

India's Energy Overview

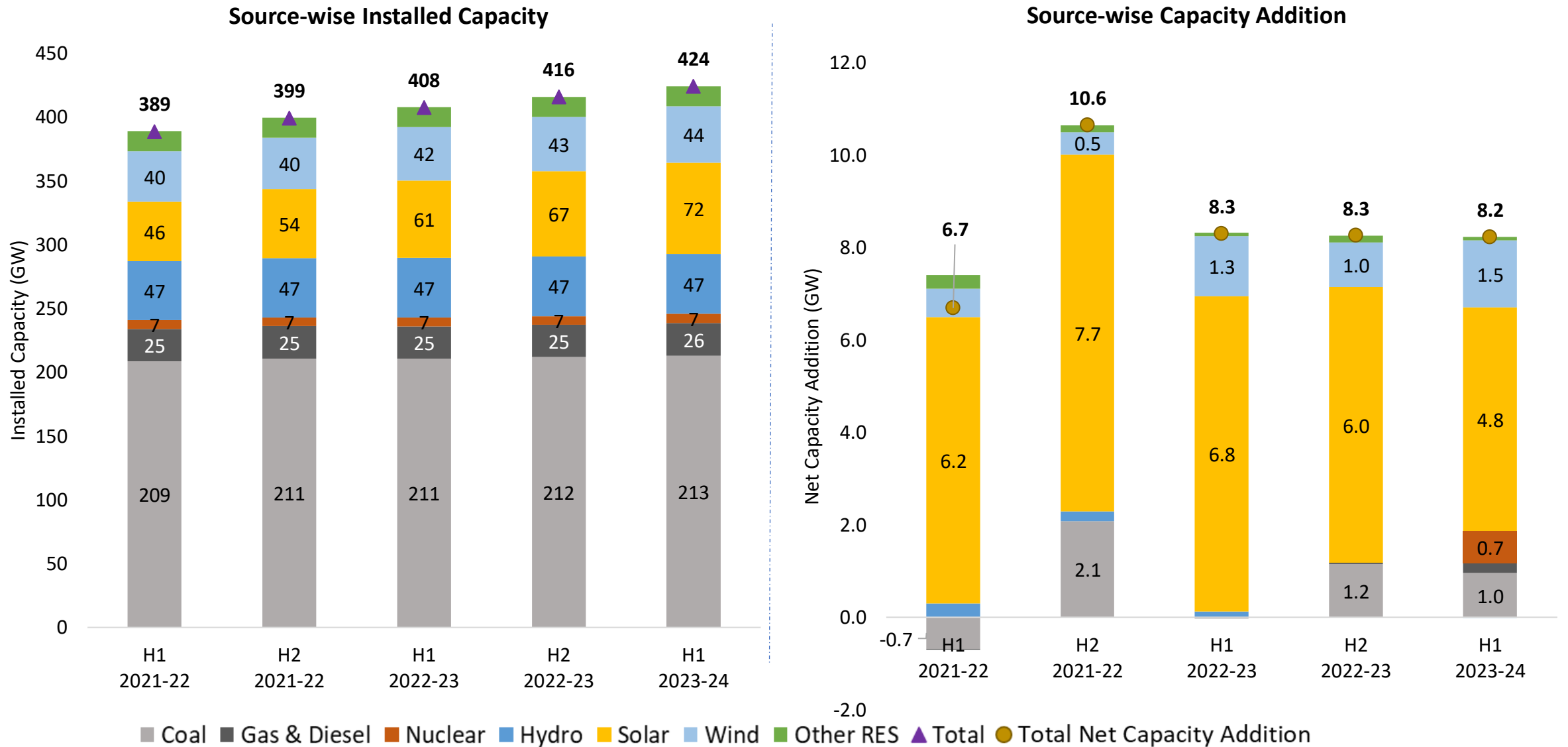
Half-Yearly Highlights of FY2023-24



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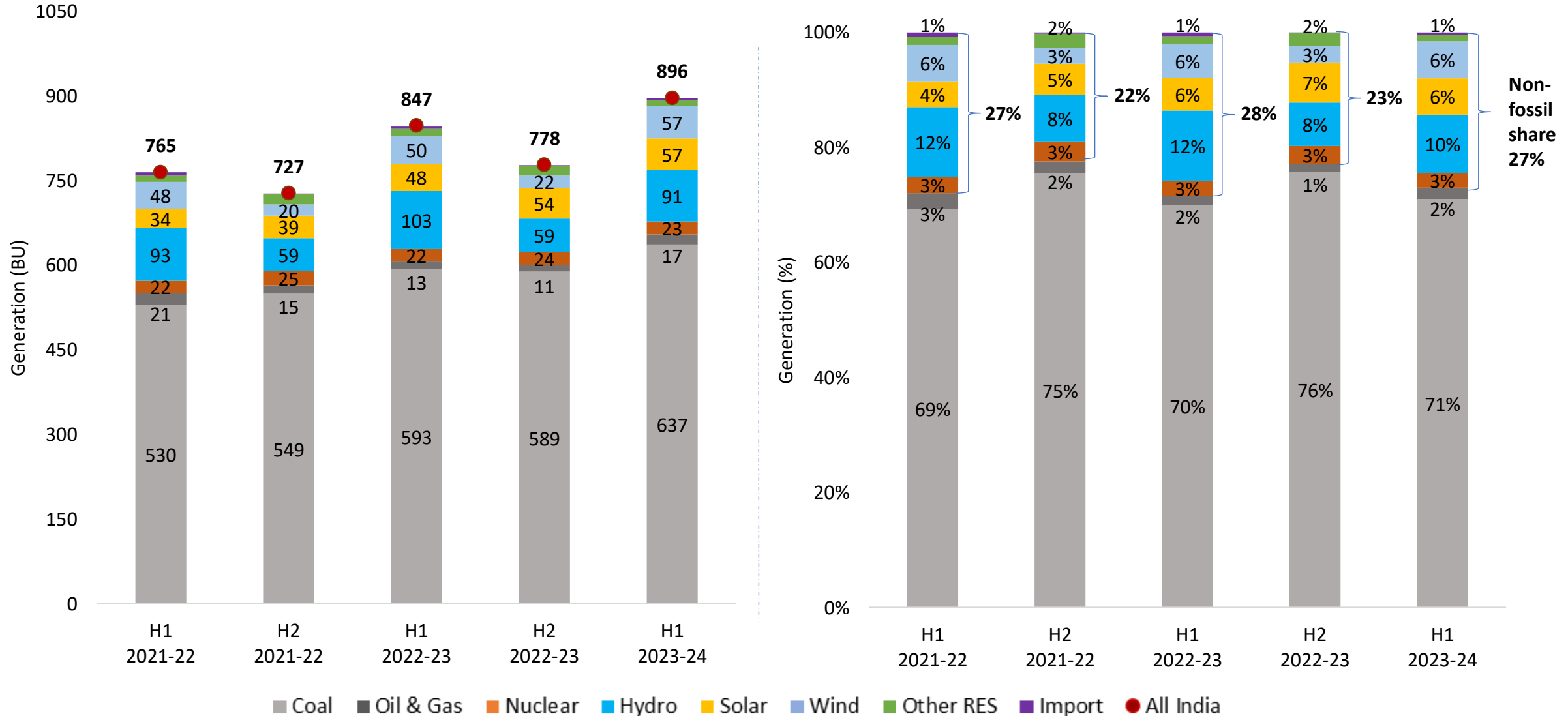
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India's Electricity Capacity Mix (Utility-scale)



