

India's Energy Overview

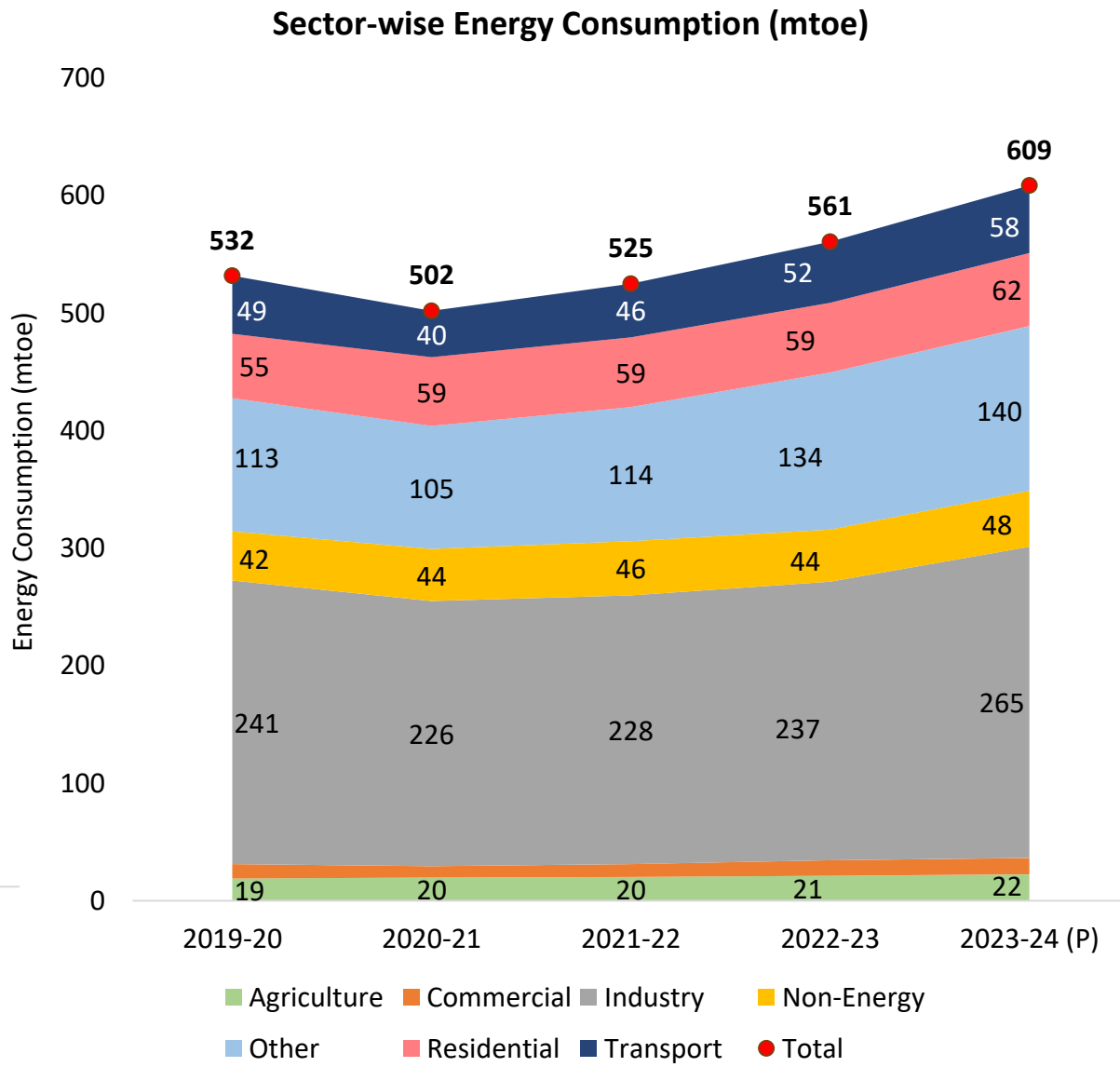
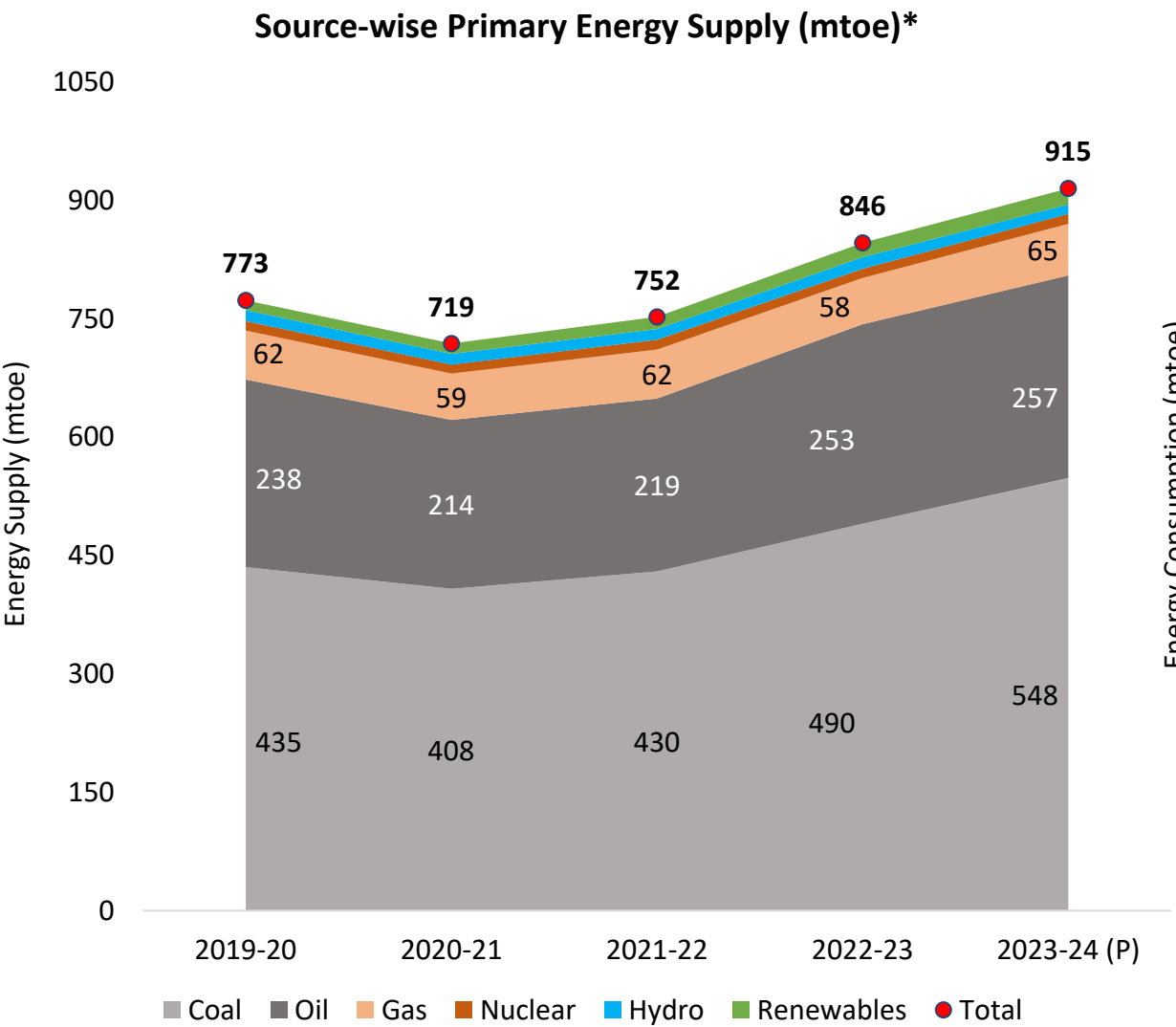
September 2025



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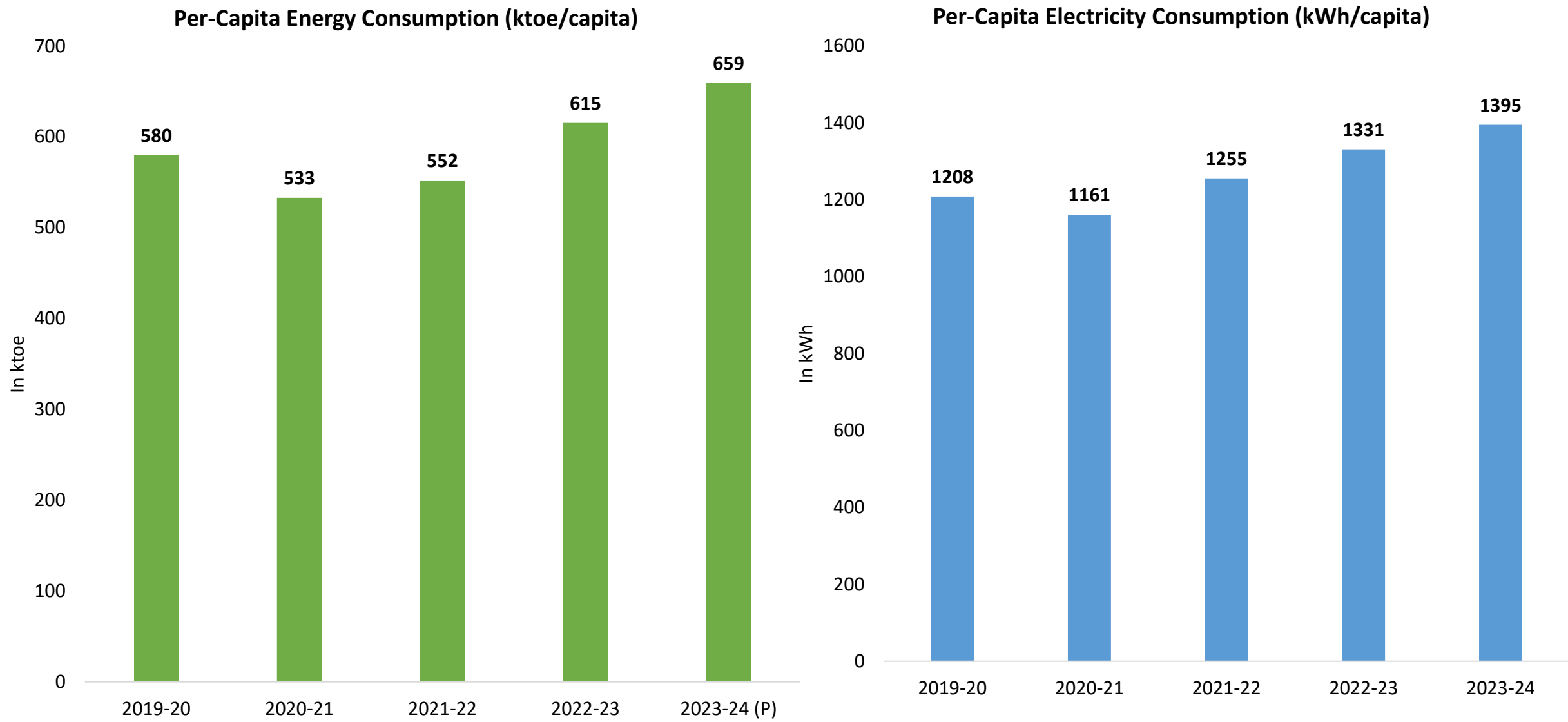
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Primary* and Final Energy Mix in India



*Excluding biofuels, waste, and other non-commercial source of energy

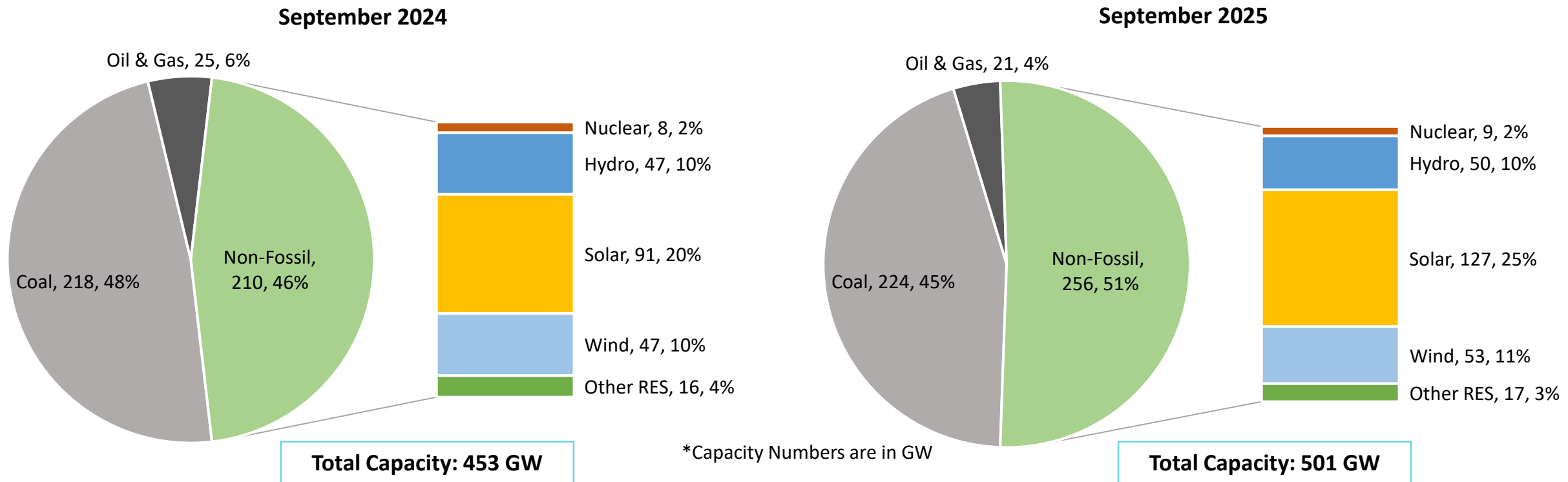
Per-Capita Energy and Electricity Consumption



Note: Per Capita energy consumption is calculated on energy supply basis.

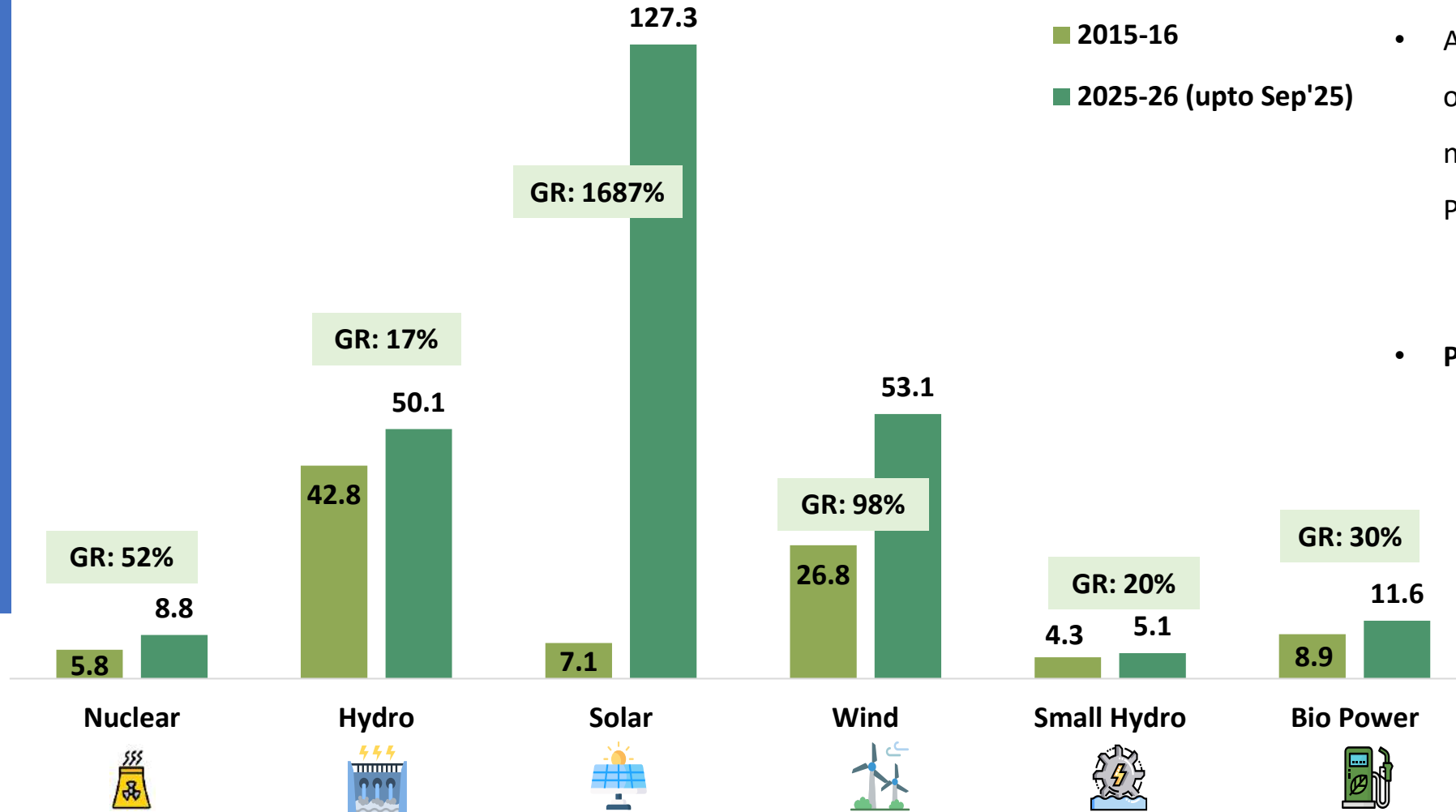
Source: ICED & CEA

India's Electricity Capacity Mix (Utility-scale)



- India's electricity generating capacity is 501 GW as on Sep'2025 [coal 224 GW (45%), solar 127 GW (25%), wind 53 GW (11%), and hydro 50 (10%)].
- India has achieved its NDC target of 51% non-fossil capacity, 5 years ahead of the originally set in 2030.
- As on Sep'2025, India's renewable energy capacity (including large hydro) stood at 247 GW out of 501 GW.

