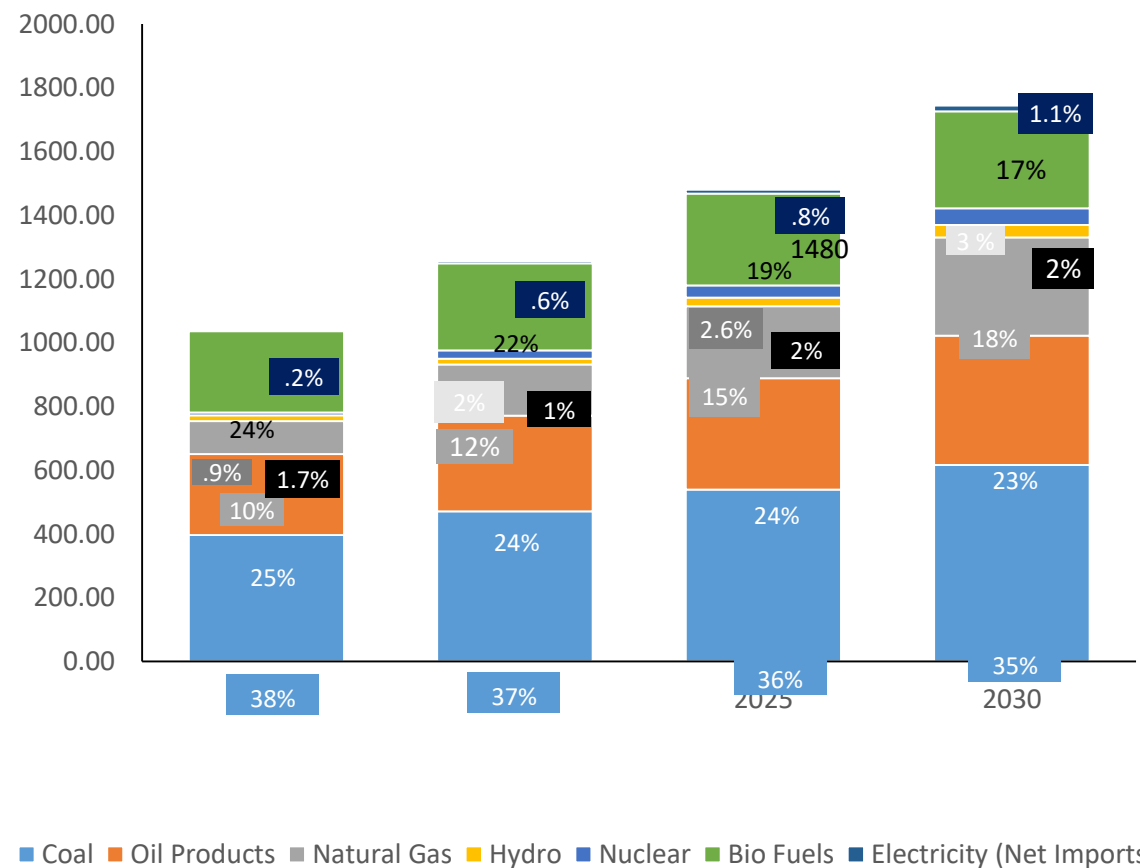


# Primary Energy Supply Forecast – Expected to grow at CAGR 3.3% for the period 