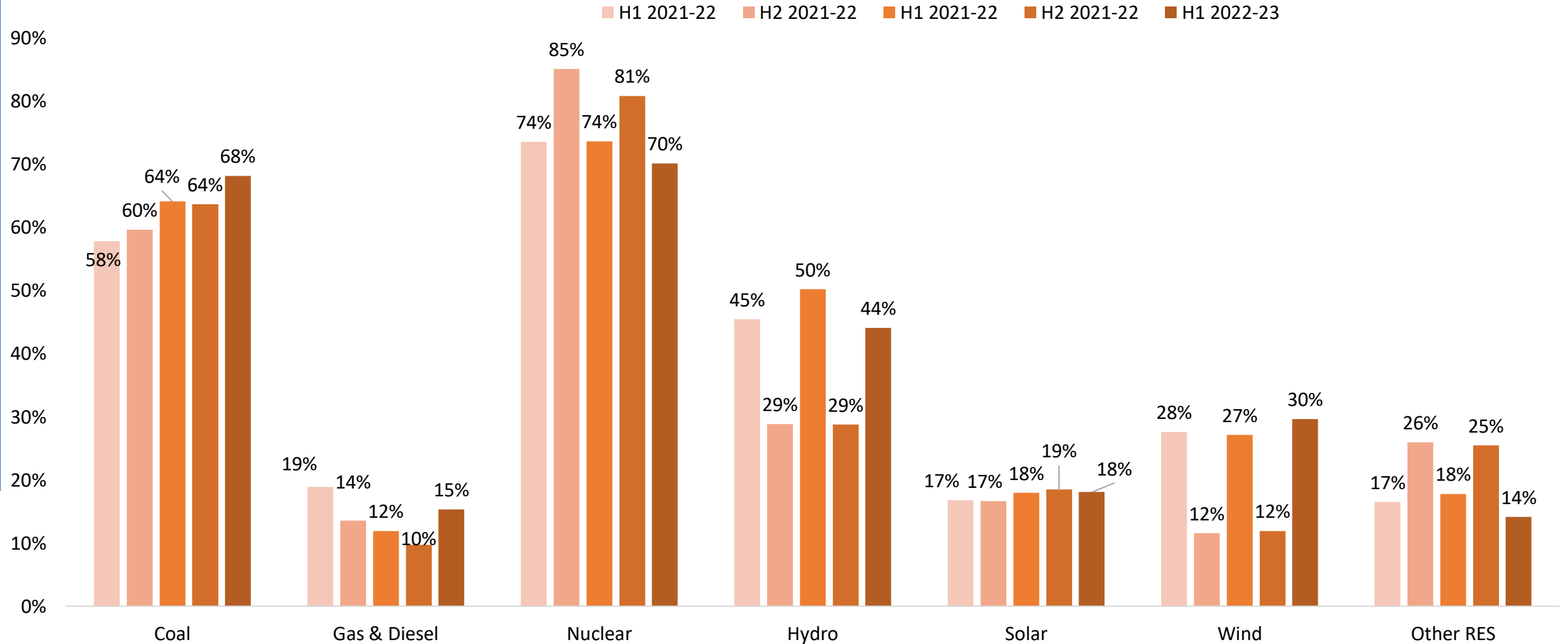
India's Electricity Generation Mix

Source-wise Generation Mix

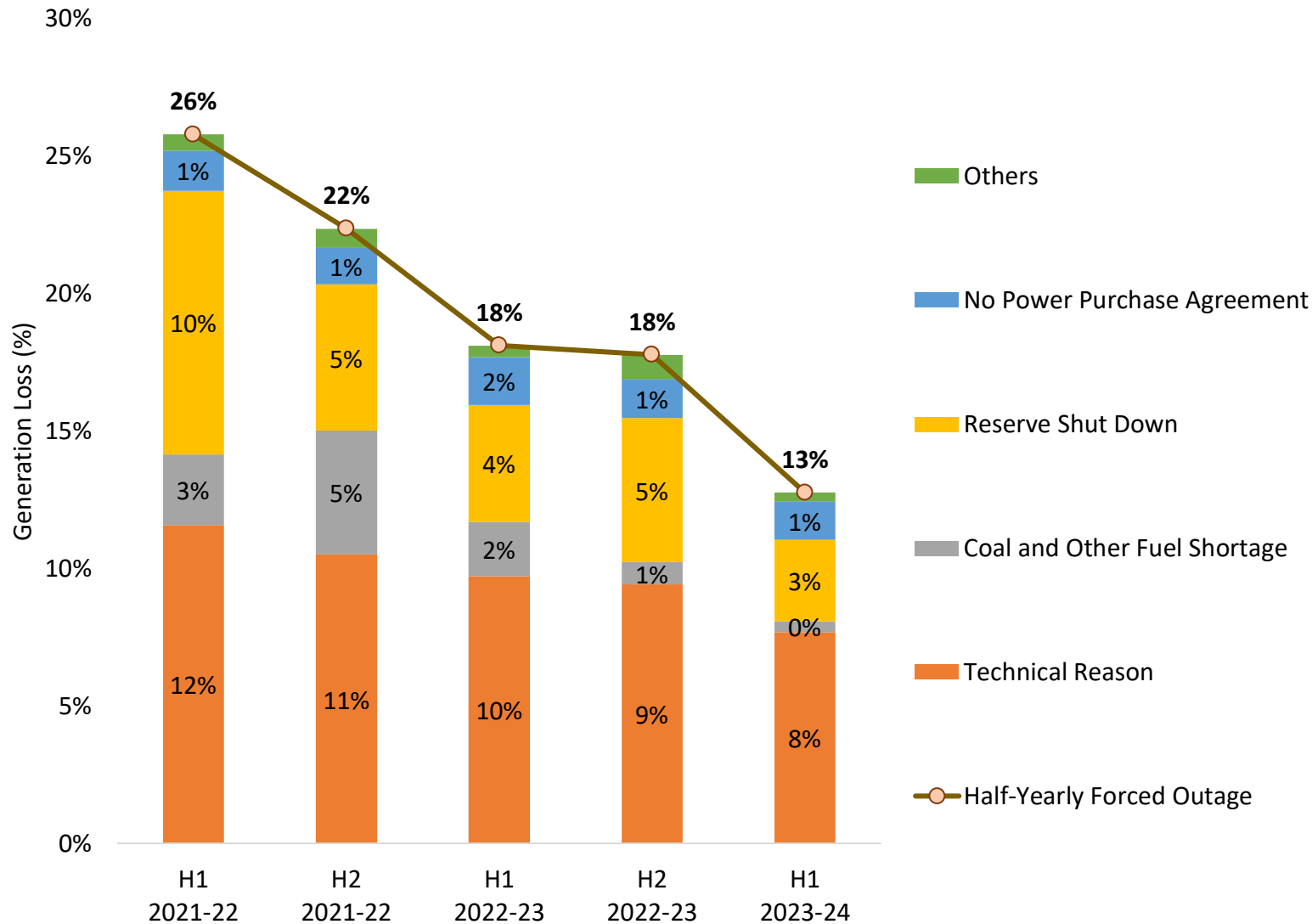