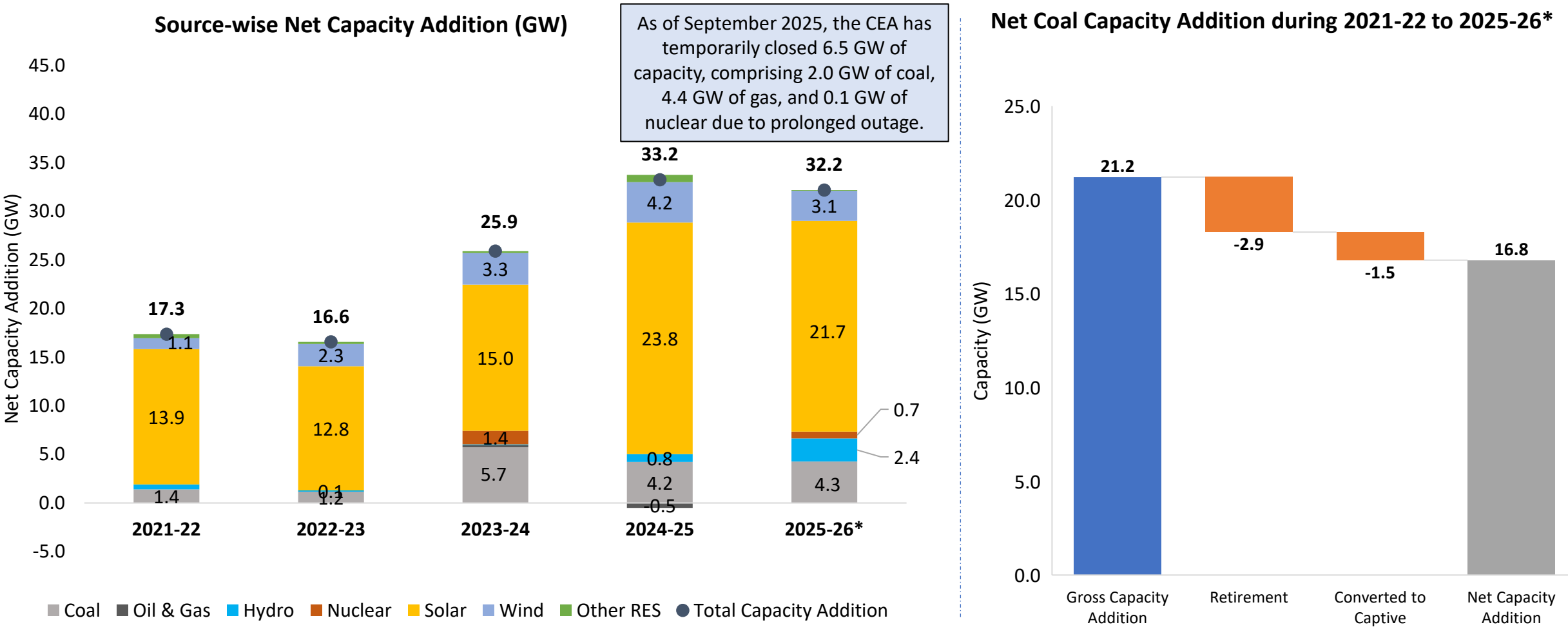
Non-Fossil Energy Capacity (in GW) Growth Post-2015 Paris Agreement



- As of September 30, 2025, **51% (256 GW)** of India's total power capacity (**501 GW**) is now non-fossil fuel-based, meeting the Paris Agreement pledge.

- Post-2015 Paris Agreement Growth:**
 - solar capacity increased **18-folds**
 - wind power **doubled**
 - nuclear energy **doubled**.

India's Electricity Capacity Addition in last 5 years



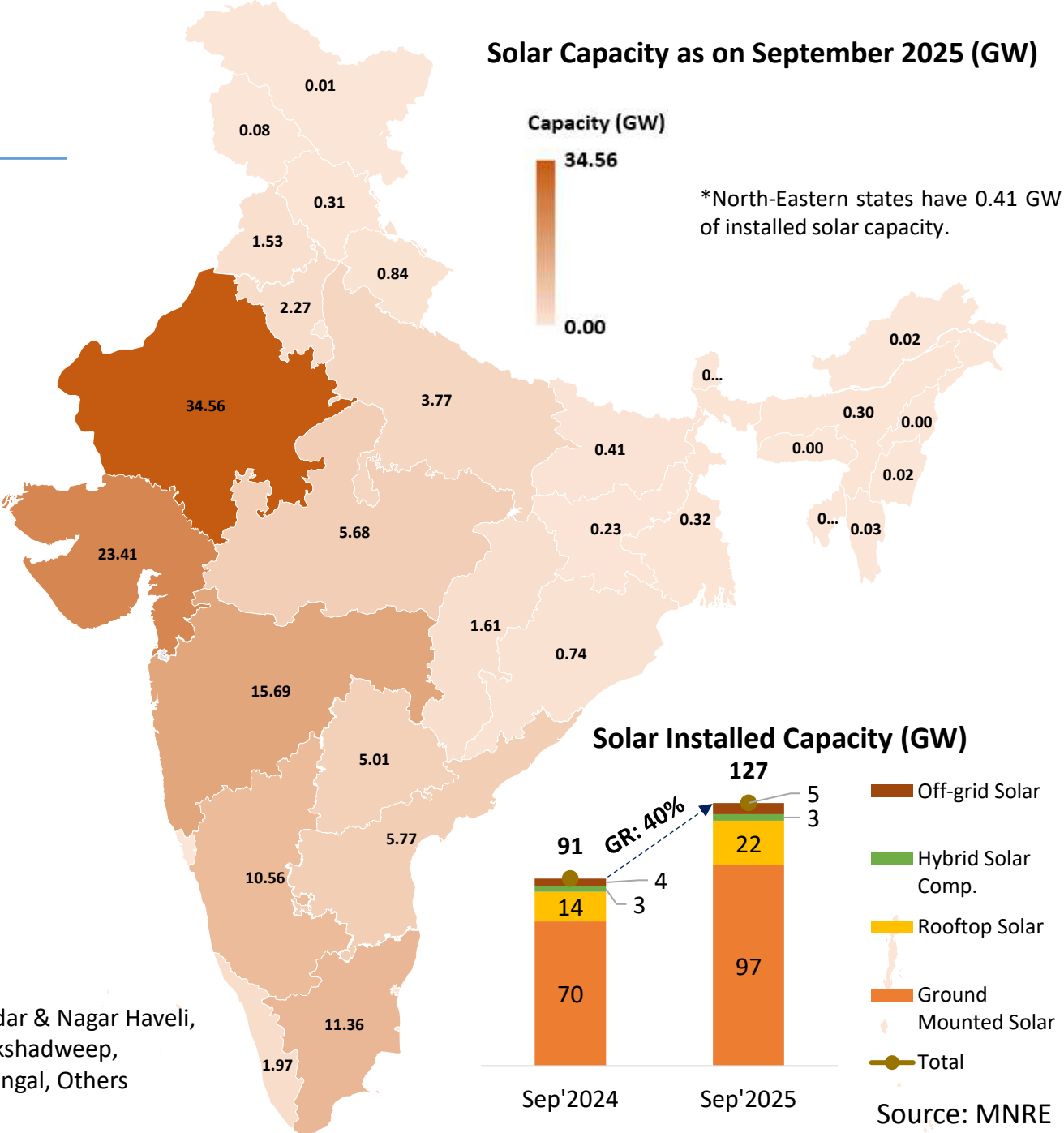
• A total of 107 GW of generation capacity has been added in RE (Hydro, solar, wind, and other RES) over the past 5 years (2021-22 to 2025-26*), whereas the net coal capacity addition during the same period was 17 GW, mostly in the central sector.

State-wise Solar Capacity

as on September 2025

State-wise installed capacity of Solar Power (GW)					
States	Ground Mounted	Rooftop	Solar Component in Hybrid	Off Grid	Total Solar Power
Rajasthan	29.96	1.81	1.98	0.81	34.56
Gujarat	16.10	6.07	1.06	0.17	23.41
Maharashtra	9.84	4.09	0.00	1.76	15.69
Tamil Nadu	10.12	1.16	0.00	0.07	11.36
Karnataka	9.54	0.77	0.21	0.04	10.56
Andhra Pradesh	5.02	0.66	0.00	0.09	5.77
Madhya Pradesh	4.88	0.70	0.00	0.10	5.68
Telangana	4.36	0.64	0.00	0.01	5.01
Uttar Pradesh	2.78	0.63	0.00	0.36	3.77
Haryana	0.27	0.92	0.00	1.08	2.27
Kerala	0.32	1.62	0.00	0.02	1.97
Chhattisgarh	1.06	0.16	0.00	0.39	1.61
Punjab	0.89	0.54	0.00	0.10	1.53
Uttarakhand	0.54	0.27	0.00	0.02	0.84
Others	1.47	1.47	0.00	0.36	3.30
All India	97.15	21.52	3.26	5.40	127.33

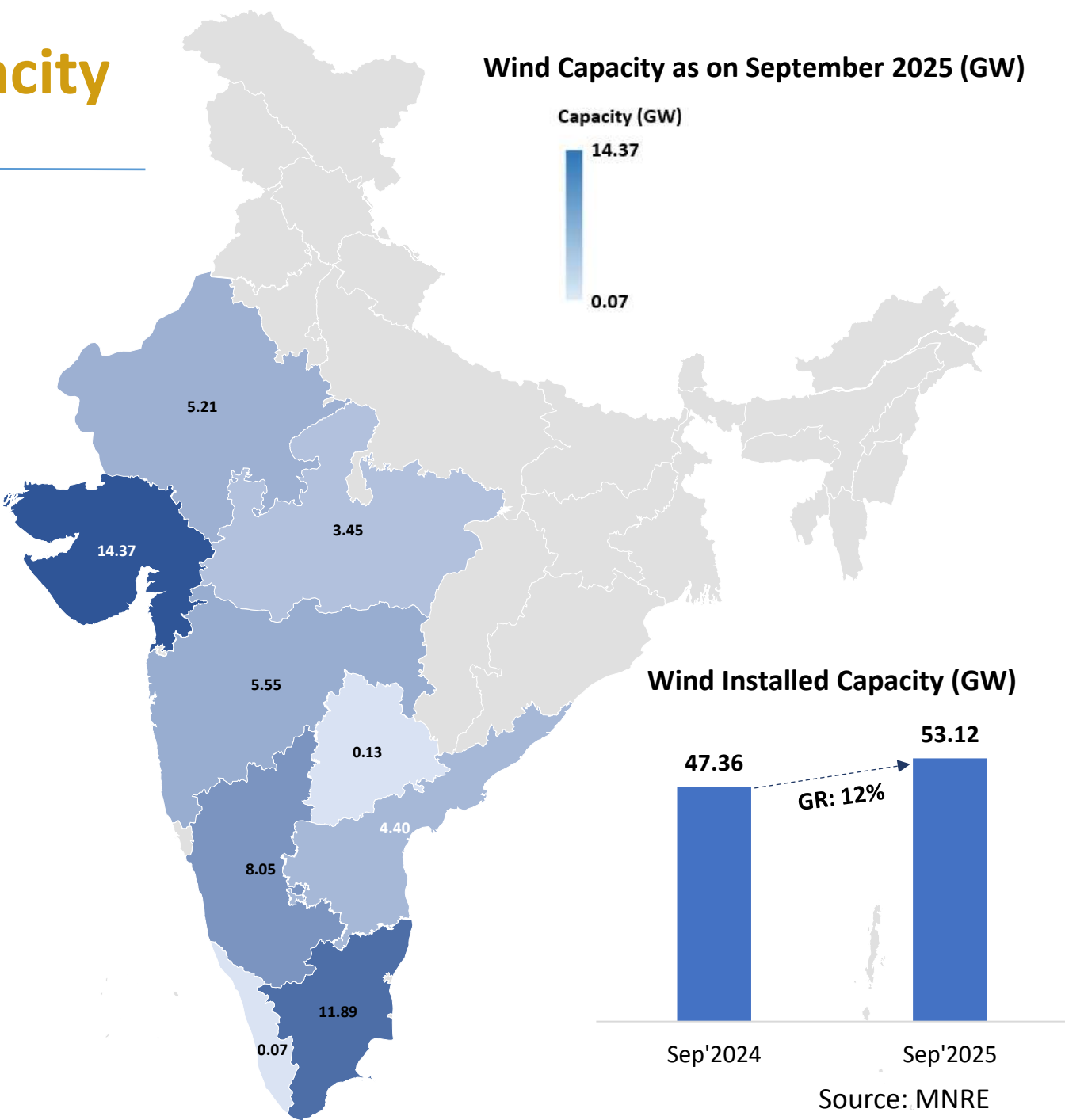
Others include- Andaman & Nicobar, Arunachal Pradesh, Assam, Bihar, Chandigarh, Dadar & Nagar Haveli, Daman & Diu, Delhi, Goa, Himachal Pradesh, Jammu & Kashmir, Jharkhand, Ladakh, Lakshadweep, Manipur, Meghalaya, Mizoram, Nagaland, Odisha, Puducherry, Sikkim, Tripura, West Bengal, Others



State-wise Wind Onshore Capacity

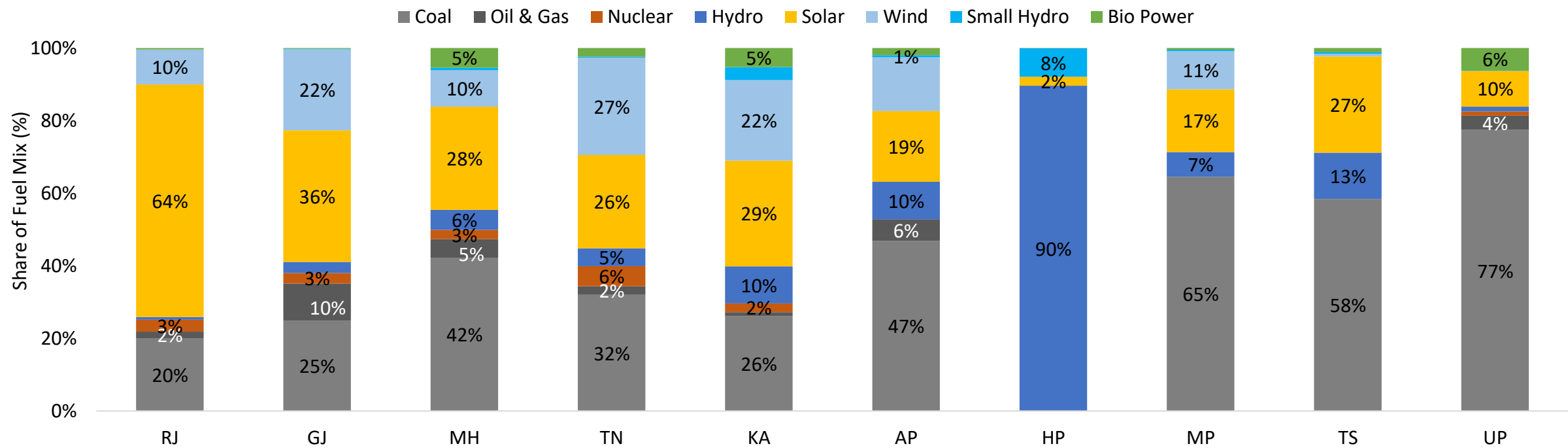
as on September 2025

State-wise installed capacity of Wind (Onshore) Power	
States	Installed Capacity (GW)
Gujarat	14.37
Tamil Nadu	11.89
Karnataka	8.05
Maharashtra	5.55
Rajasthan	5.21
Andhra Pradesh	4.40
Madhya Pradesh	3.45
Telangana	0.13
Kerala	0.07
India Total	53.12



Top 10 High RE (incl. Large Hydro) States and Their Capacity Mix

as on September 2025



Numbers are in GW

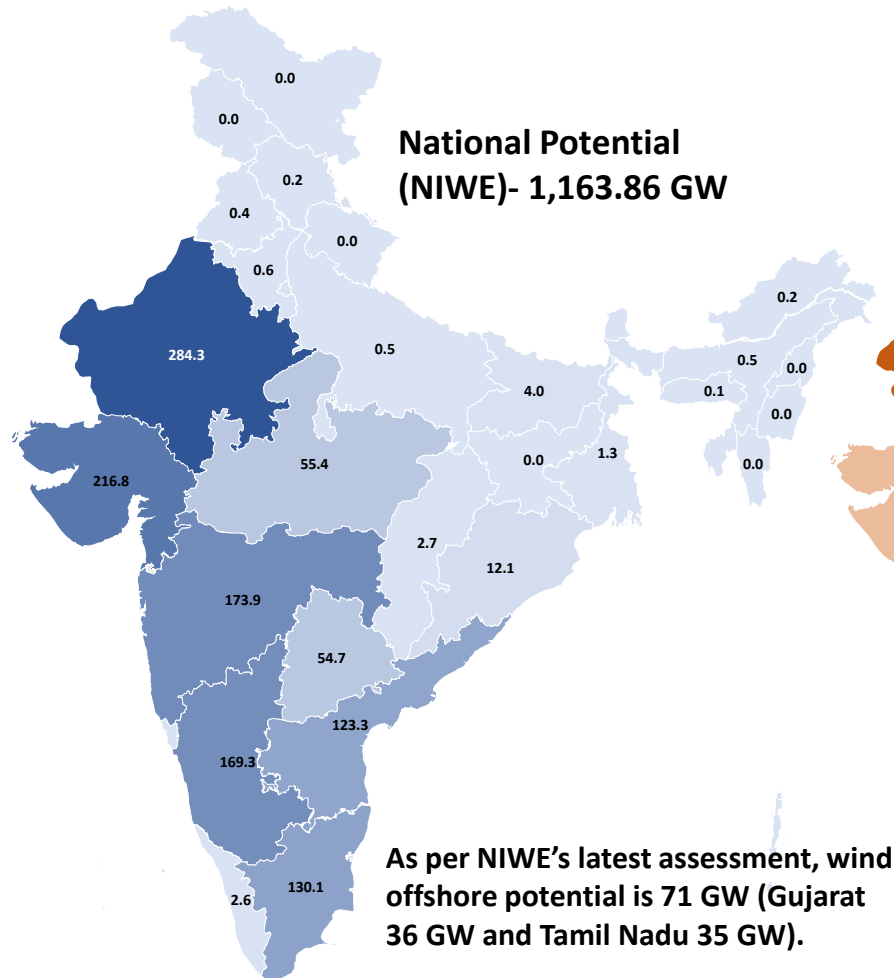
Parameters	RJ	GJ	MH	TN	KA	AP	HP	MP	TS	UP
Total Installed Capacity	53.99	64.53	55.21	44.25	36.25	29.64	12.74	32.81	18.90	37.92
Total RE Capacity	40.41	40.02	27.67	26.59	25.50	13.98	12.74	11.64	7.86	6.63
RE Share	75%	62%	50%	60%	70%	47%	100%	35%	42%	17%