2014-30

Country-wise

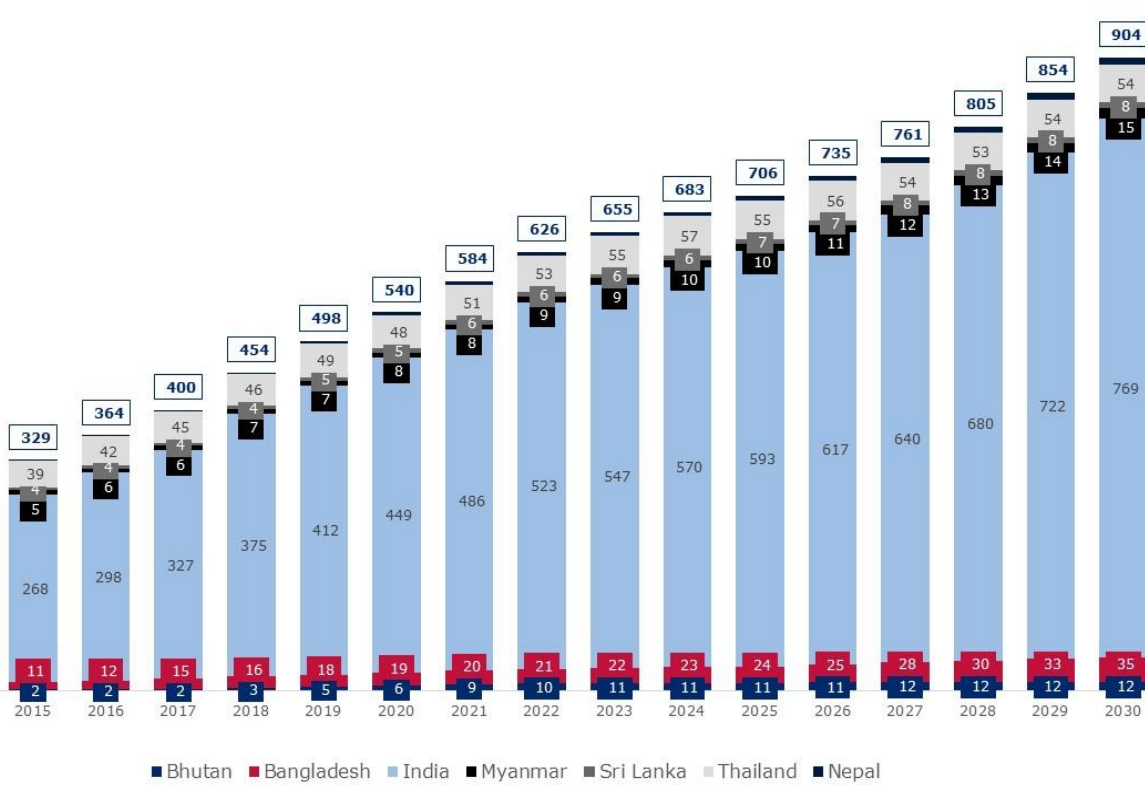


Source-wise

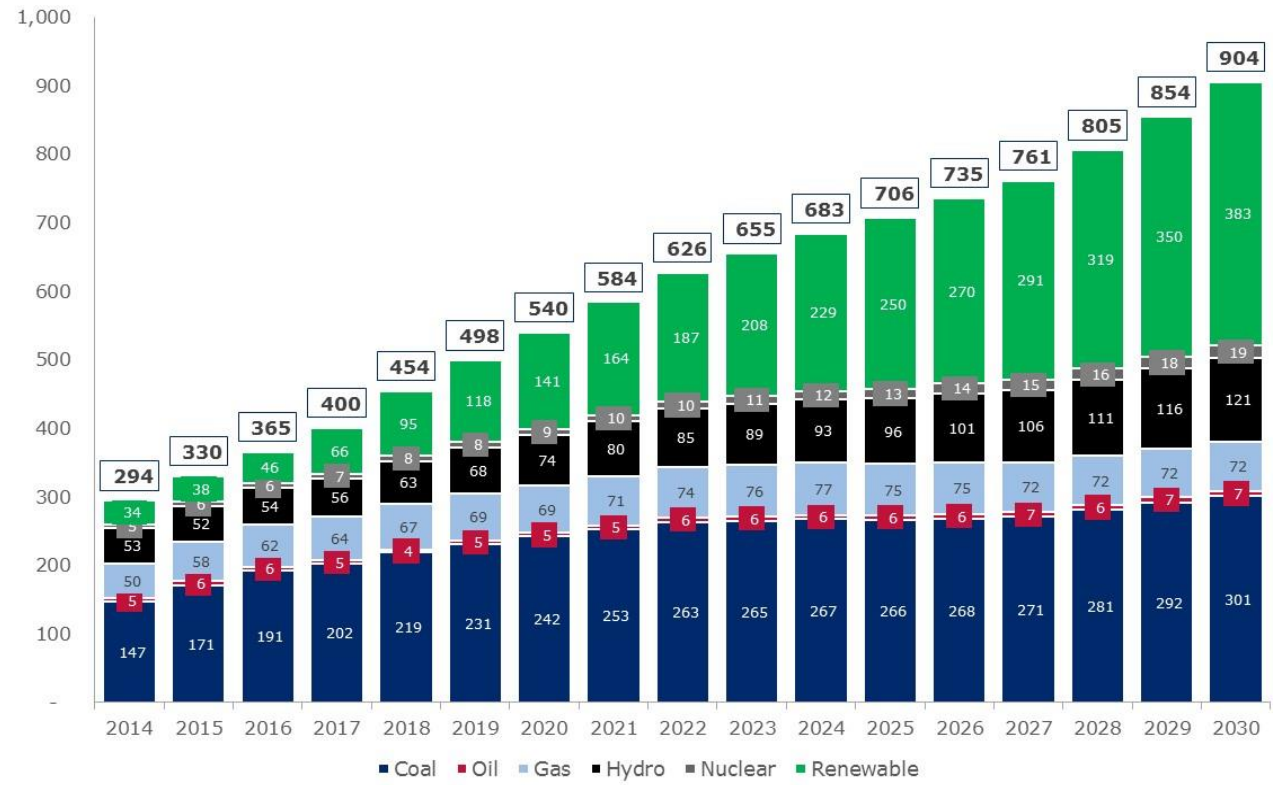