Source-wise PLF/CUF

Source-wise CUF/PLF Comparison

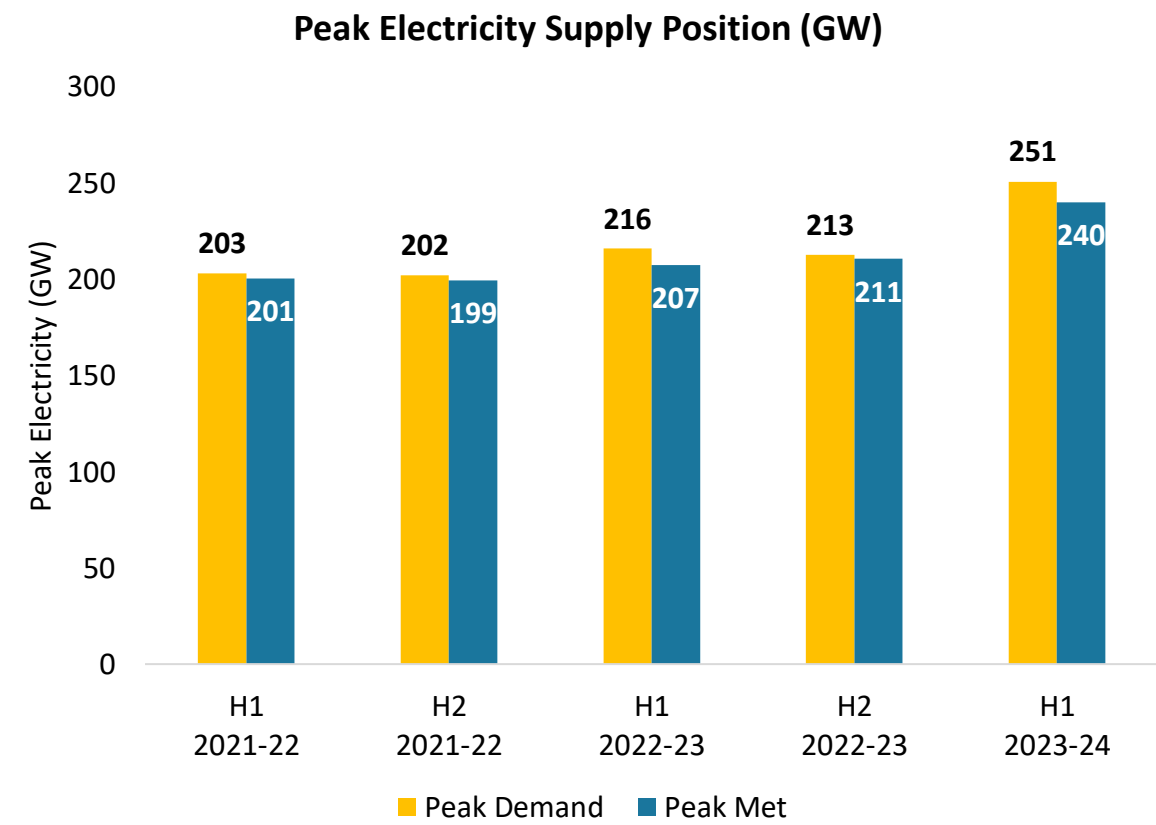
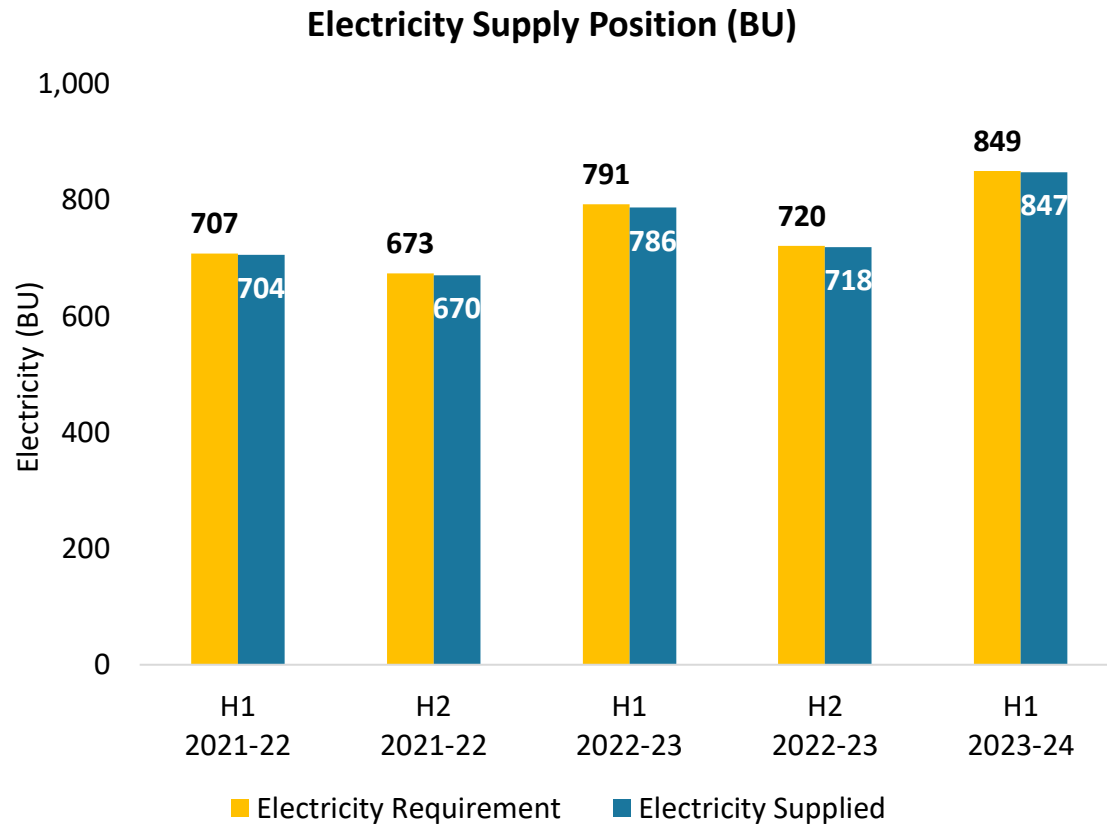