Renewable Energy (RE) Potential and Installed Capacity (1/2)

RE potential in the state

Wind Onshore (at 150m agl) and Offshore Potential

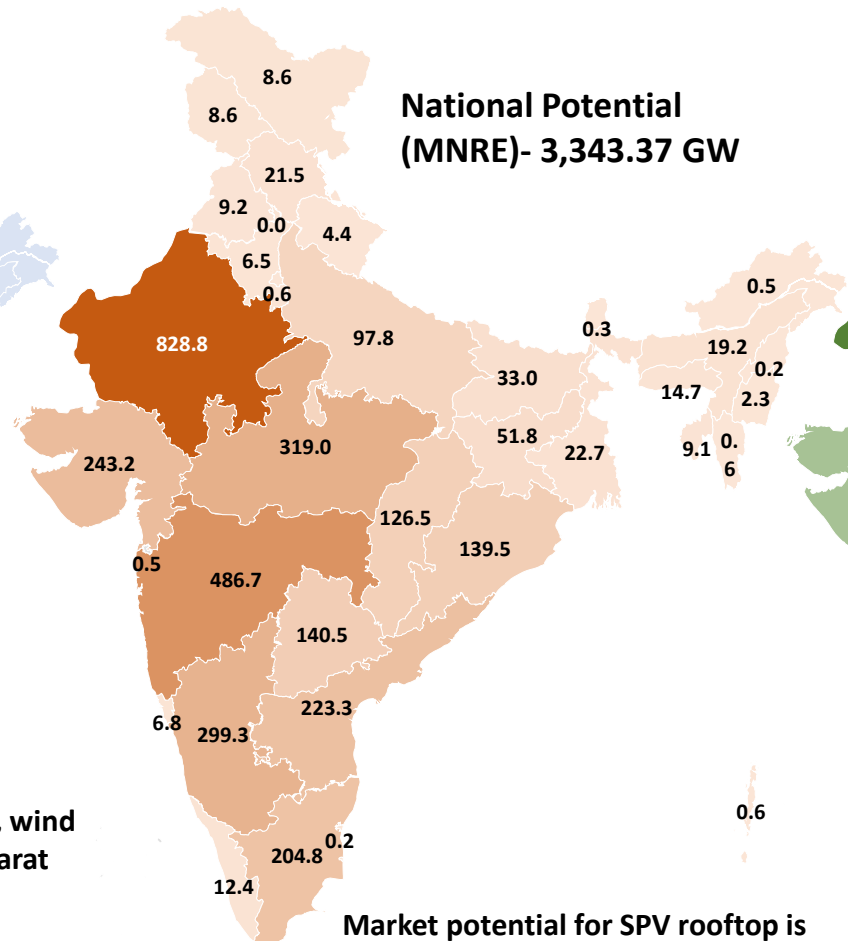
Wind Potential (GW)
0.00 284.25



As per NIWE's latest assessment, wind offshore potential is 71 GW (Gujarat 36 GW and Tamil Nadu 35 GW).

Solar Ground Mounted Potential (at 6.69% wasteland)

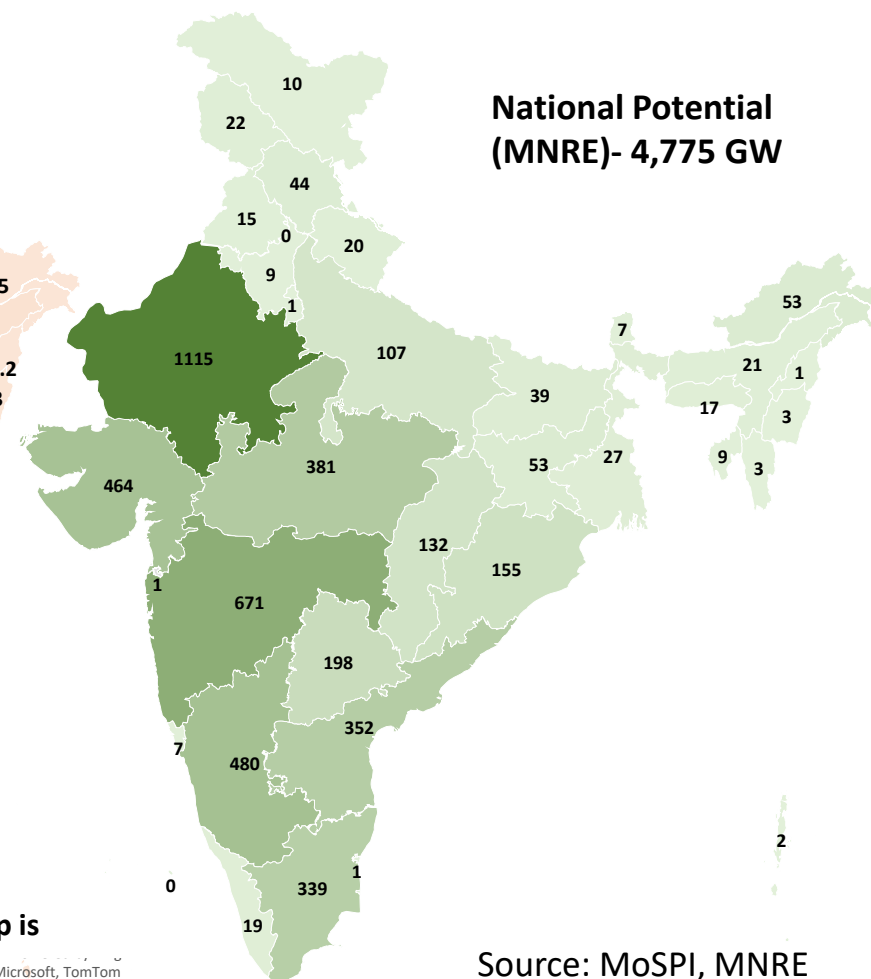
Solar Potential (GW)
0.0 828.8



Market potential for SPV rooftop is 124 GW.

Renewable Energy Potential (all sources incl. large Hydro)

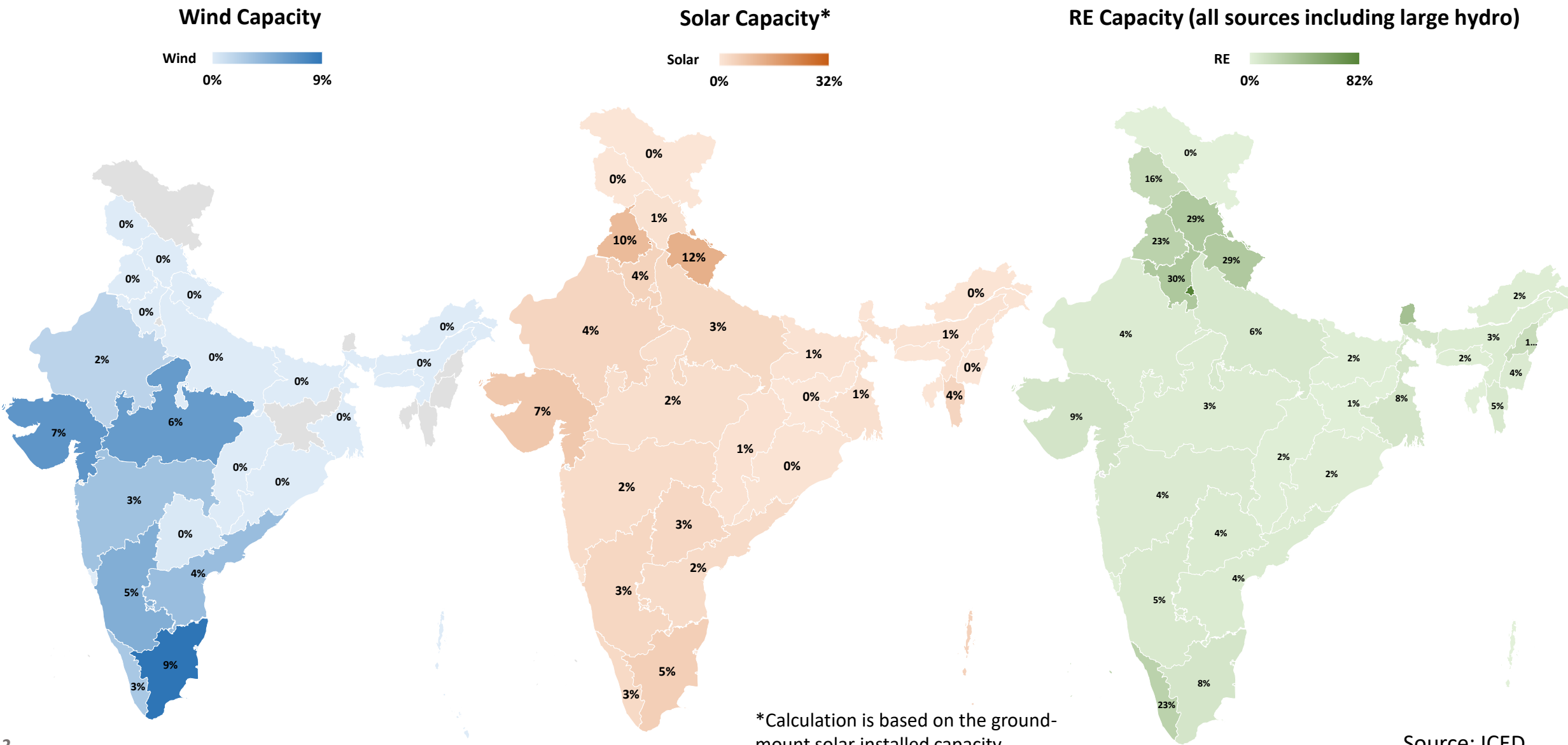
Potential (GW)
0 1115



Source: MoSPI, MNRE

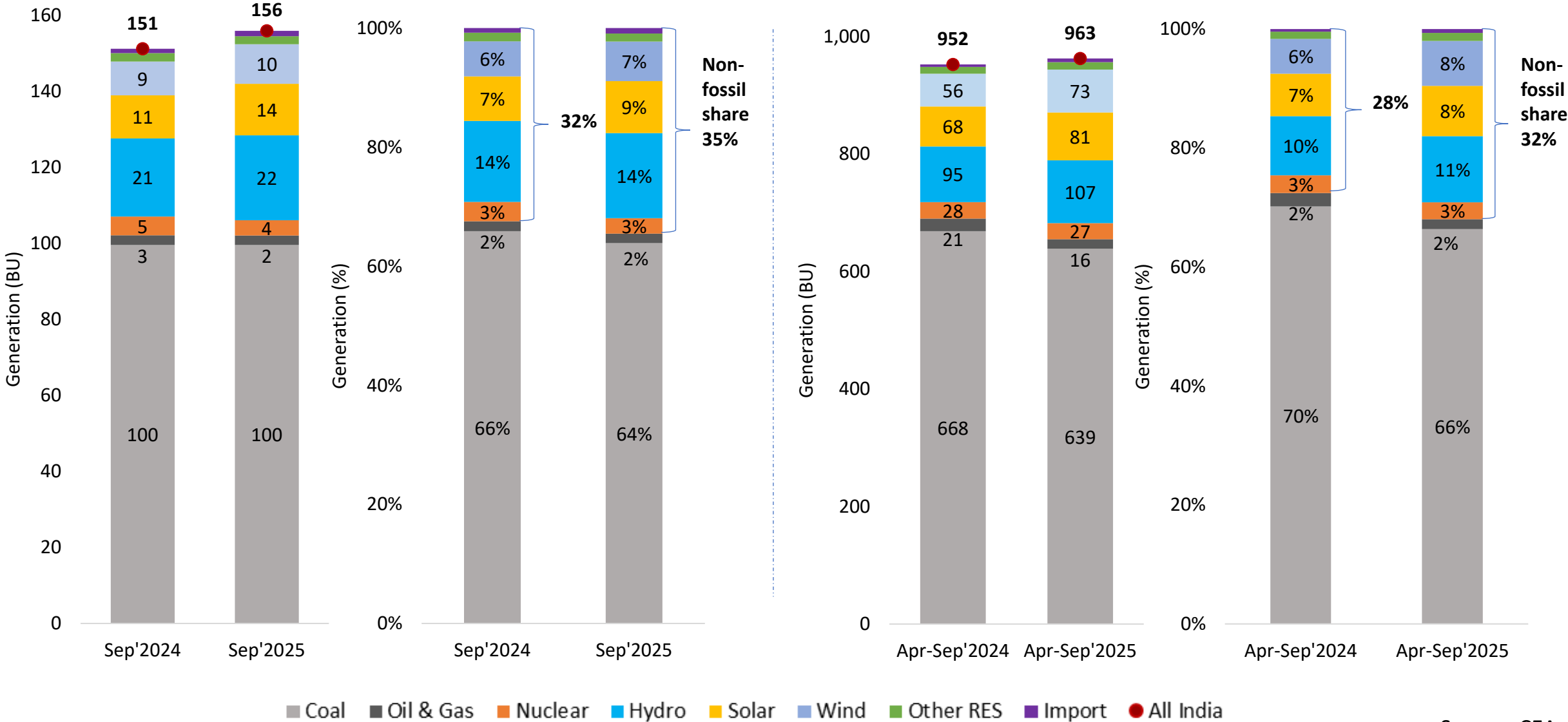
Renewable Energy (RE) Potential and Installed Capacity (2/2)

RE Installed capacity as a Percentage of the total resource potential in the state as on September 2025