**BIMSTEC's generation capacity is projected to increase three fold, from 364 GW in 2014 to almost 904 GW in 2030**

Country-wise

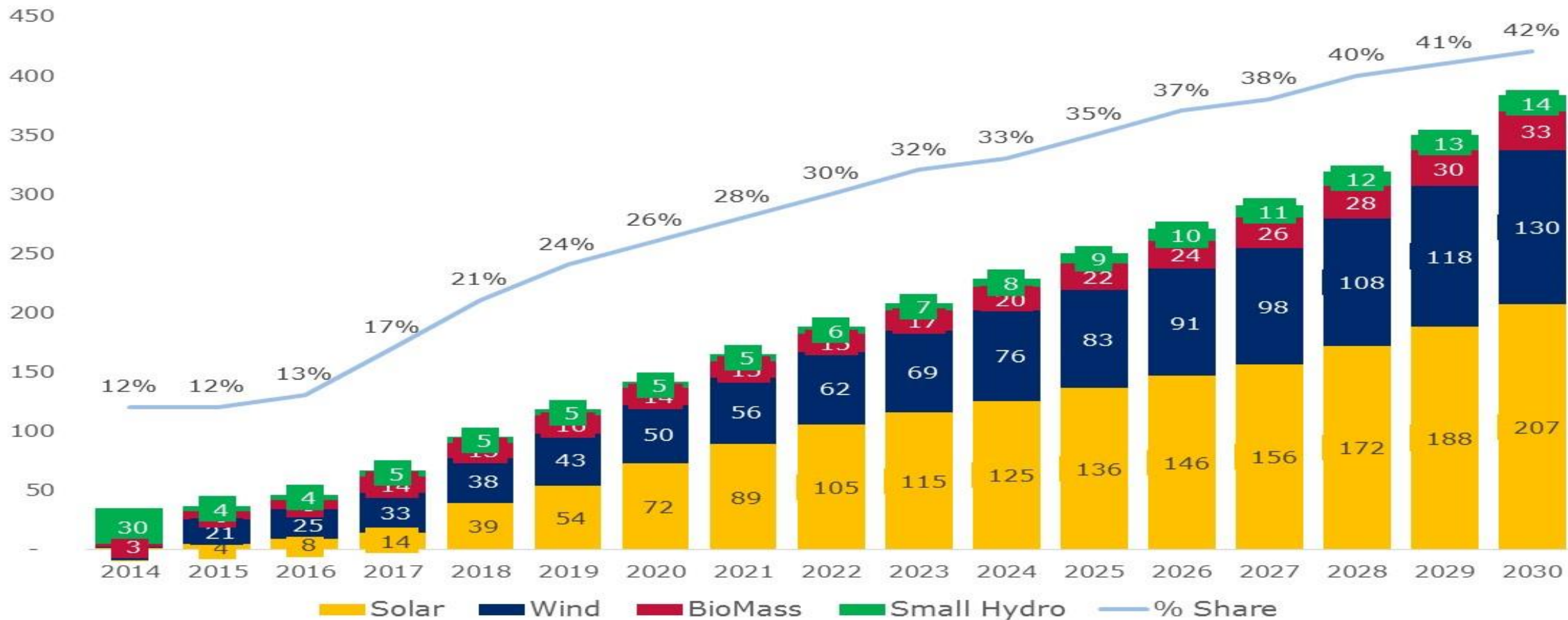


Source-wise





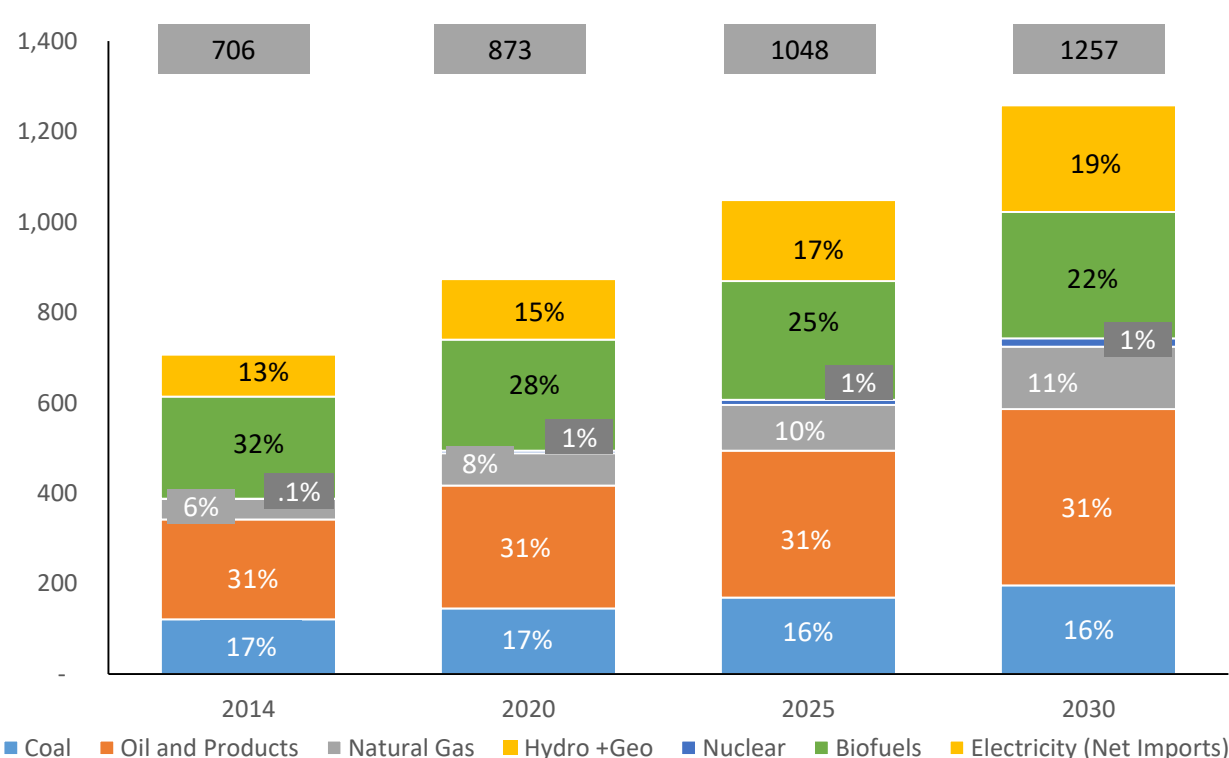