Thermal Generation Loss and Reasons for Forced Outages



Year/ Half-Yearly		Average Forced Outage Share
Yearly	FY 2021-22	24%
	FY 2022-23	18%
	FY 2023-24 (up to Sep'2023)	13%
Half-Yearly	H1 2021-22	26%
	H2 2021-22	22%
	H1 2022-23	18%
	H2 2022-23	18%
	H1 2023-24	13%

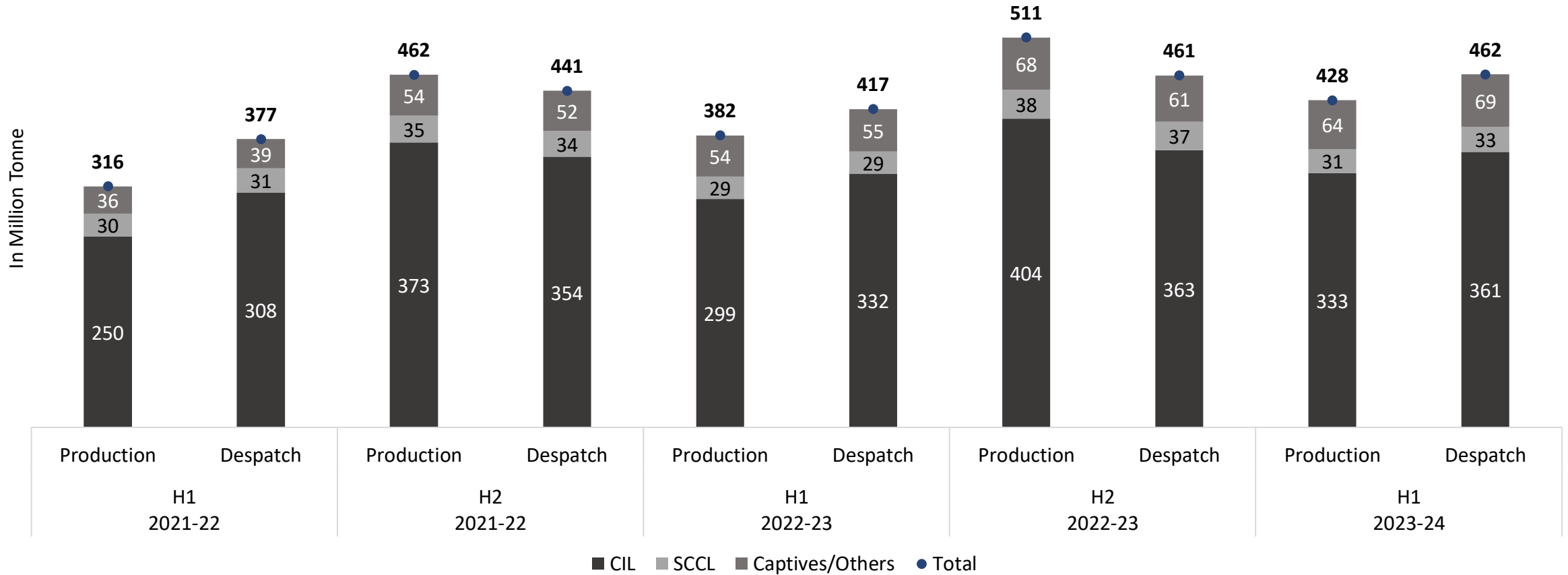
National Electricity Demand and Supply Position



- India recorded its highest peak electricity demand of 251 GW on 1st September 2023.
- National peak electricity demand in H1 2023-24 has increased by 16% compared to the peak demand in H1 2022-23.
- National electricity demand in H1 2023-24 increased by 7% compared to the demand in H1 2022-23.