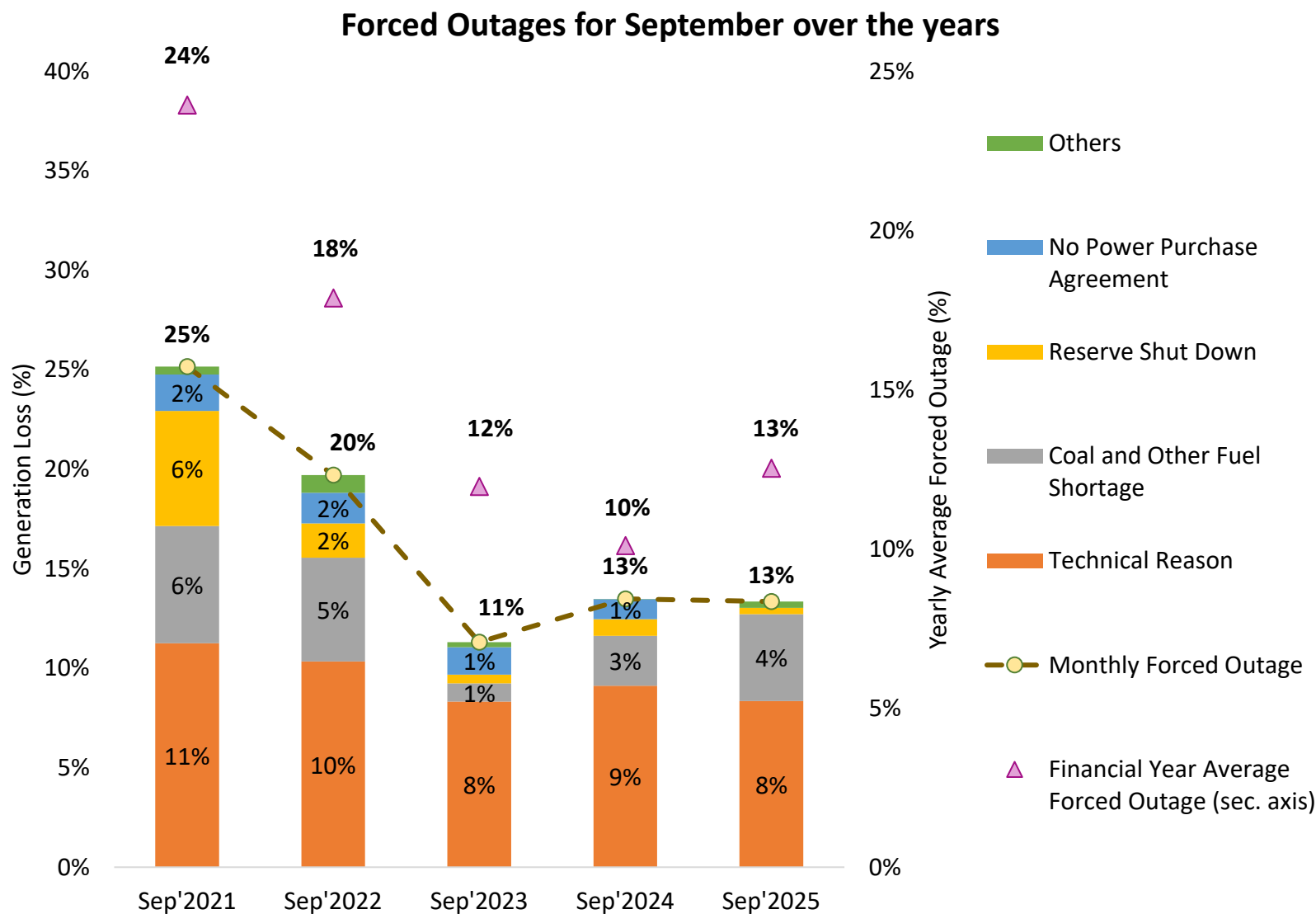


India's Electricity Generation Mix

Source-wise Generation Mix



Thermal Generation Loss and Reasons for Forced Outages



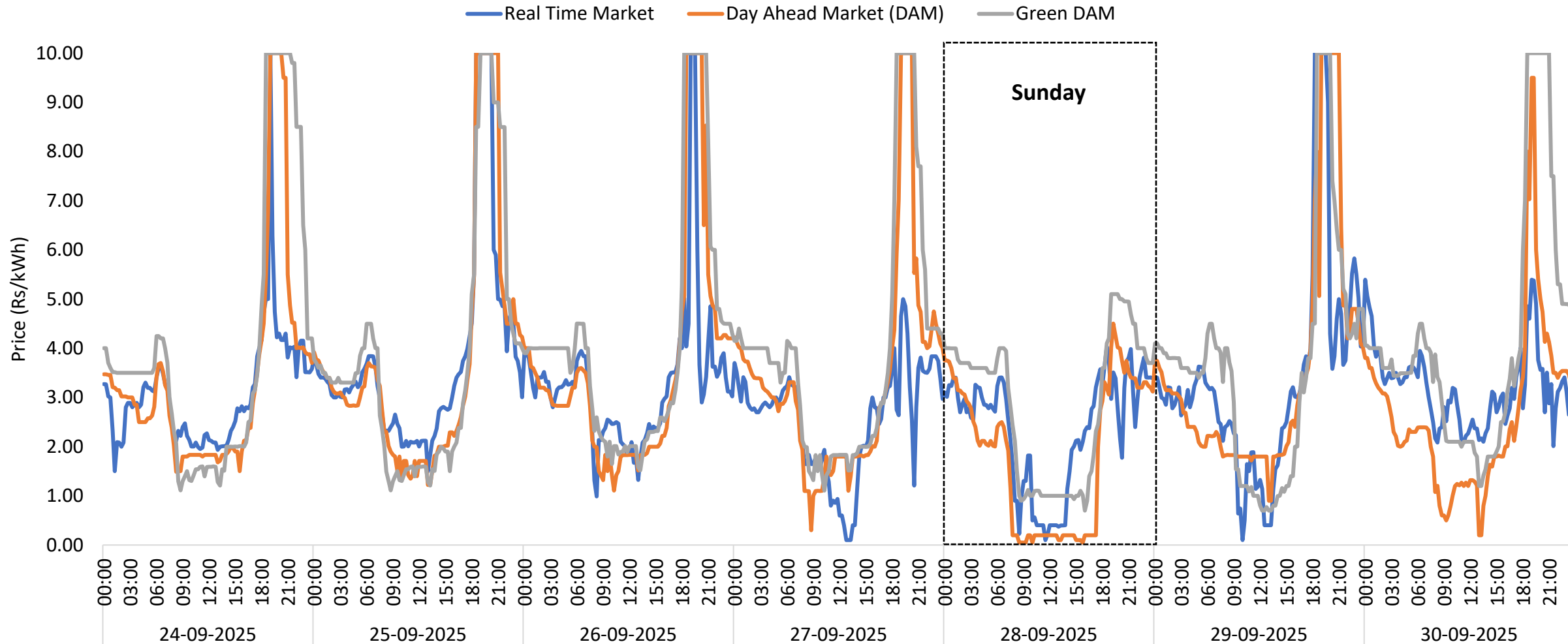
Year/ Month		Average Forced Outage Share
Yearly	FY 2023-24	12%
	FY 2024-25	10%
	FY 2025-26 (up to Sep'25)	13%
Monthly	Sep'2023	11%
	Sep'2024	13%
	Sep'2025	13%

Thermal includes only Coal and Lignite Plants.

Source: ICED

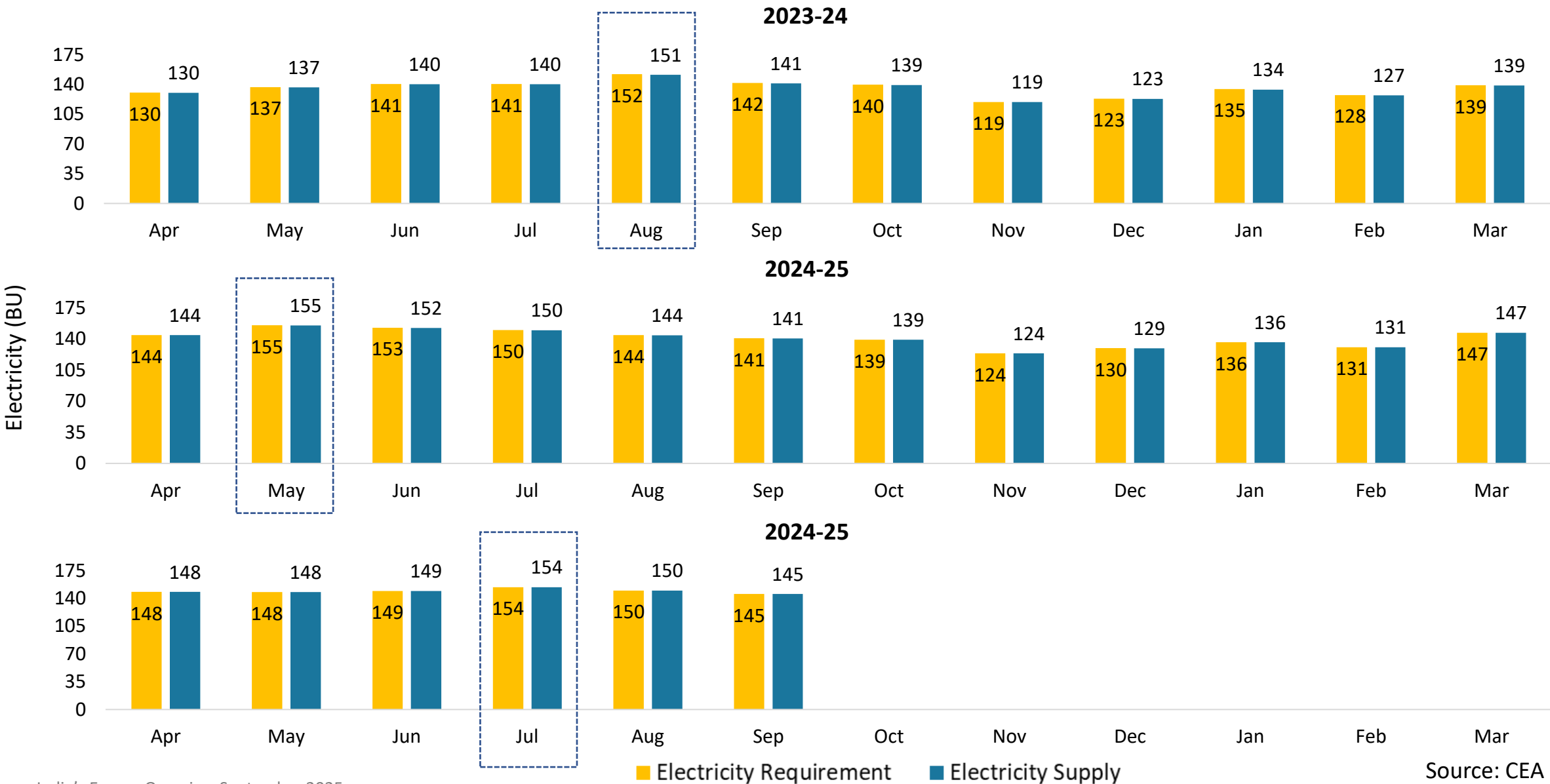
Indian Electricity Exchange (IEX) Market Snapshot

Market Clearing Prices of last 7 days of September 2025

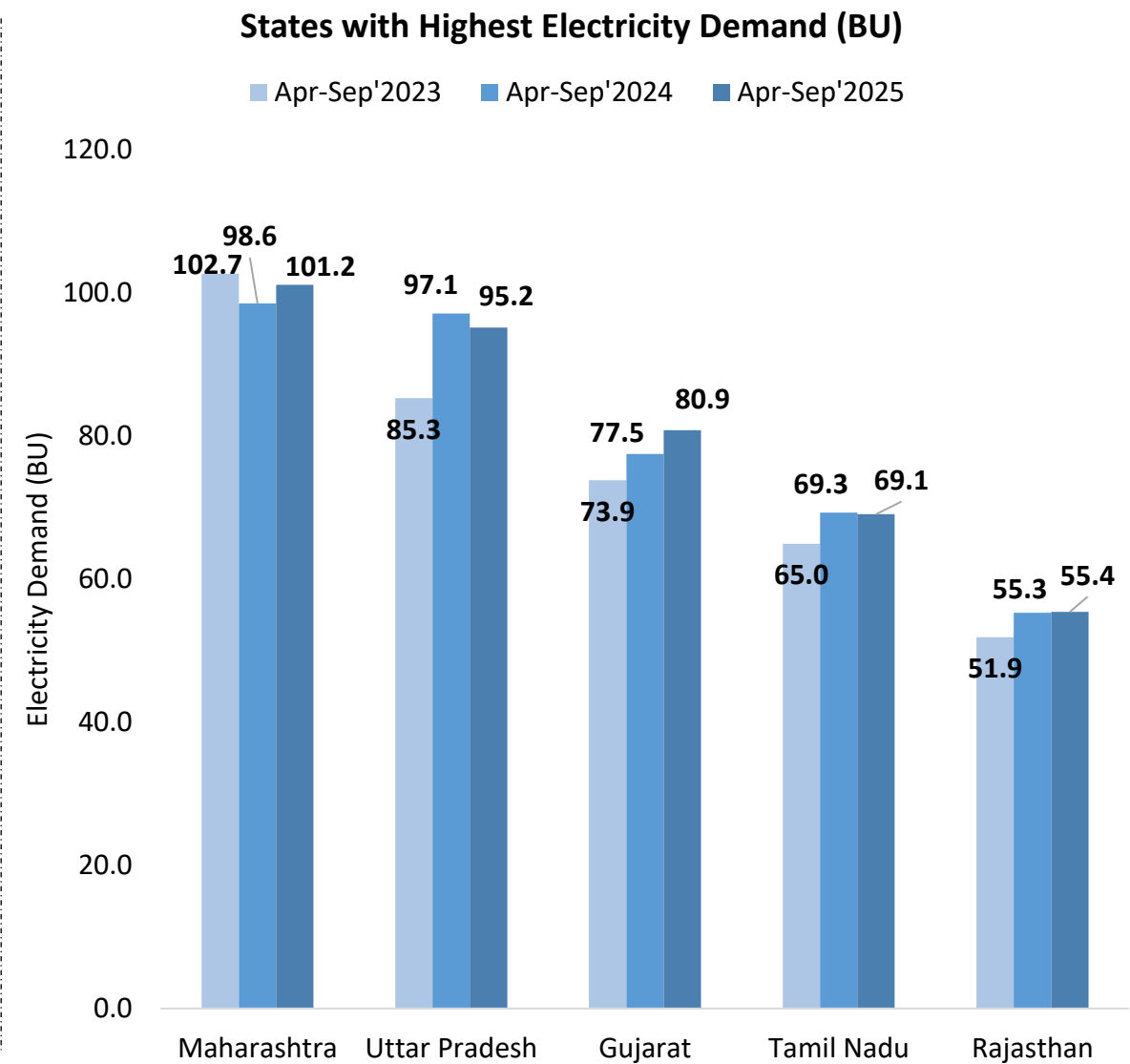
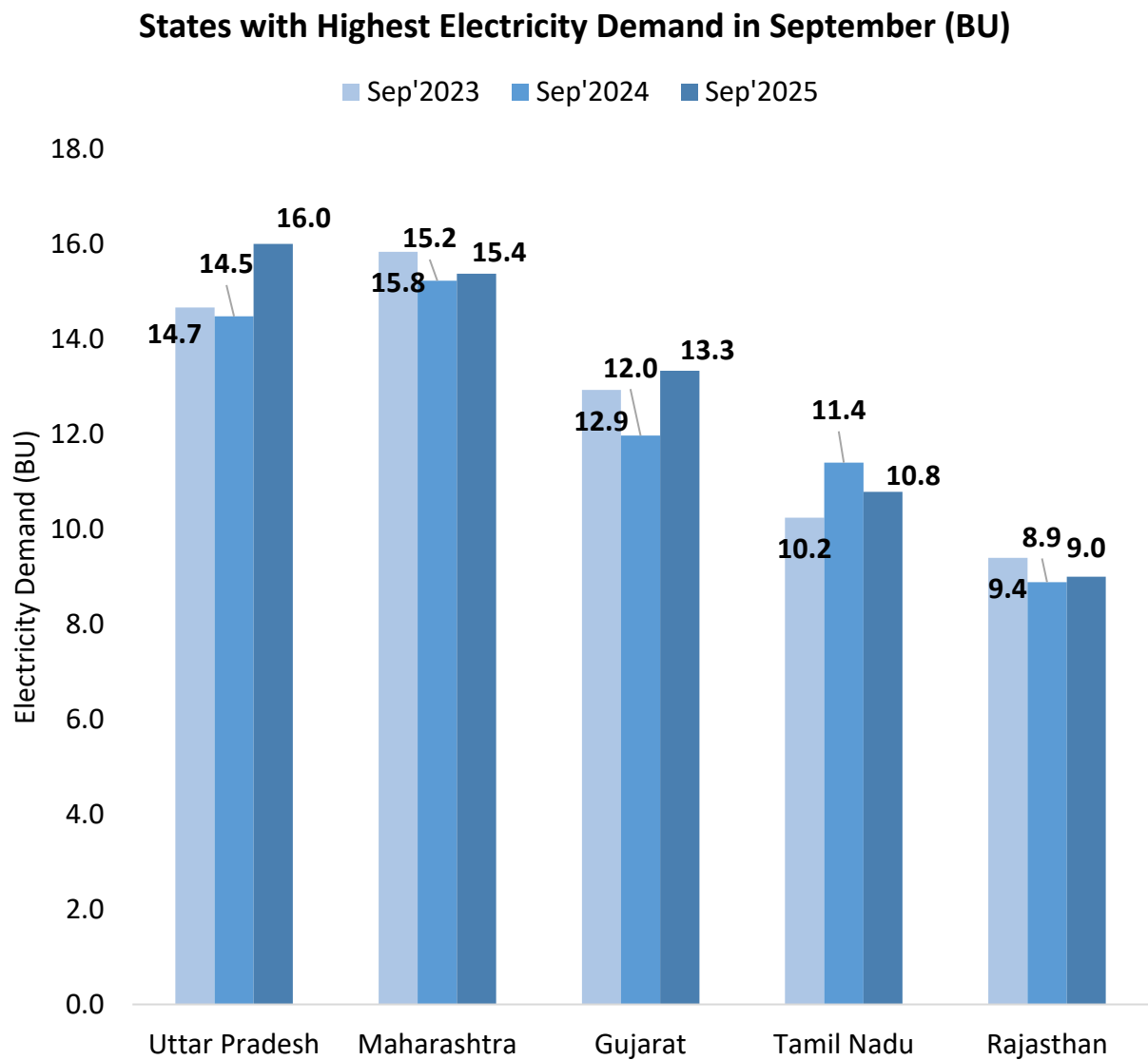


In April 2023, CERC revised the price ceiling from ₹12/kWh to ₹10/kWh in the power exchange market.

India's Monthly Electricity Requirement and Supply



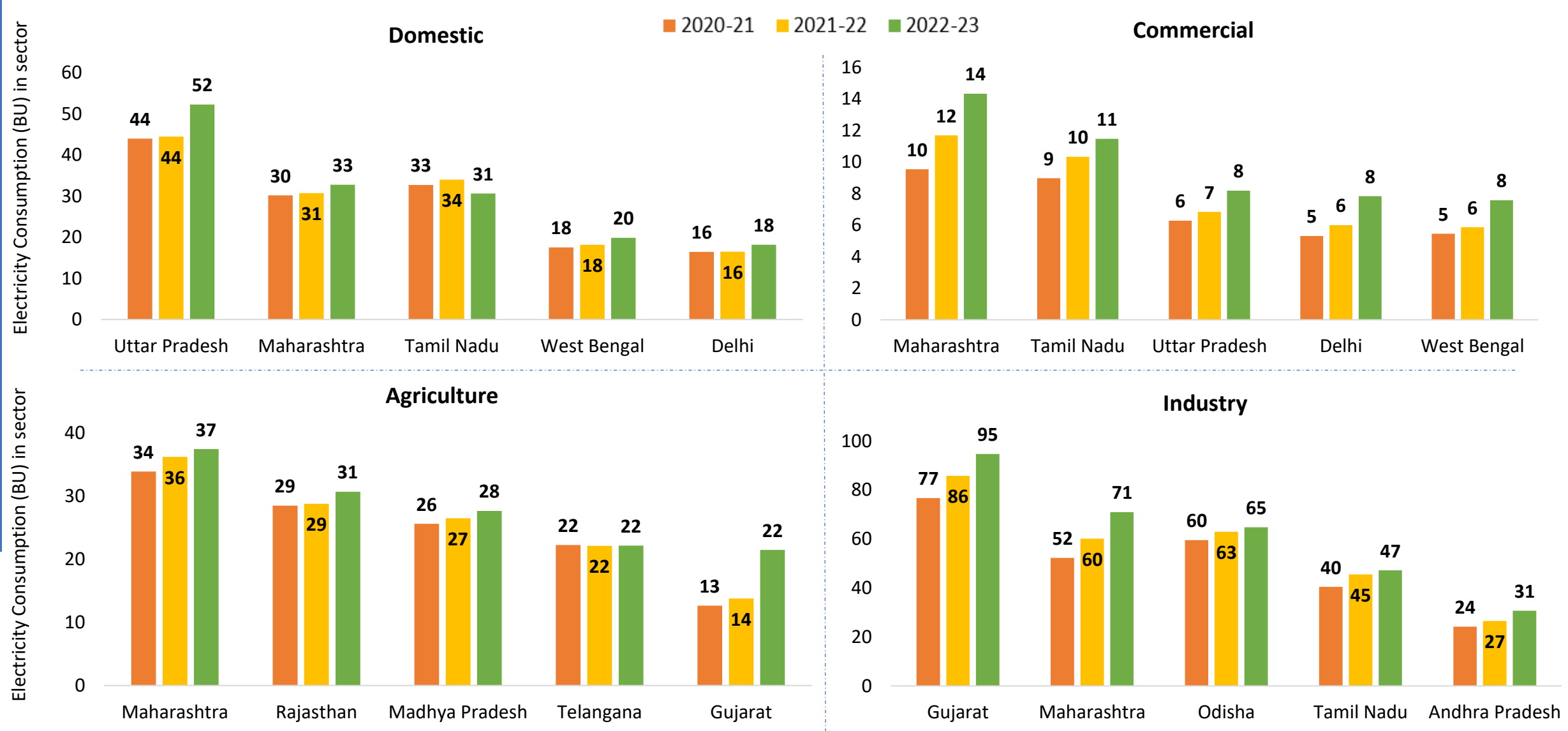
Monthly Electricity Demand of the top 5 states