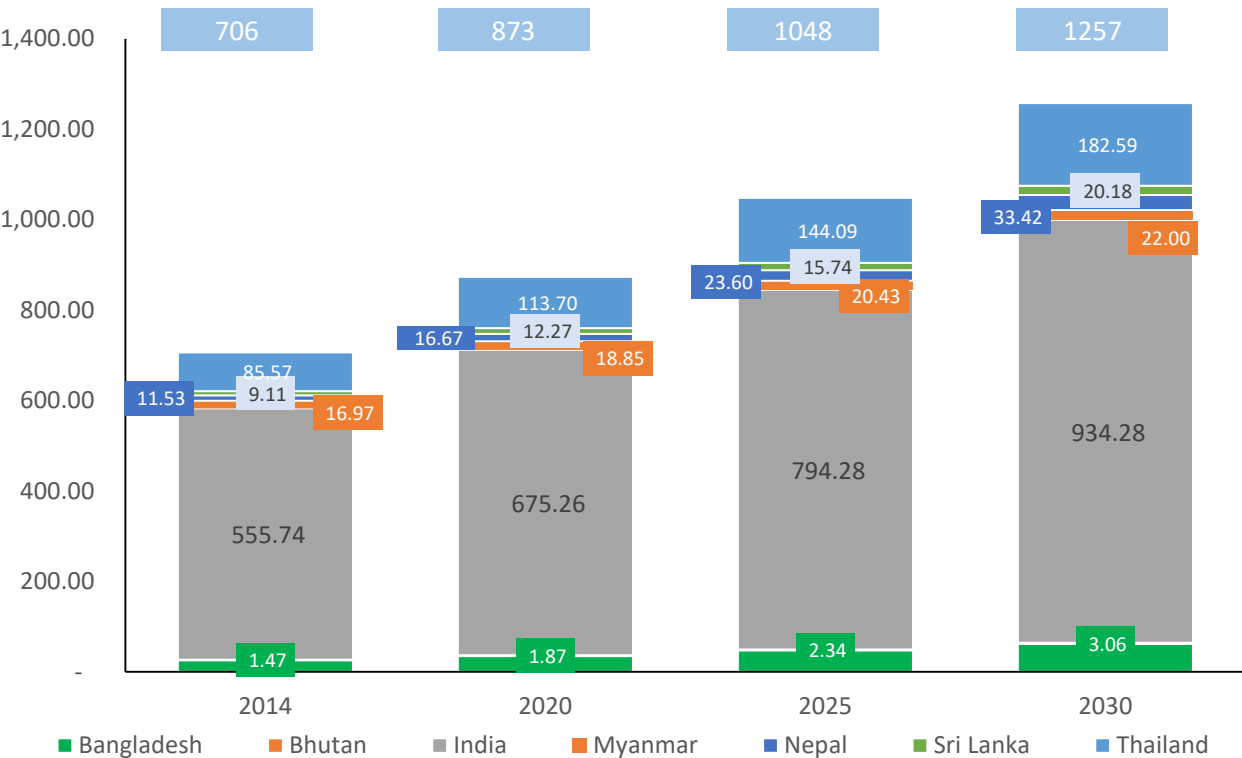
Renewable based capacity addition is expected to grow at an annualized rate of **16.3%**