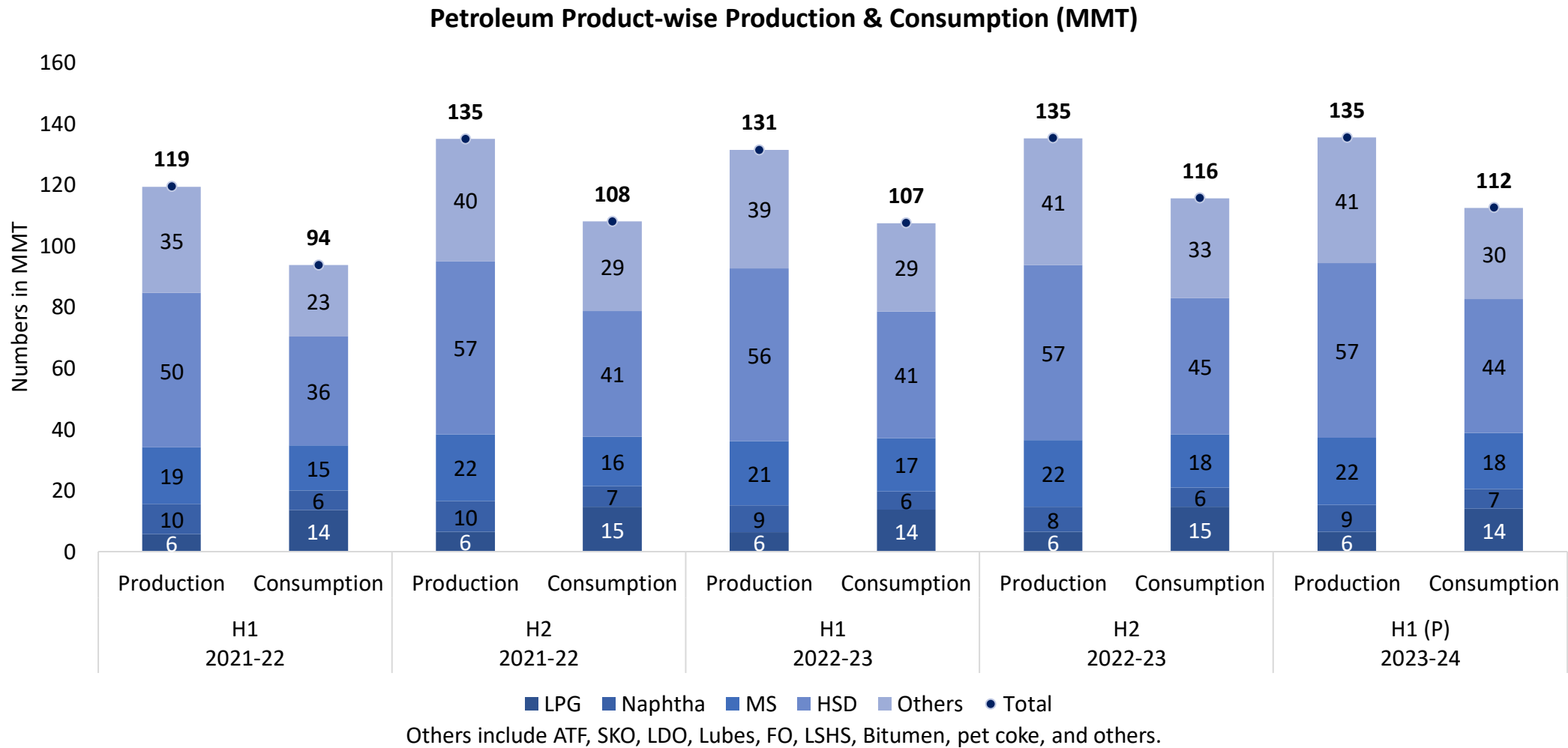
Half-Yearly Coal Statistics

Coal Monthly Statistics



India's coal production increased by 11% in H1 2023-24 (428 MT) compared to H1 2022-23 (382 MT). Similarly, the coal despatch increased by 10% in H1 2023-24 compared to the same period in 2022-23.

Petroleum Products Market Scenario (1/2)