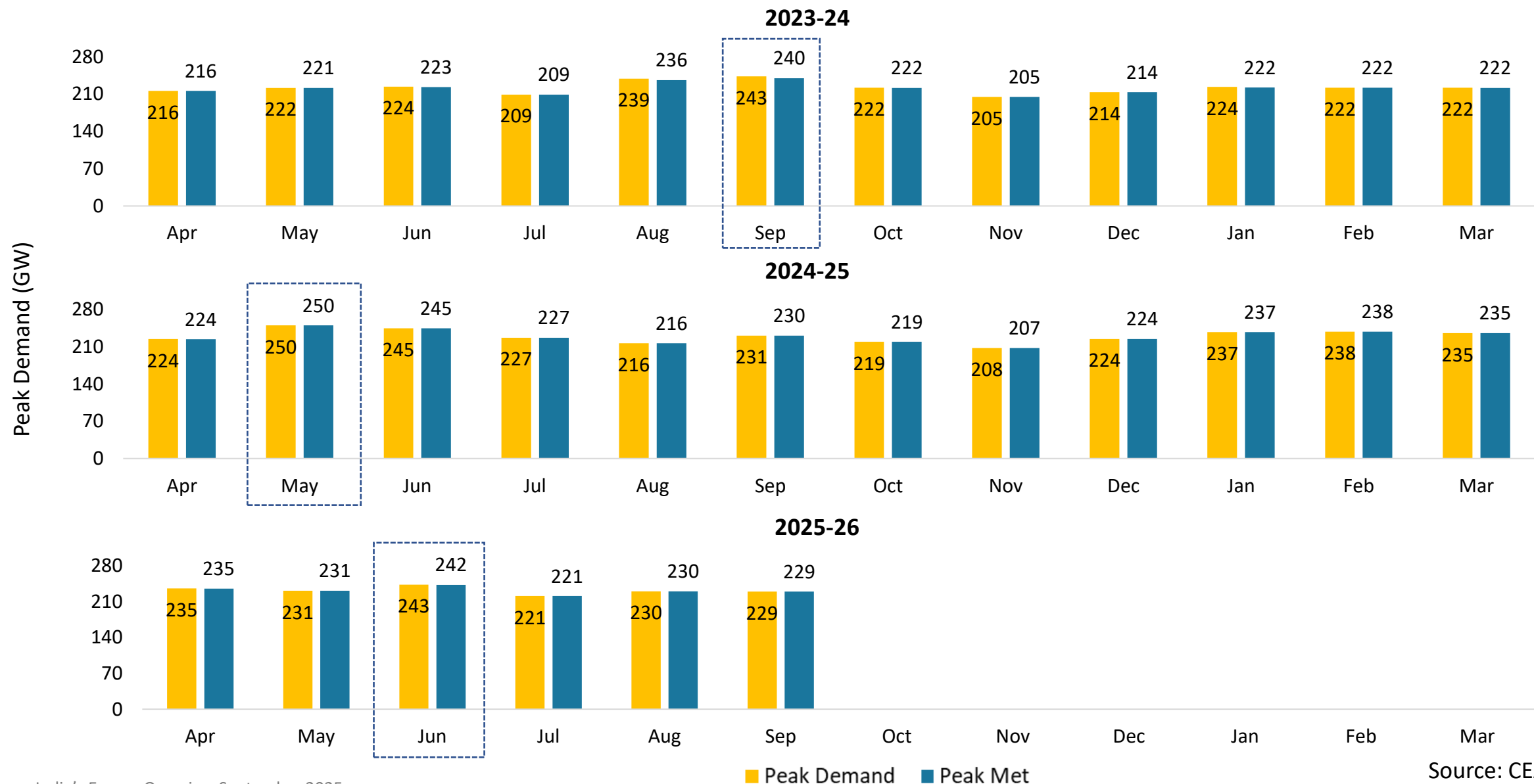
Note: The electricity demand data for Sep'25 is Provisional.

Source: CEA

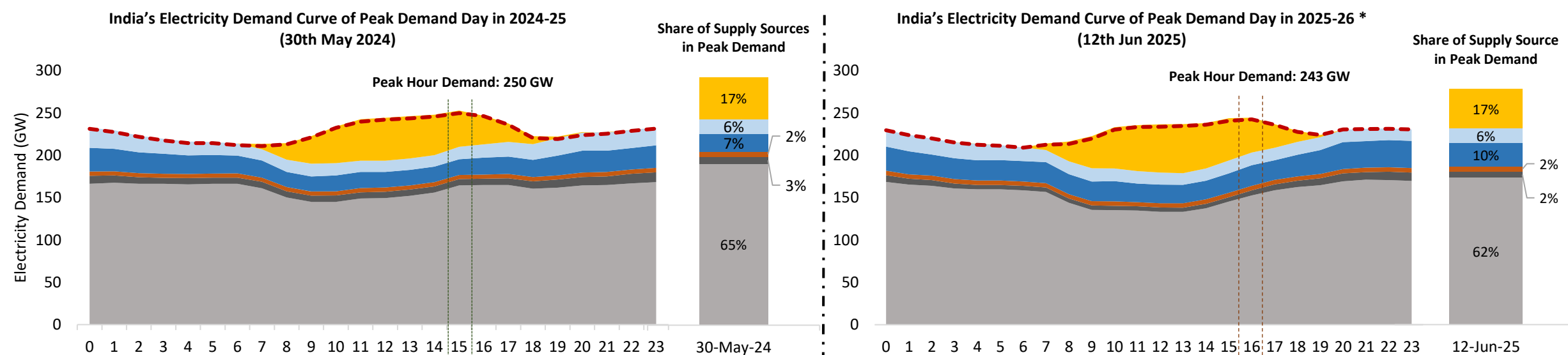
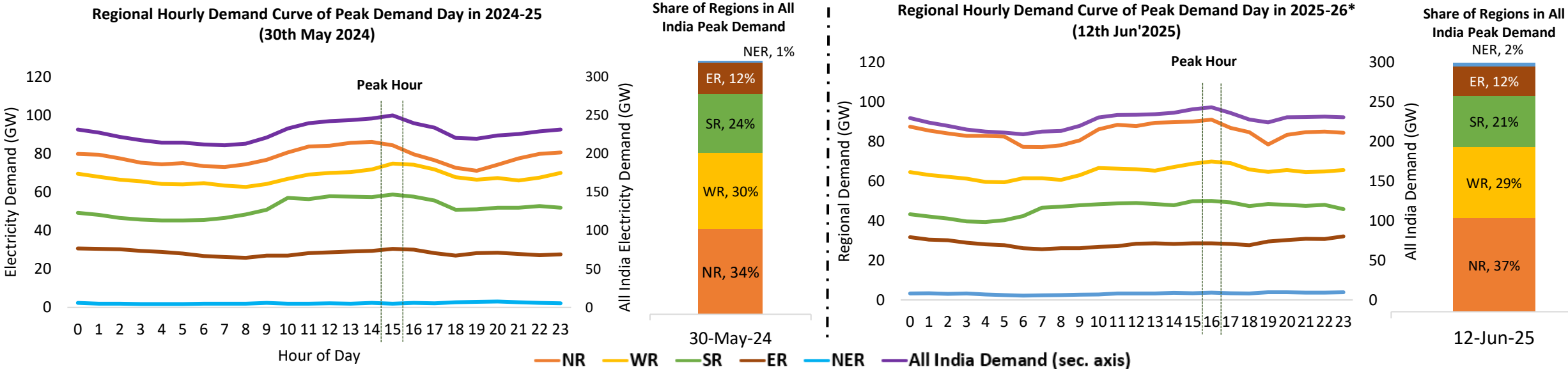
Electricity Consumer-category wise top 5 States



India's Monthly Peak Electricity Demand and Supply

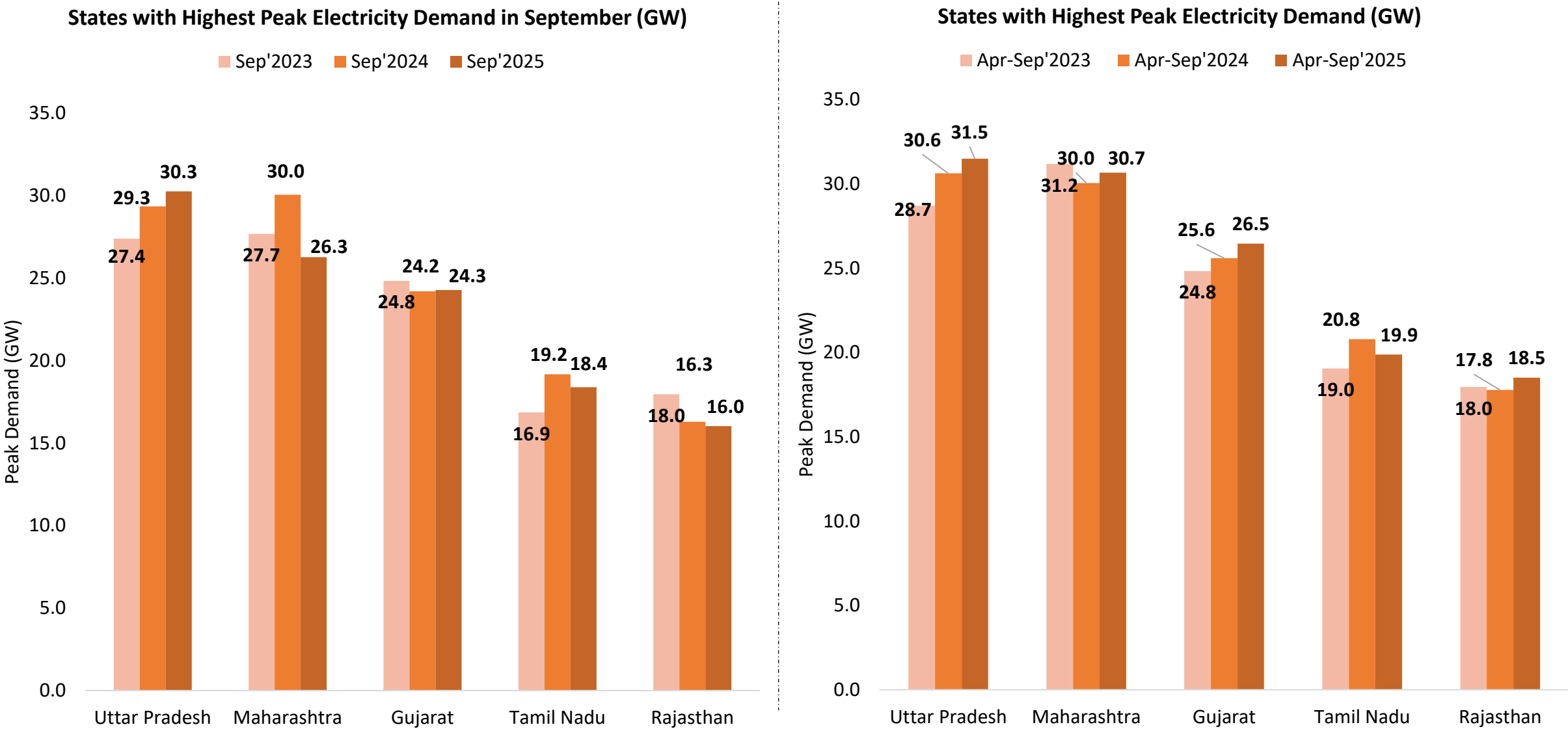


All India, Regional, and Seasonal Electricity Demand Curve of Peak Demand Day



Source: Grid-India

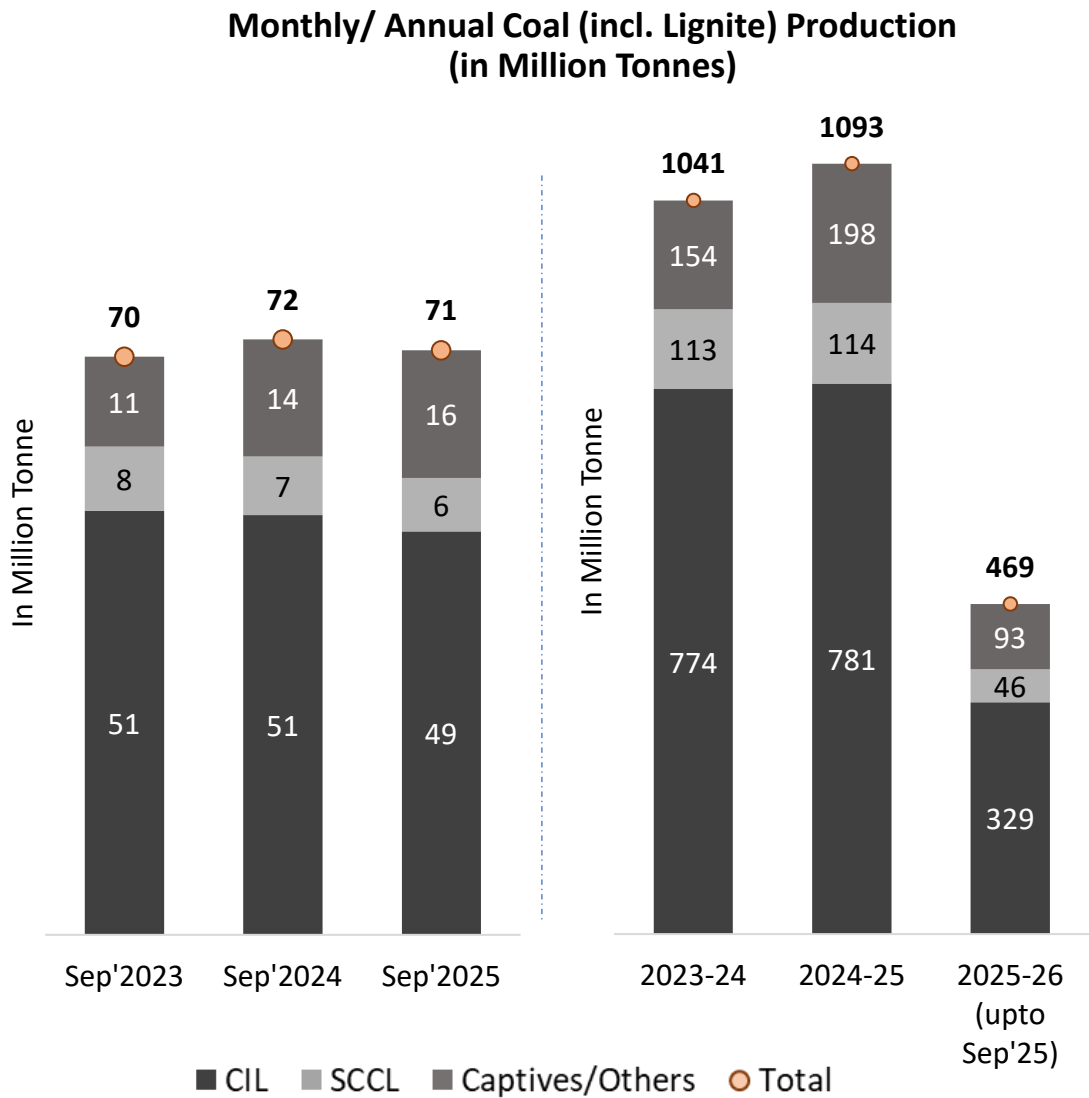
Monthly Peak Electricity Demand of the top 5 states



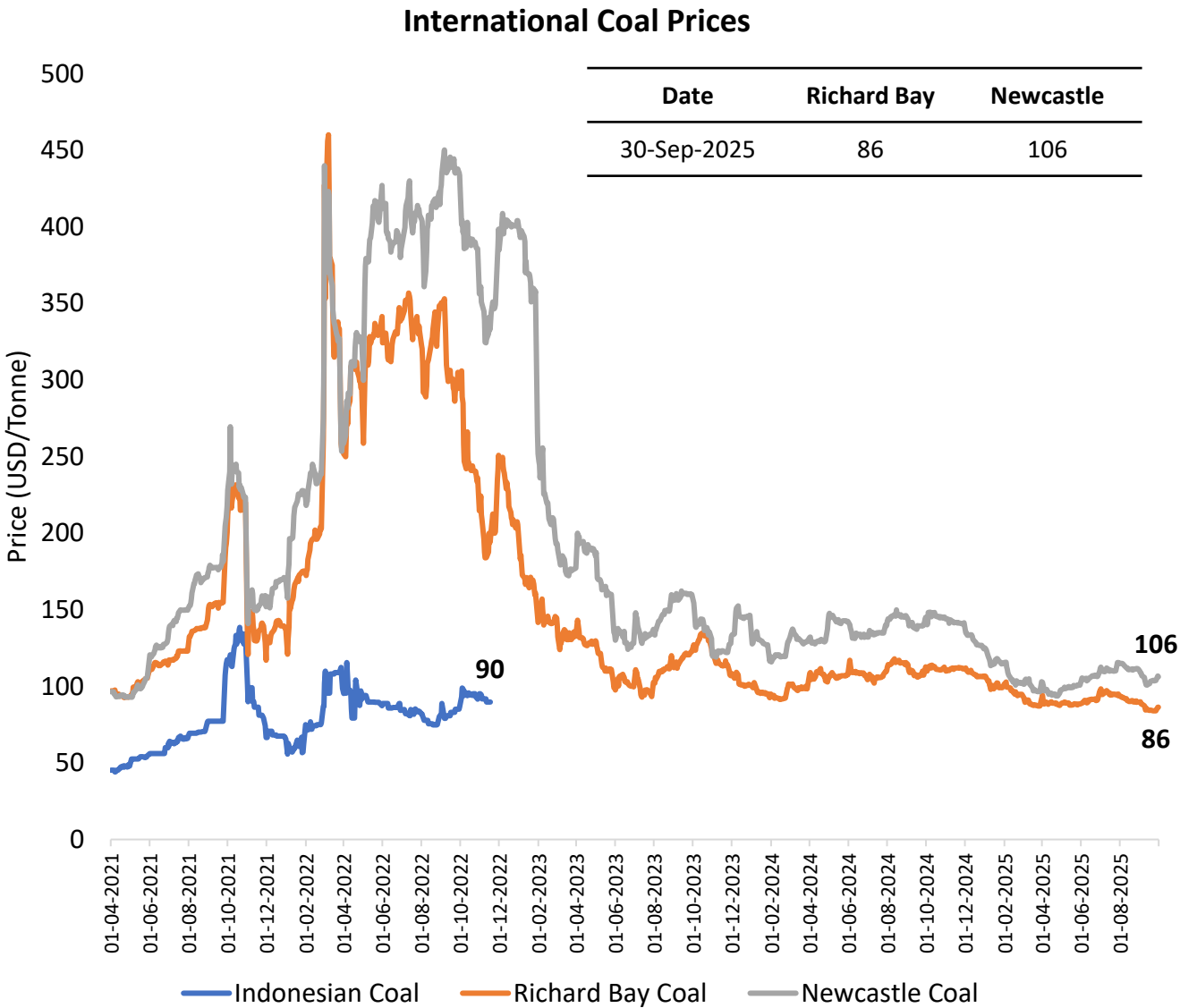
Note: The peak electricity demand data for Aug'25 is Provisional.