**Primary Energy Consumption in the region is likely to grow at CAGR of 3.7%**

**Country-wise**

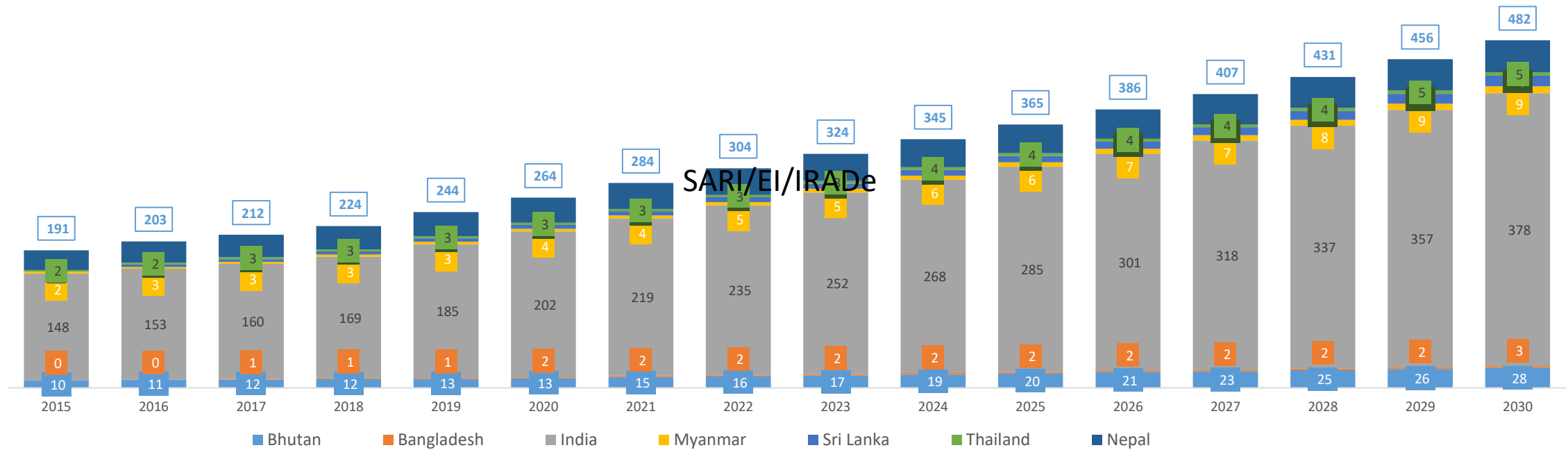
**Source-wise**



Almost 71% of the increase in energy consumption will be contributed by India and 17% by Thailand. Bangladesh is the third largest consumer of energy in the region and will contribute 6% to the overall increase in energy consumption of the region



**Peak Electricity Demand will grow at CAGR of 6.5% to reach 482 GW by 2030**



Almost three fourth of the peak demand will come from India and the remaining one fourth from the other countries in the BIMSTEC region



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# **GOI GUIDELINES FOR IMPORT/ EXPORT (CROSS BORDER) OF ELECTRICITY- 2018**

## GOI GUIDELINES FOR IMPORT/ EXPORT (CROSS BORDER) OF ELECTRICITY- 2018

### • Objective :

- a) **Facilitate import/ export** of electricity between India and neighbouring countries;
- b) Evolve a **dynamic and robust electricity infrastructure for import/ export** of electricity;
- c) Promote **transparency, consistency and predictability** in regulatory mechanism pertaining to import/ export of electricity in the country;
- d) **Reliable grid operation and transmission** of electricity for import/ export.

# Difference between old and New Guidelines

## Old (2016)

- Investment Restriction
- Only TAM (Term Ahead Market) in Power Exchange
- No explicit provision for Trilateral Power trade

## New (2018)

- No Investment Restriction
- All products of PX are allowed in cross border through Power Exchange
- Provisions for Trilateral Power trade



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**Thank You**