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, P- Provisional

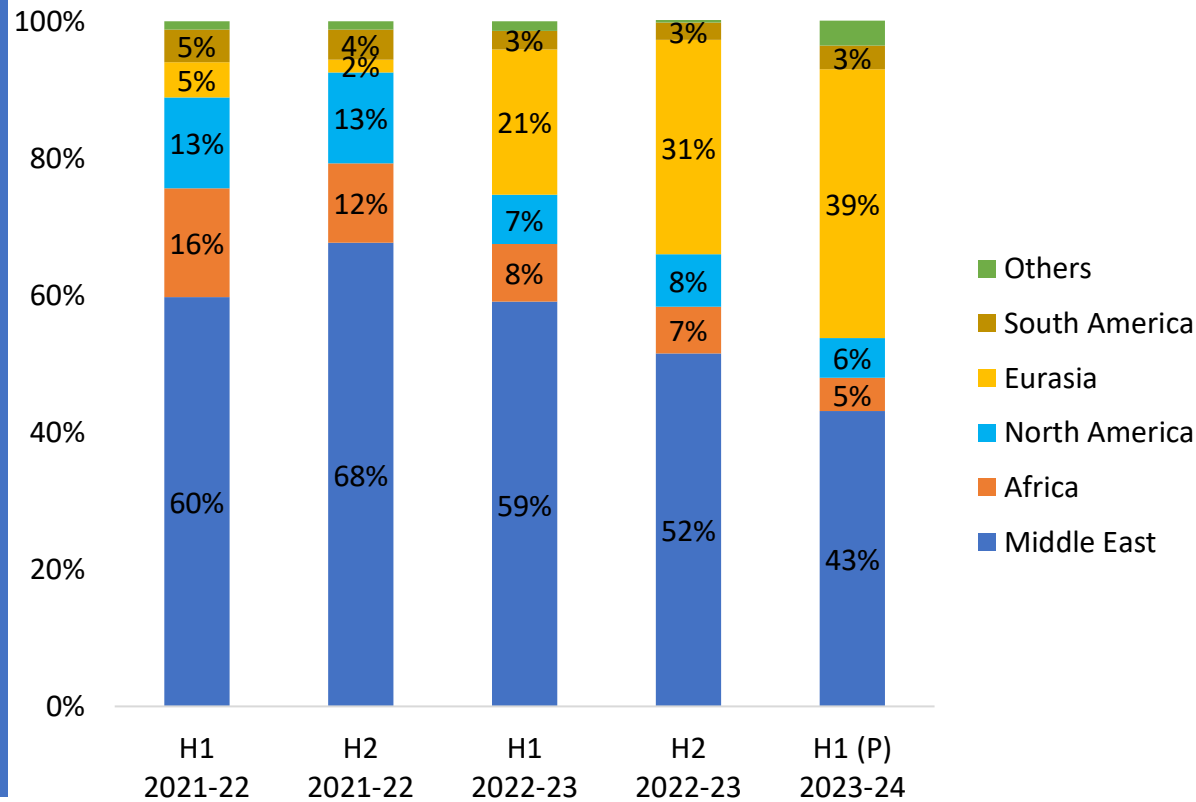
Petroleum Products Market Scenario (2/2)

Import/Export of Crude Oil and Petroleum Products ('000 Tonnes)						
Petroleum Products	Import/ Export	Half-Yearly				
		H1 2021-22	H2 2021-22	H1 2022-23	H2 2022-23	H1 (P) 2023-24
Crude Oil	Import	101436	110946	115745	116987	98420
	Export	0	0	0	0	0
	Net Import	101436	110946	115745	116987	98420
LPG	Import	8139	8905	8672	9637	6701
	Export	243	270	264	270	215
	Net Import	7896	8635	8408	9368	6486
Diesel	Import	18	25	281	47	15
	Export	15315	17092	15459	13076	11098
	Net Import	-15297	-17067	-15178	-13029	-11083
Petrol	Import	227	444	410	659	295
	Export	6169	7313	6519	6599	6165
	Net Import	-5942	-6870	-6109	-5940	-5870
Others	Import	9197	12062	11347	13488	11825
	Export	7881	8471	9299	9553	8390
	Net Import	1316	3591	2048	3935	3434

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

Region-wise Oil & Gas Import

Region-wise Share in Import of Crude Oil (%)

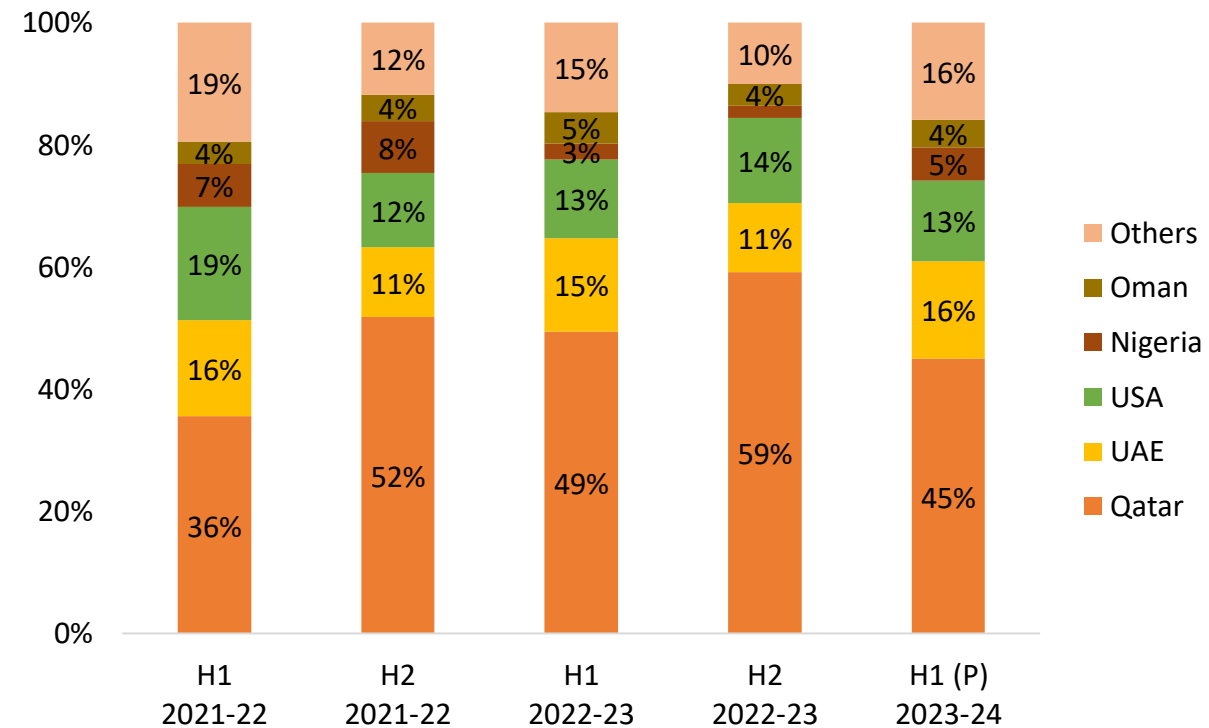


Others include- Asia and Europe

Total Import of Crude Oil (MMT)