Source: CEA

Monthly Coal Statistics



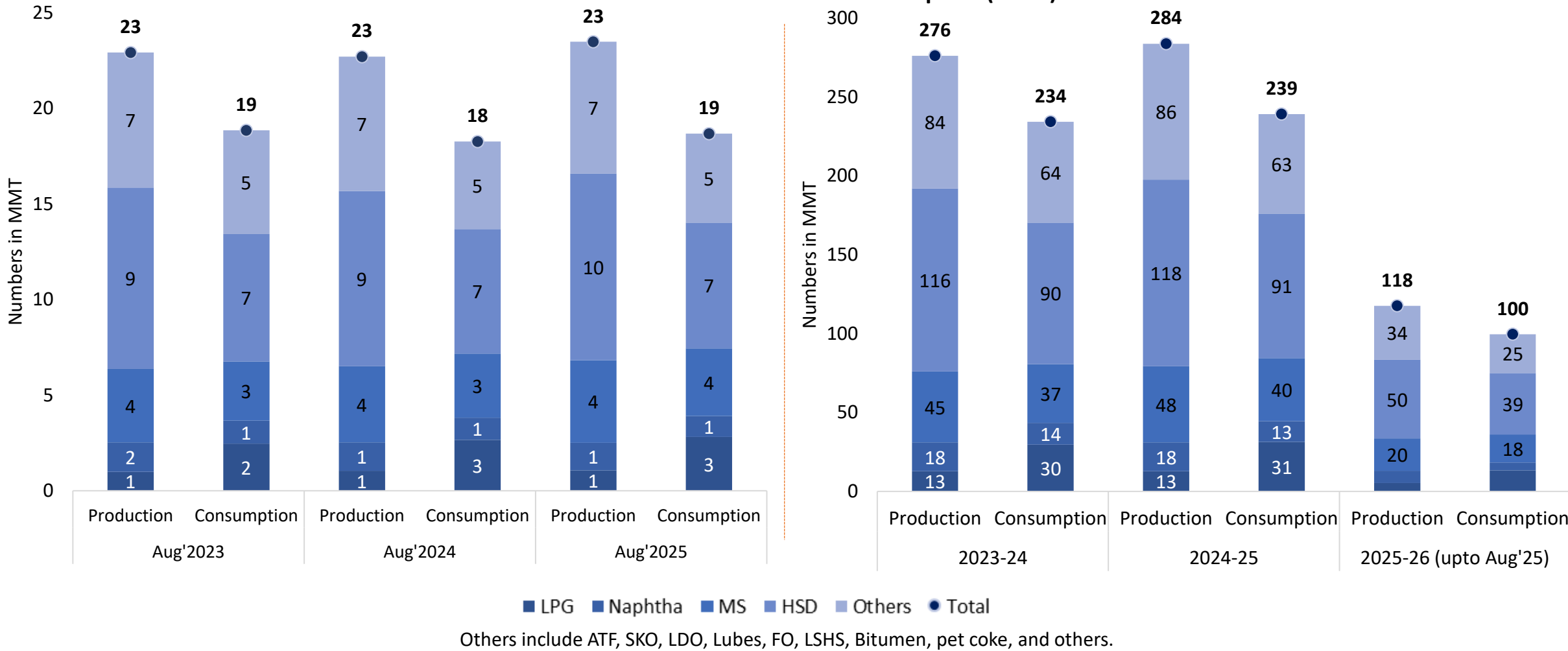
Source: Ministry of Coal



Source: Investing.com

Petroleum Products Market Scenario (1/3)

Petroleum Product-wise Production & Consumption (MMT)



Abbreviations: ATF- Aviation Turbine Fuel, FO- Furnace Oil, HSD- High-Speed Diesel, LDO- Light Diesel Oil, MS- Motor Spirit (Petrol), SKO- Superior Kerosene Oil, LSHS- Low Sulphur Heavy Stock, LPG- Liquefied Petroleum Gas, MMT- Million Metric Tonne

Petroleum Products Market Scenario (2/3)

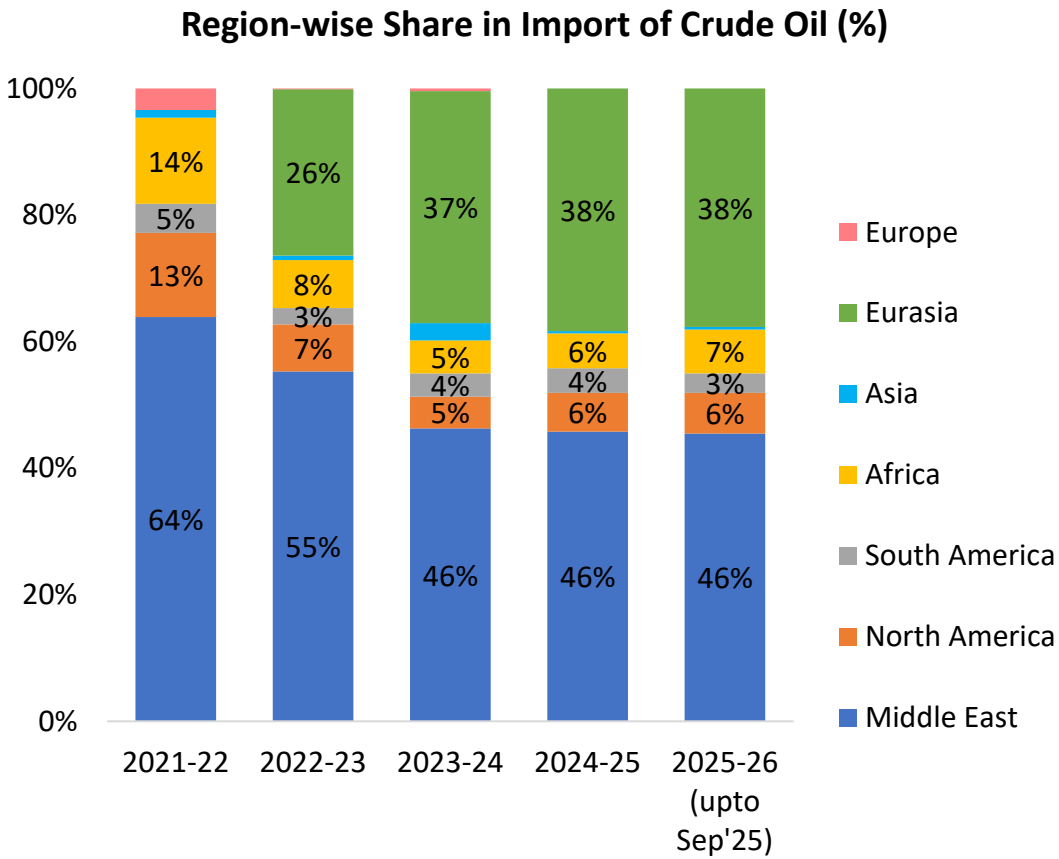
Import/Export of Crude Oil and Petroleum Products ('000 Tonnes)							
Petroleum Products	Import/ Export	Monthly			Yearly		
		Aug'23	Aug'24	Aug'25	2023-24	2024-25	2025-26 (upto Aug'25)
Crude Oil	Import	19091	20180	19603	234262	243225	101124
	Export	0	0	0	0	0	0
	Net Import	19091	20180	19603	234262	243225	101124
LPG	Import	1570	1775	1906	18514	20667	8970
	Export	47	44	43	525	551	235
	Net Import	1524	1731	1862	17989	20116	8735
Diesel	Import	5	2	3	42	42	12
	Export	2617	2099	2583	28204	28027	10714
	Net Import	-2612	-2096	-2580	-28162	-27985	-10703
Petrol	Import	149	0	0	717	235	0
	Export	1175	1177	1525	13472	15830	6666
	Net Import	-1025	-1177	-1525	-12755	-15596	-6666
Others	Import	2631	2425	2211	29419	29960	11683
	Export	2010	1774	1511	20391	20667	8101
	Net Import	620	651	700	9029	9293	3582

*Others include ATF, Naphtha, SKO, LDO, Lubes, FO, LSHS, Bitumen, pet coke, and others.

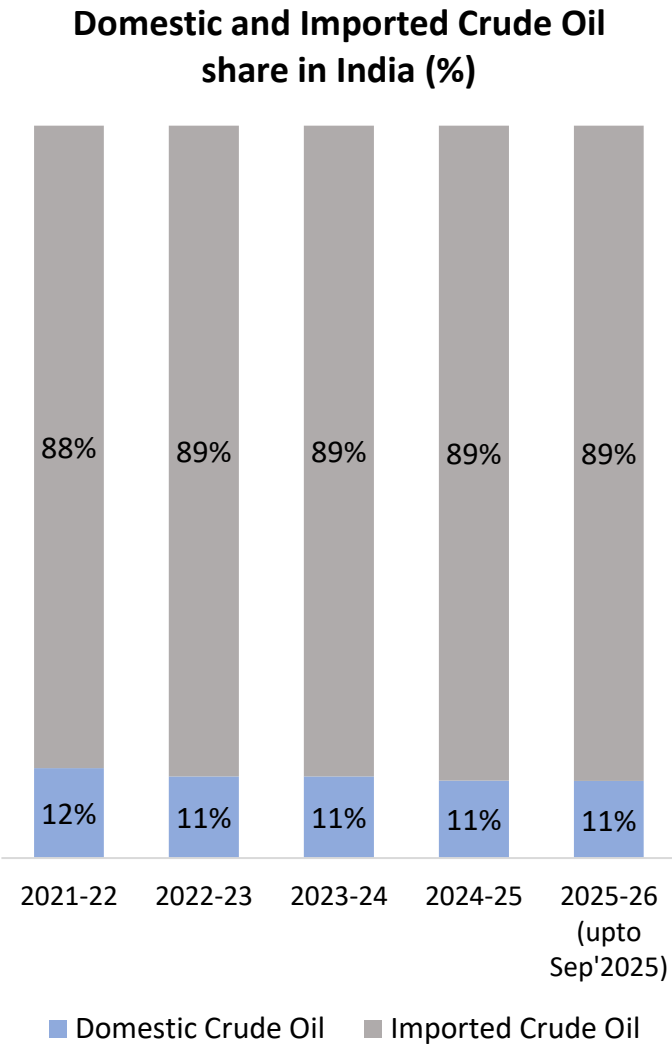
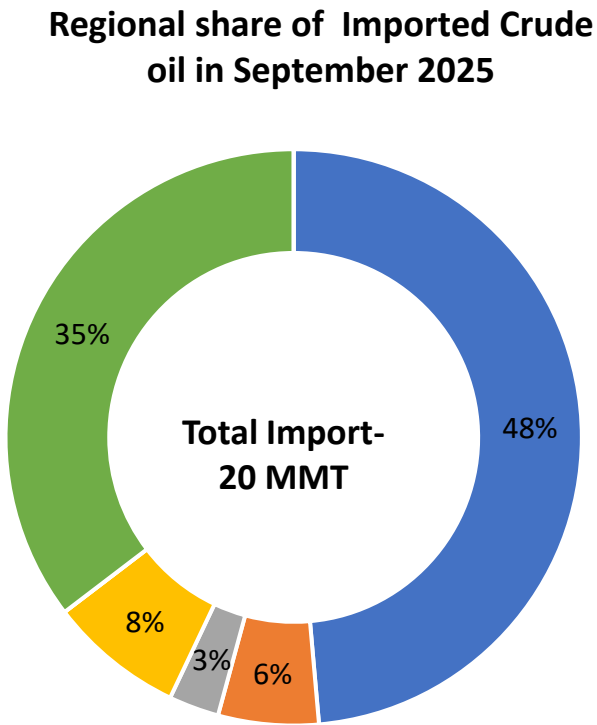
NOTE: The data is available latest up to August 2025.

Source: PPAC

Petroleum Products Market Scenario (3/3)

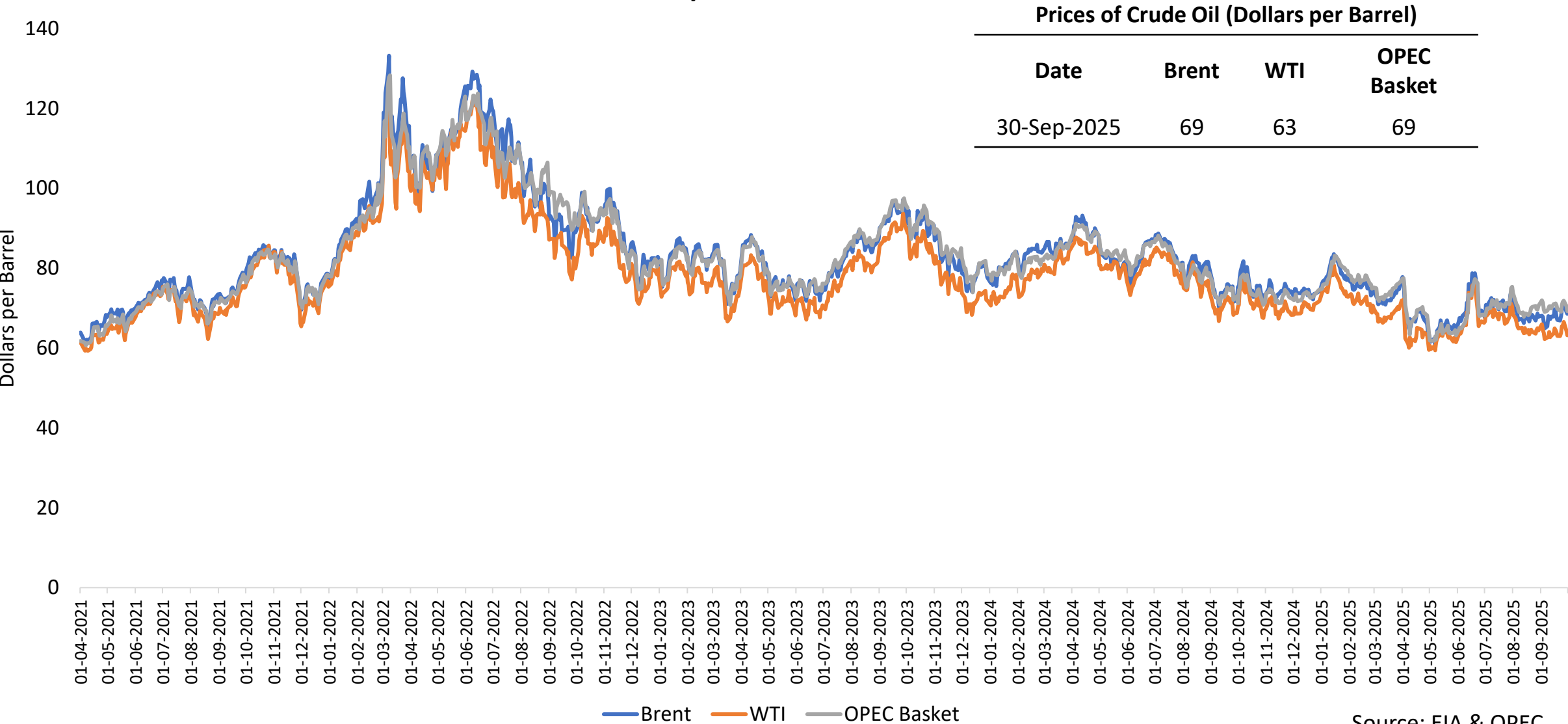


Total Import of Crude Oil (MMT)			
Total Import	2023-24	2024-25	2025-26 (up to Sep'25)
Crude Oil	234	243	121