Total Import	H1 2021-22	H2 2021-22	H1 2022-23	H2 2022-23	H1 (P) 2023-24
Crude Oil	101	111	115	117	115

Region-wise Share in Import of LNG (%)



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

Total Import of Liquefied Natural Gas (LNG) (MMT)

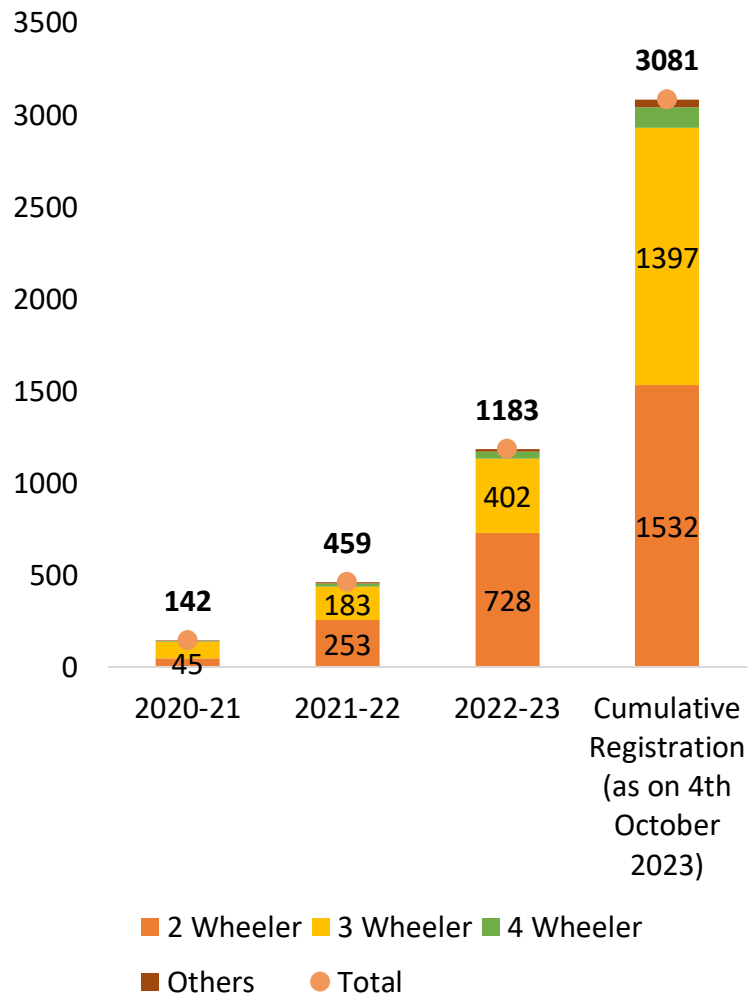
Total Import	H1 2021-22	H2 2021-22	H1 2022-23	H2 2022-23	H1 (P) 2023-24
LNG	13	11	10	10	11

NOTE: P- Provisional

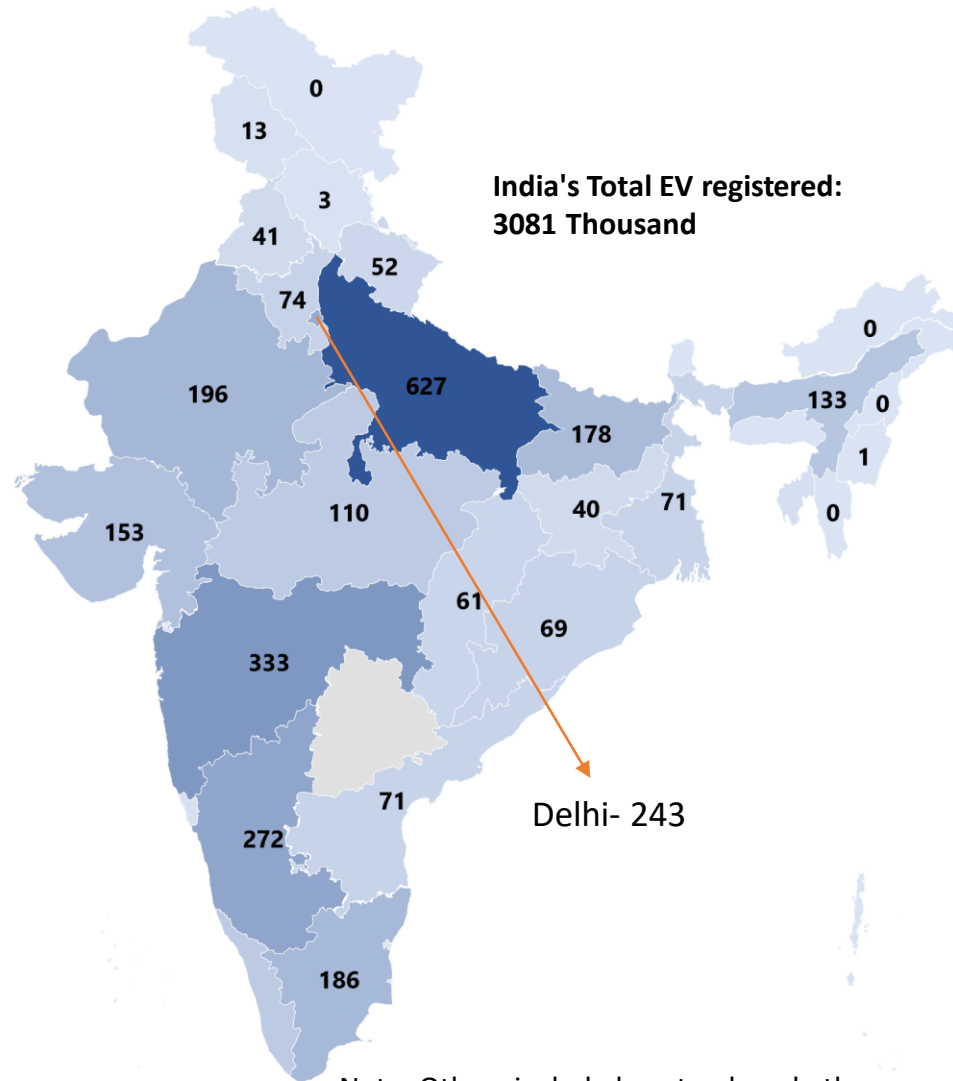
Source: PPAC and MoCI

Status of Electric Mobility in India

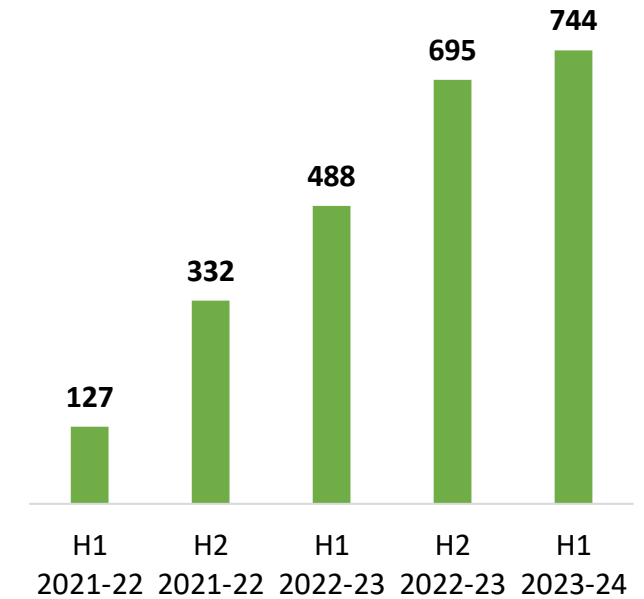
National EV registration
(in Thousands)



Cumulative State-wise EV registration
as on 4th October 2023 (in Thousands)



Provisional Half-Yearly EV registered
(in Thousands)



NOTE: H1- April to September, H2- October to March.

Key Policy Highlights and Announcements in H1 FY2023-24

- MNRE has released the [Strategy for Establishment of Offshore Wind Energy Projects](#) and plans to auction 37 GW of offshore site leases in the next 7 years (until FY30). They have formulated three models for developing offshore wind energy projects, especially along the southern and western shorelines of the country-
 - Model A: (1 GW) PPA award tender to be supported with Viability Gap Funding (VGF)
 - Model B: (14 GW) Exclusive site lease tender without VGF support
 - Model C: (22 GW) Sea-bed allocation bid for project development without VGF support
- MNRE unveiled the [Green Hydrogen Standards for India](#), which outlines that the greenhouse gas emissions resulting from the production of hydrogen through electrolysis and biomass conversion should not surpass 2 kg of carbon dioxide per kg of hydrogen over the span of a year.
- The Ministry of Power, Government of India, has unveiled a comprehensive [National Framework for promoting Energy Storage Systems](#) (ESS). The key objectives are:
 - to ensure a constant supply of renewable energy (Renewable Energy- Round the Clock)
 - to reduce greenhouse gas emissions and lower energy costs by incentivizing ESS deployment while reducing the reliance on fossil fuel power plants
 - to enhance grid stability and reliability through ESS deployment
 - stimulate innovation in energy storage technologies, and ensure equitable access to energy storage for all segments of the population.

Key Policy Highlights and Announcements in H1 FY2023-24

- Ministry of Power notified the [Carbon Credit Trading Scheme 2023](#) on 28th June 2023. The scheme entails the formation of a National Steering Committee for the Indian carbon market (NSCICM) for the governance and direct oversight of the Indian carbon market. The committee will be chaired by the Secretary, Ministry of Power (MoP); and co-chaired by the Secretary, Ministry of Environment, Forests and Climate Change (MoEF&CC).
- Ministry of New and Renewable Energy has declared a plan to [add 50 GW of renewable energy capacity annually for the next 5 years](#) to achieve the target of 500 GW by 2030.
- The government has provided [bulk approval for the installation of ten nuclear reactors](#) (each of 700 MW). These reactors are planned to be set up in 'fleet mode' progressively by the year 2031 for Rs 1,05,000 crores.
- The Ministry of Power notified the [Electricity \(Amendment\) Rules, 2023](#). The key changes are:
 - Qualification criteria for captive generators: a power plant may qualify to be a captive generation plant if the captive user owns at least 26% of the generation plant and if the plant is established by a captive user's affiliate company, the captive user must own at least 51% of that company.
 - Uniform RE Tariff: The amendment changes the basis of tariff calculation from energy supplied to energy scheduled. Also, the RE tariff will be set by the intermediary between the discom and the generation company. It also specifies that the RE tariff will only be applicable to discoms and open-access providers.
 - to streamline subsidy accounting and payment, establish a financial sustainability framework, and set prudent cost management guidelines.

Key Policy Highlights and Announcements in H1 FY2023-24

- The Ministry of Power has issued [Guidelines for Resource Adequacy Planning Framework for India](#), in consultation with Central Electricity Authority (CEA). The guidelines will ensure that sufficient electricity is made available to power the country's growth, by putting in place a framework for advance procurement of resources by DISCOMs to meet the electricity demand in a cost-effective manner.
- Ministry of New and Renewable Energy has released the guidelines for implementing Strategic Interventions for Green Hydrogen Transition (SIGHT) Programme of the National Green Hydrogen Mission from 2025-26 to 2029-30. The components of the programme are [Component I: Incentive Scheme for Electrolyser Manufacturing](#) with an outlay of Rs. 4,440 crores under this component and [Component II: Incentive Scheme for Hydrogen Production \(under Mode I\)](#) with an outlay of Rs. 13,050 crores.
- Under the FAME-II scheme, [subsidies for electric 2-wheelers have been reduced from Rs 15,000/kWh to Rs 10,000/kWh](#). Also, the maximum subsidy for electric 2-wheelers has been capped from 40% to 15% of the ex-factory price of the vehicles



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