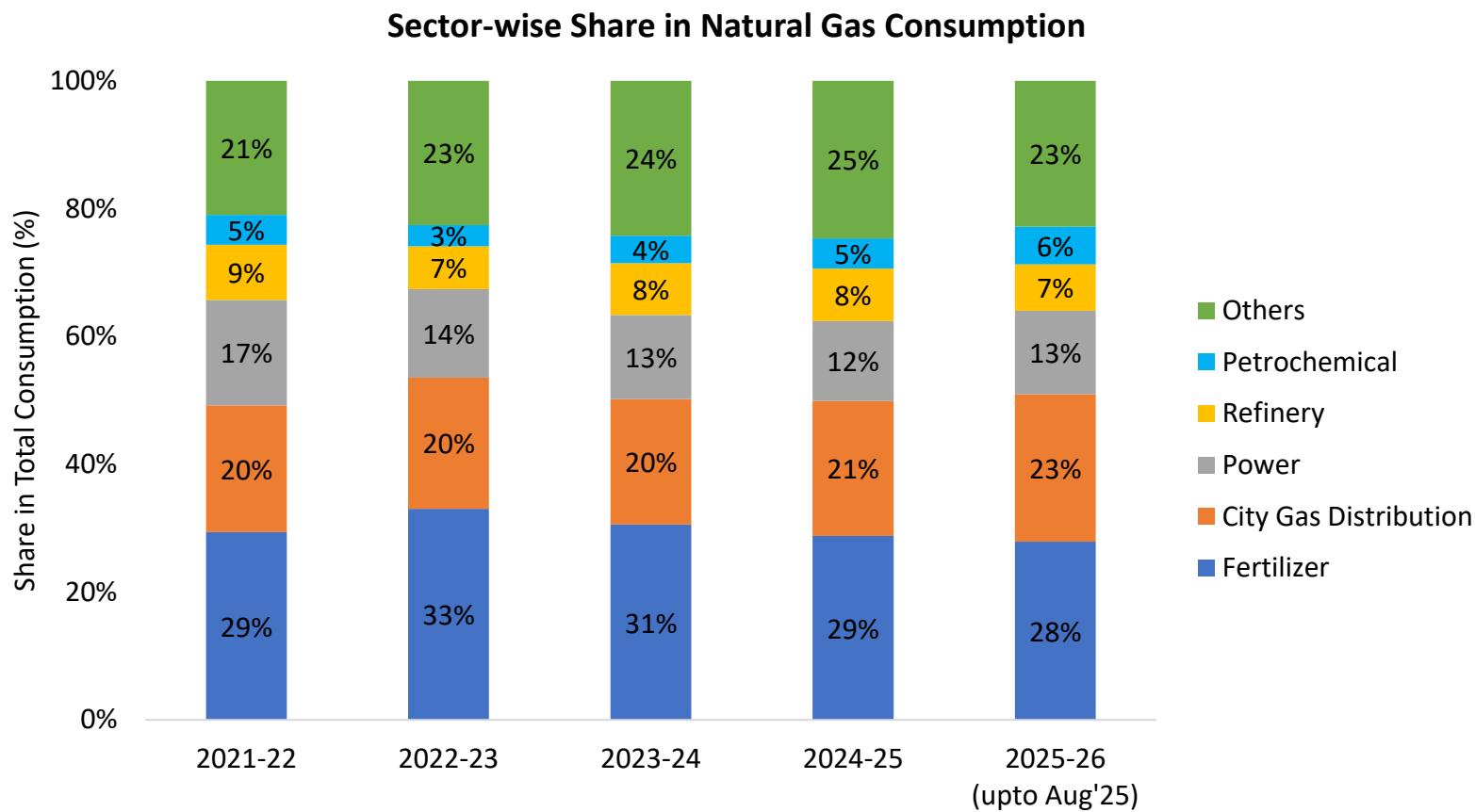


Daily Prices of Crude Oil

Daily Prices of Crude Oil

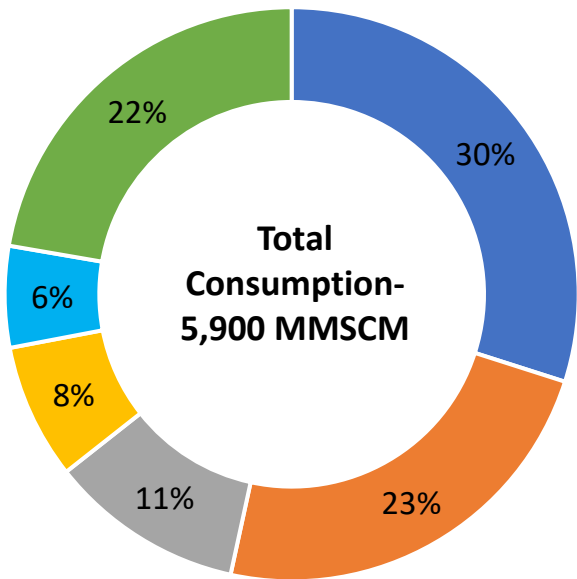


Gas Market Scenario (1/2)



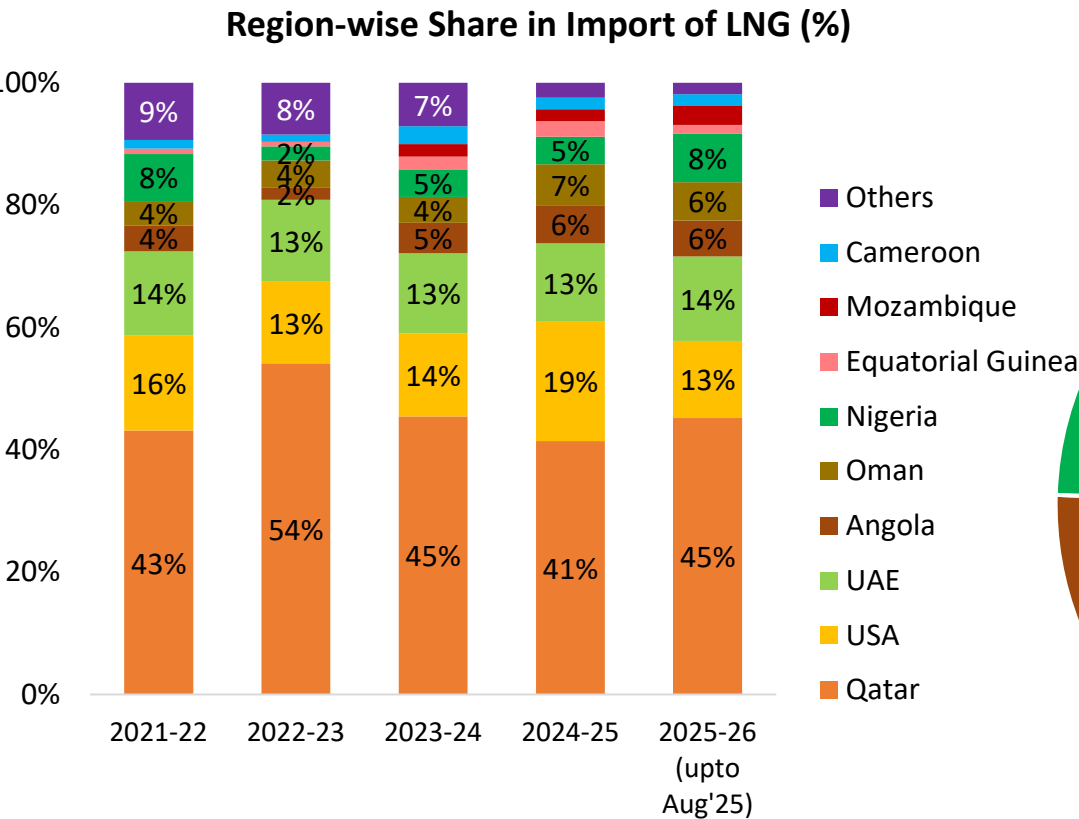
Total Consumption of Natural Gas (NG) (MMSCM)					
Total Consumption	2021-22	2022-23	2023-24	2024-25	2025-26 (up to Aug'25)
Natural Gas	61,491	58,702	68,809	71,196	29,085

Sector-wise share in Natural Gas Consumption in August 2025



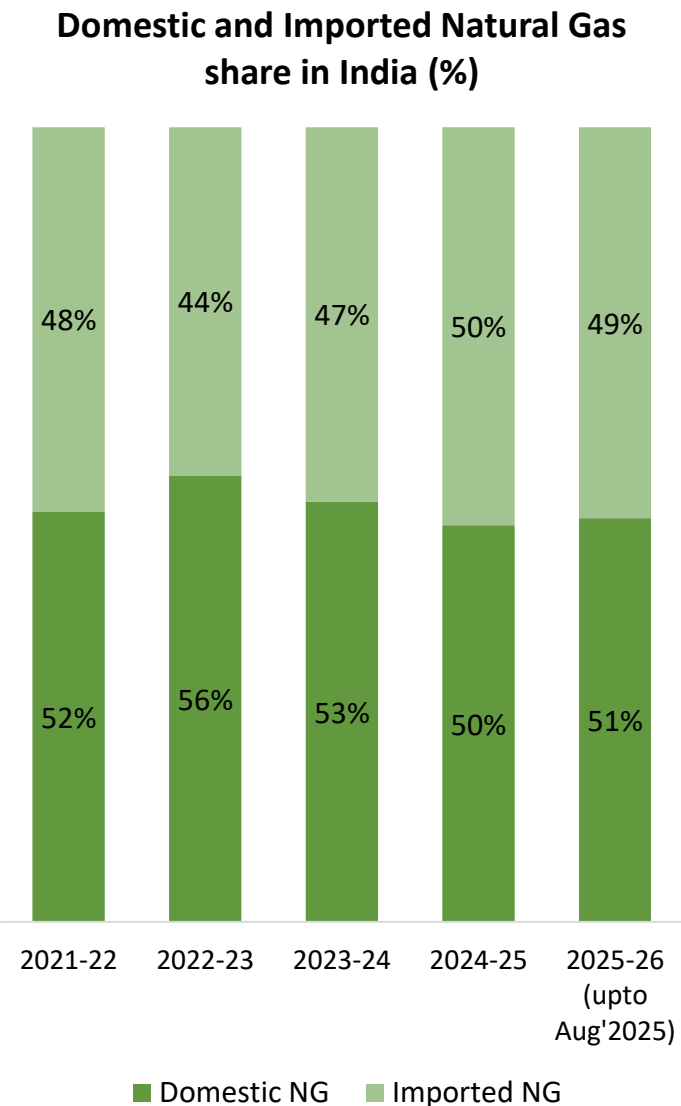
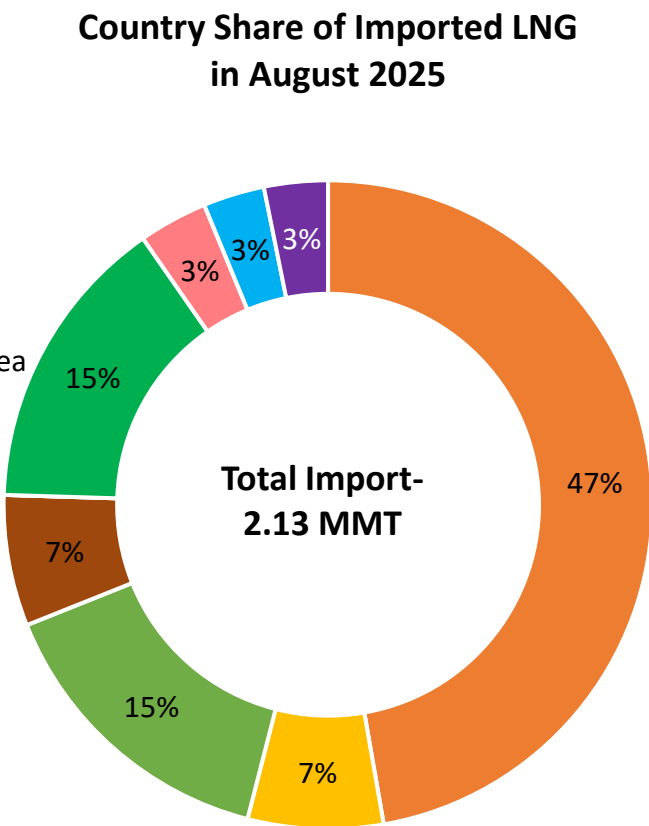
Others include- Internal Combustion of Pipeline System, Industrial, Sponge iron/steel, LPG shrinkage, Manufacturing, Agriculture (tea plantation), Others

Gas Market Scenario (2/2)

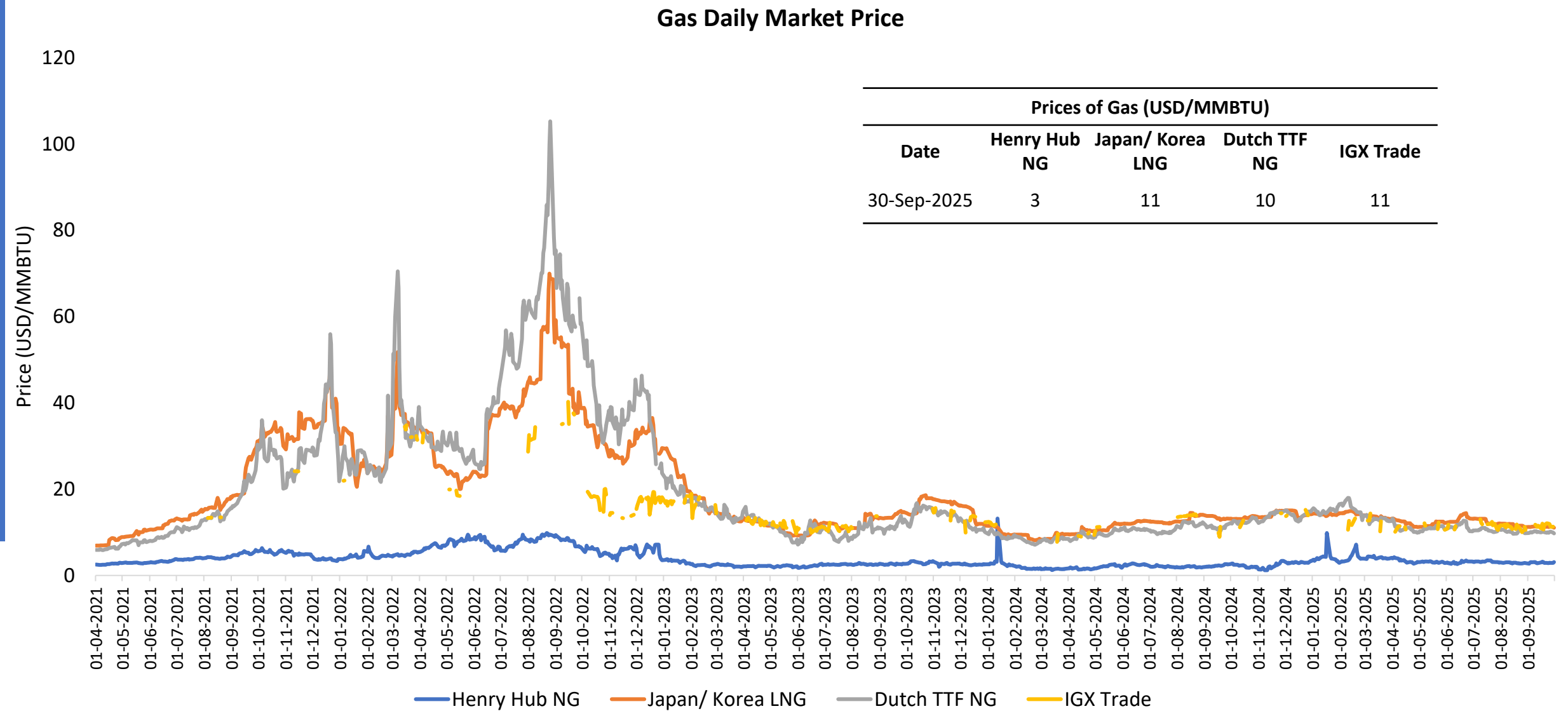


Others include- Trinidad, Cameroon, Egypt, France, Algeria, Belgium, Indonesia, Turkey, Russia, Spain, Malaysia, Brunei, Netherlands, Norway, and others.

Total Import of Liquefied Natural Gas (LNG) (MMT)			
Total Import	2023-24	2024-25	2025-26 (up to Aug'25)
LNG	24.00	26.96	10.63

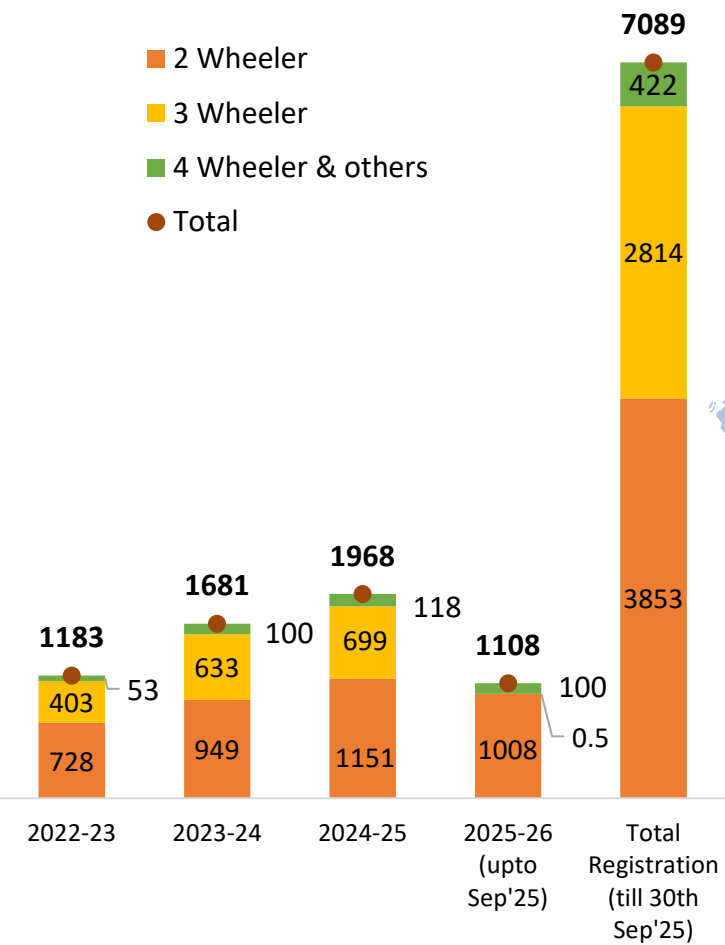


Daily Prices of Gas

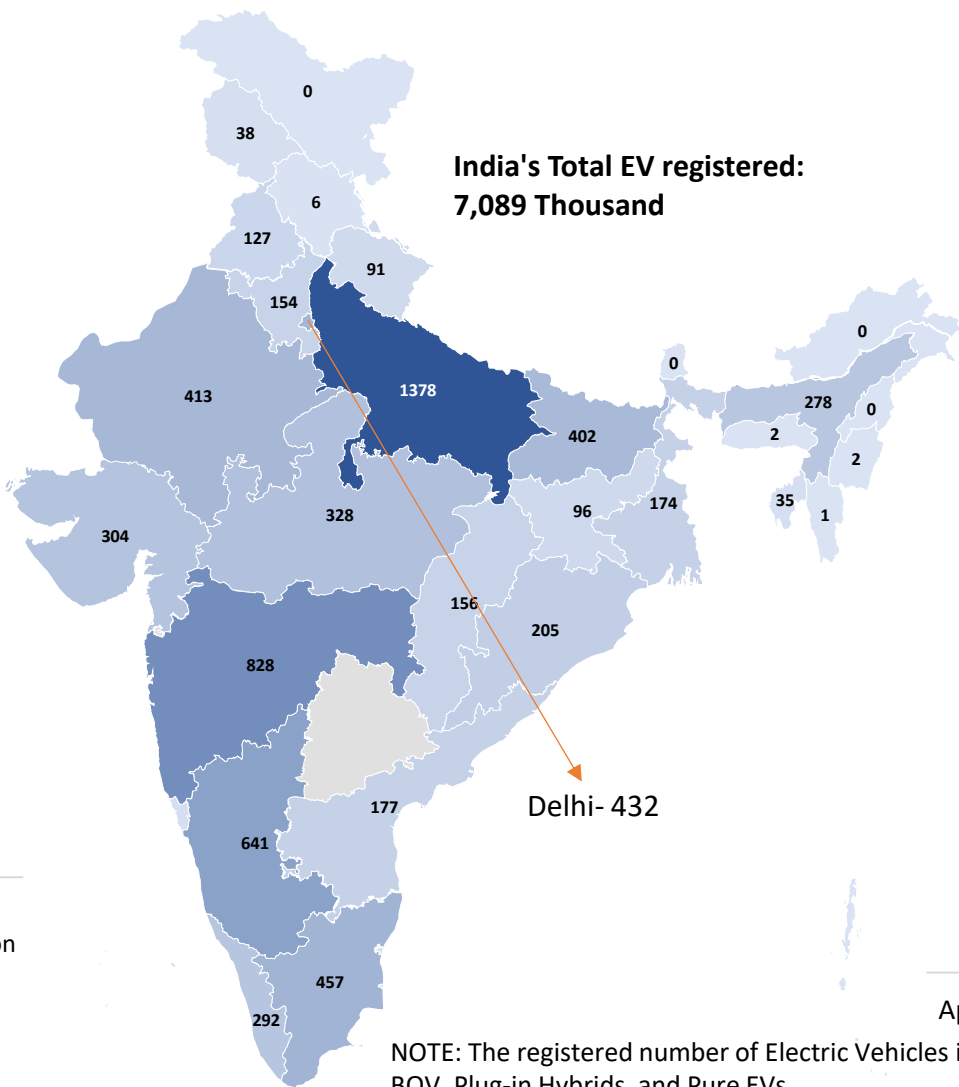


Status of Electric Mobility in India

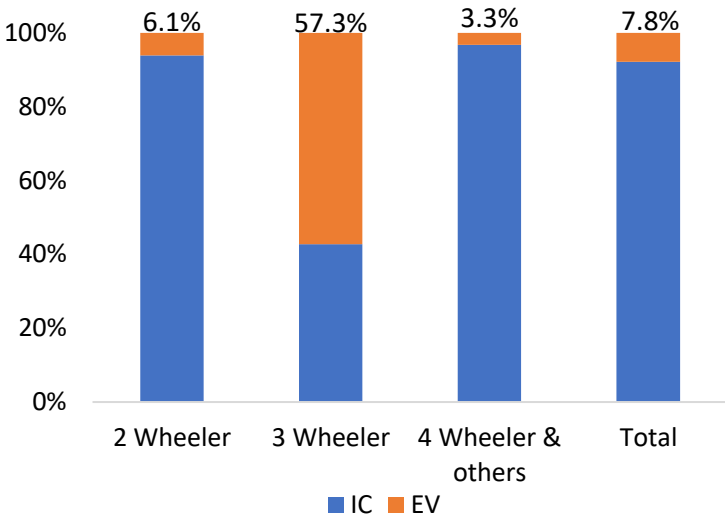
National EV registration
(Number in Thousands)



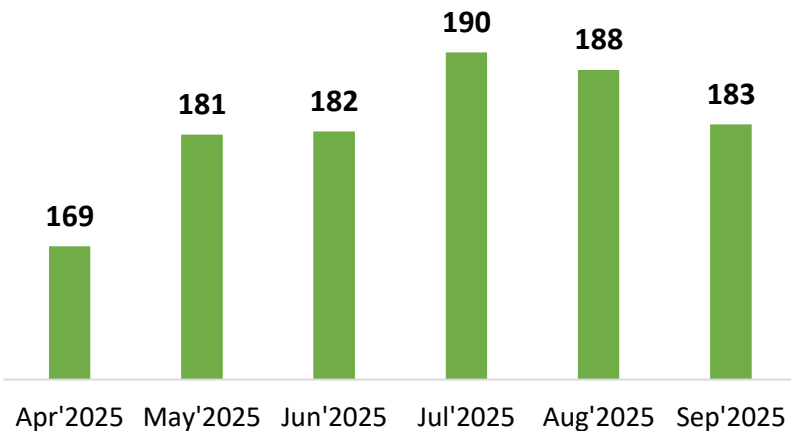
Cumulative State-wise EV registration
as on 30th September 2025 (in Thousands)



EV and ICE sale composition in 2024-25



Provisional Monthly EV registered
(in Thousands)

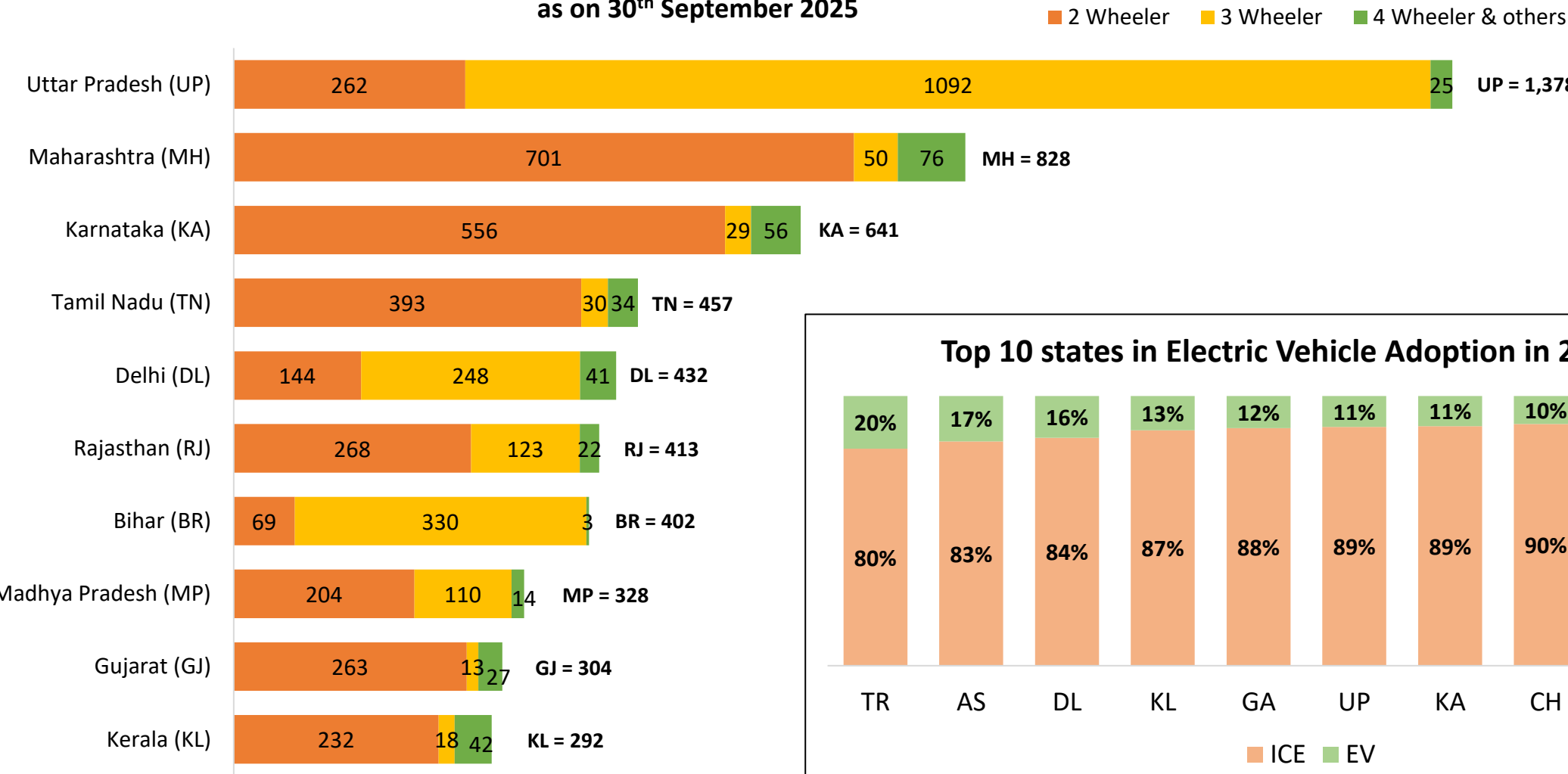


NOTE: The registered number of Electric Vehicles includes Electric BOV, Plug-in Hybrids, and Pure EVs.

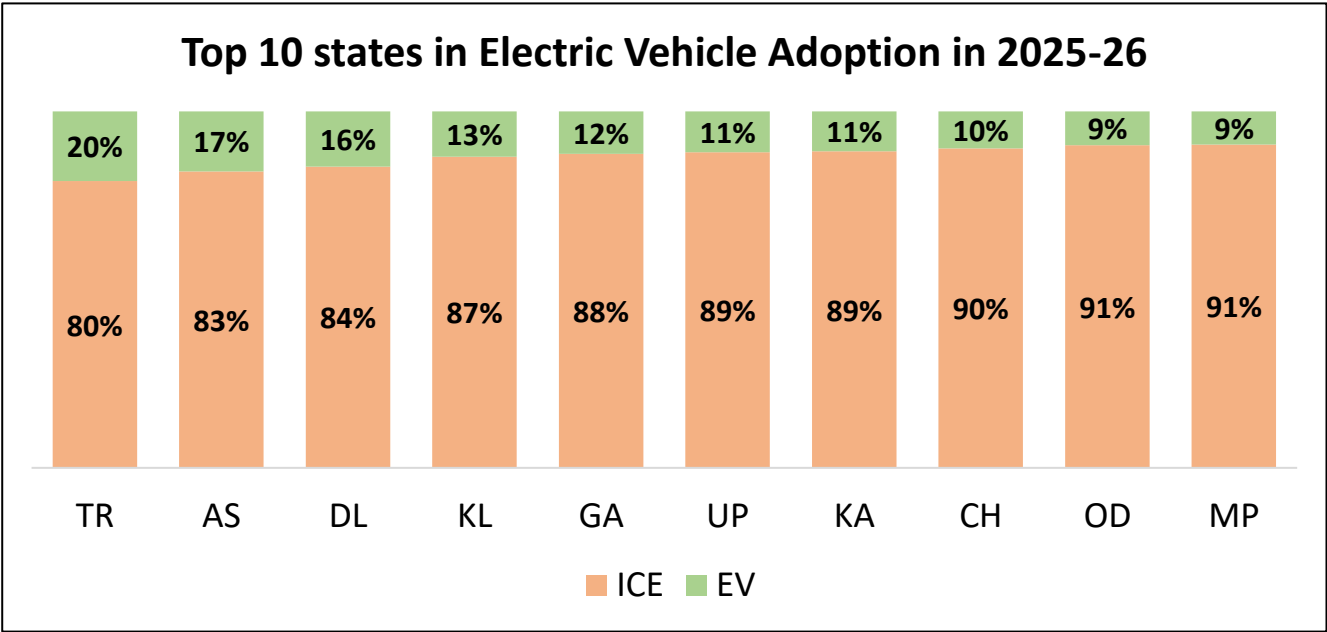
Source: VAHAN Dashboard

Status of Electric Mobility in India

Top 10 States for Electric Vehicles (in Thousands)
as on 30th September 2025



Top 10 states in Electric Vehicle Adoption in 2025-26



Recent Interventions to promote Renewable Energy

Solar

Under the [PLI scheme](#), the GOI has announced INR 19,500 crores to incentivize the manufacturing of domestic solar PV modules.

[PM-Surya Ghar: Muft Bijli Yojana](#) released with a total outlay of Rs. 75,021 crore for installing rooftop solar (RTS) for one crore households. The scheme provides a CFA of Rs 30,000 for a 1 kW RTS system, Rs 60,000 for a 2kW RTS system, and Rs 78,000 for a 3kW RTS system.

The [inter-state transmission charges](#) are waived for 25 years for the projects being commissioned before 30th June 2025.

The [updated RPO](#) compliance supports solar integration of up to 33.57% of the electricity purchased by DISCOMs/states till the year 2029-30.

[PM KUSUM scheme](#) has been extended till Mar'26 to install pump sets up to 15 HP in selected areas.

Wind

[Reverse auctions have been scrapped](#) for wind projects. A traditional two-part (technical and financial) bid system has been put in place.

To support [off-shore wind](#), SECI will invite bids for up to 4GW to set up offshore wind plants off the coast of Tamil Nadu and Gujarat.

The ISTS charges are waived for 25 years for the [onshore projects](#) being commissioned before 30th June 2025 and for [off-shore projects](#) on or before 31st December 2032.

The [updated RPO](#) compliance supports WIND integration of up to 6.94% of the electricity purchased by DISCOMs/states till the year 2029-30.

The [National Repowering & Life Extension Policy for Wind Power Projects- 2023](#), for wind power projects is released for the optimum utilization of wind energy resources by maximizing energy (kWh) yield per sq. km of the wind project areas.

The GoI has decided to invite bids for 50 GW of RE annually, which includes up to [10 GW of wind](#) capacity.

Energy Storage

Ministry of Power has released the [guidelines for the development of PSP](#) with the target of 26.7 GW of PSP and 47.2 GW of BESS to integrate with RE capacity till 2032.

[PLI scheme](#) unveiled for setting up 50 GWh ACC battery storage with an outlay of ₹18,100 crores.

Under the [Waste Management Rules 2022](#), the disposal of waste batteries in landfills and incineration is prohibited and the recycling of waste batteries is made mandatory.

[CERC](#), under RRAS regulation, has allowed the use of energy storage in secondary and tertiary ancillary support.

[The Energy Storage Obligation](#) of DISCOMs is pegged at 4.0% up to 2029-30.

India's [first 20 MW/40MWh BESS project](#) is going to go live at the 33/11 kV Kilokari sub-station belonging to BRPL, Delhi.

In India, approximately [10.62 GW of solar capacity coupled with 12.52 GWh of BESS](#) has been tendered as of April 2025.

Green Hydrogen (H₂)

[National Green Hydrogen Mission](#) (NGHM) aims to meet the target of 5 million metric tonnes of green hydrogen production by 2030. The initial outlay for the Mission will be INR 19,744 crores. [NGHM portal](#) to track the recent initiatives and developments.

India's [first Green Hydrogen Hub to be build in Andhra Pradesh](#) by NTPC at an estimated cost of ₹1.85 Lakh Crore with a capacity of producing 1500 TPD Green Hydrogen and 7500 TPD Green Hydrogen derivative

MNRE has sanctioned [pilot projects on Hydrogen Fuelled Buses and Trucks](#) consisting total of 37 vehicles and 9 hydrogen refueling stations.

MNRE has sanctioned [3 pilot projects in steel sector](#) for use of green Hydrogen in steel production to be commissioned in next 3 years with total financial outlay of ₹347 Crore from GoI.

Indian Railways to run [35 Hydrogen trains under "Hydrogen for Heritage"](#) at an estimated cost of ₹ 80 crores per train and ground infrastructure of ₹ 70 crores per route on various heritage/hill routes.

Key Highlights or Announcements of September 2025

- Ministry of Power has initiated a stakeholder survey to develop the [India Energy Stack \(IES\), a digital backbone for India's power sector](#). The IES aims to create a connected, intelligent, and interoperable energy ecosystem. As part of this initiative, a Utility Intelligence Platform will be developed using standardized and open APIs and protocols, in collaboration with selected power distribution utilities. This platform will unlock data from various IT/OT systems to drive innovation and efficiency across the sector.
- The Government of India has [reduced GST on renewable energy components from 12% to 5%](#) will lower project costs, making clean electricity more affordable for households, farmers, industries, and developers. This cut will reduce rooftop solar costs by ₹9,000 to 10,500 per 3 kW System under PM Surya Ghar, save ₹1,750 crore on 10 Lakh Solar Pumps for farmers under PM-KUSUM, boost RE equipment manufacturing by 3-4% cut on Module and Component Costs , and create 5 to 7 lakh green jobs over the next decade.
- The Ministry of Coal has [raised the GST rate on coal from 5% to 18% while removing the ₹400 per tonne compensation cess](#). Despite the higher GST rate, the overall tax burden has significantly declined, with coal grades G6 to G17 witnessing reductions ranging from ₹13.40 to ₹329.61 per tonne. This reduction is expected to lower power generation costs for the power sector by approximately 17 to 18 paise per unit.
- [MNRE has issued clarifications regarding Waste-to-Energy Programme under Phase-I of the National Bioenergy Programme](#), revising guidelines for performance inspections and CFA eligibility of BioCNG plants. The new rules mandate three months of continuous operation at a minimum of 80% capacity, with specific generation thresholds defined to standardize performance evaluation and ensure financial support is linked to actual plant output.

Key Highlights or Announcements of September 2025

- On 19th September 2025, the Ministry of Power issued [the Electricity \(Amendment\) Rules, 2025](#), providing greater clarity on the ownership, utilisation, and legal status of Energy Storage Systems (ESS). The amendment allows ESS to be deployed independently or as part of generation, transmission, or distribution infrastructure, with ownership open to utilities, system operators, or independent providers. It also defines the legal status of co-located and standalone ESS assets, and permits leasing, renting, or selling of storage capacity across entities in the power sector.
- The Government of India has launched the [National Policy on Geothermal Energy \(2025\)](#) to harness India's untapped geothermal potential and advance its 2070 Net Zero goal. The policy provides a comprehensive framework for exploration, development, and utilization of geothermal energy for power generation and diverse applications such as district heating, agriculture, and cooling via GSHPs. It emphasizes research, innovation, public-private collaboration, and international partnerships to build a robust geothermal ecosystem. As an initial step, five pilot and resource assessment projects have been sanctioned to evaluate geothermal potential across the country.



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