

SectorVector

Reading the topical trends

June 2024

Summer surge

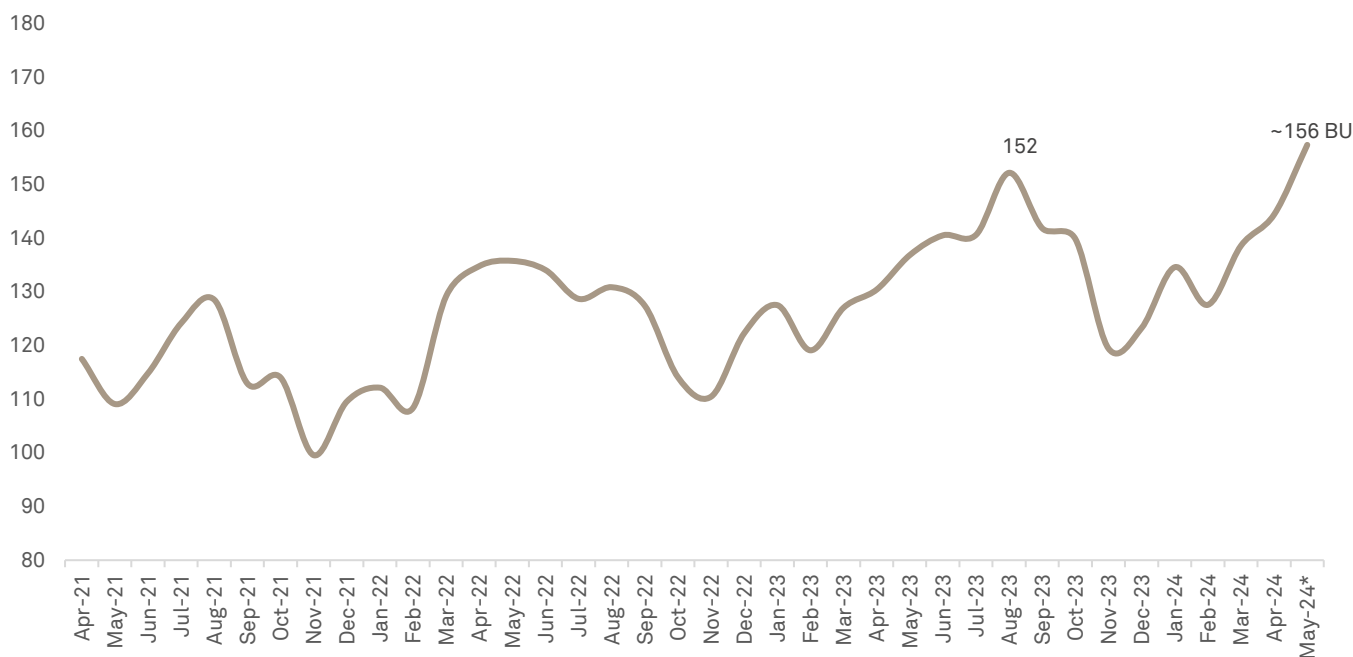
Power demand likely hit an all-time high of ~156 BU in May

A spurt in usage of cooling equipment amid severe and prolonged heatwaves across the country, together with strong manufacturing activity, ensured robust demand for power in the first two months of this fiscal.

Power demand is likely to have grown ~13% compared with April-May 2023. Indeed, in May, power demand is estimated to have surged to ~156 billion units (BUs), logging a ~15% on-year increase.

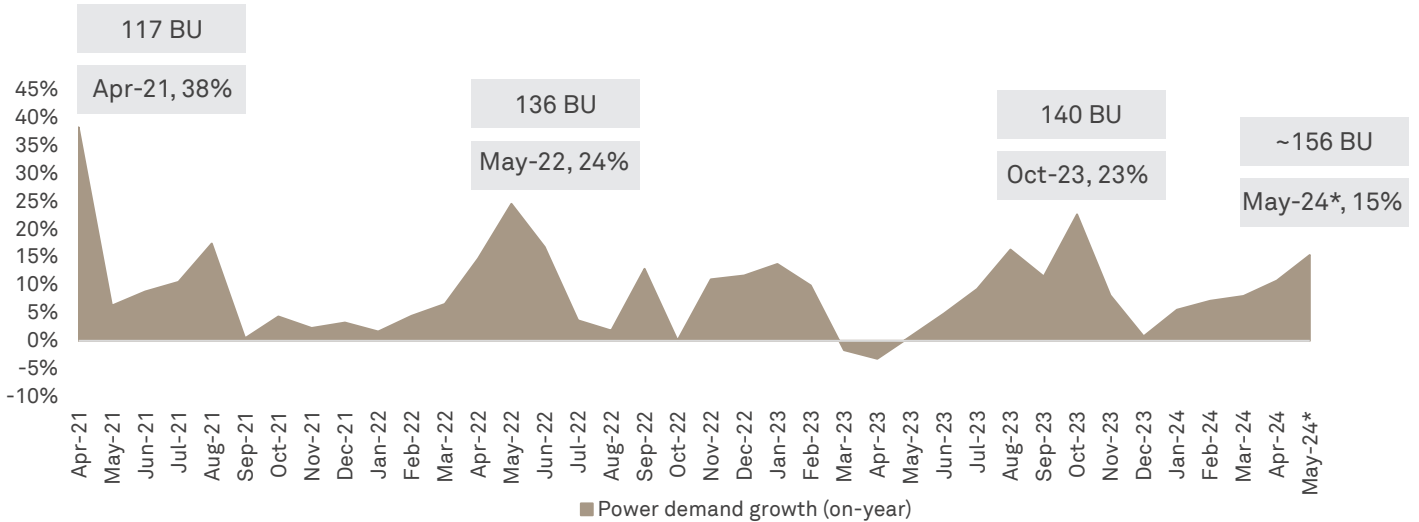
Base power demand scaled a new high in May as temperatures crossed 50°C

billion units



Note: * Provisional number for May 2024
Source: CEA, Grid India, CRISIL MI&A Research

Power demand surged ~15% as severe heatwaves pushed up cooling usage



Note: *Provisional number for May 2024
Source: CEA, Grid India, CRISIL MI&A Research

The country's average maximum temperature rose to 35.6°C in April 2024, a 0.65°C departure from normal. Of the 30 days in April, maximum temperatures were below normal on only two days across the country.

The heatwaves were more intense in May, especially during the second half. States in northwest and central India and Gujarat faced severe heatwaves. Towards May-end, heatwave conditions extended to more parts of central and north India and to Chhattisgarh, Bihar and Vidarbha. Pan-India maximum temperatures reached 45-48°C by the month-end. Temperatures touched a scalding

50.5°C, the highest of the season, in Churu, Rajasthan on May 29.

Meanwhile, manufacturing activity, as indicated by the Purchasing Managers' Index (PMI), remained comfortably above the expansionary mark of 50 in April and May at 58.8 and 57.5, respectively. This boosted power demand from the commercial and industrial segment.

The fallout: India touched new highs in peak power demand at 246 GW and 250 GW on May 29 and 30, respectively.

Peak demand touched a historic high of 250 GW on May 30 amid surging temperatures

GW	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar
FY19	162	172	172	170	173	177	173	163	164	164	162	169
FY20	177	184	184	177	179	175	165	156	172	172	179	171
FY21	133	167	167	172	169	177	171	161	184	190	190	186
FY22	183	169	194	203	198	181	180	167	184	193	194	202
FY23	216	206	212	192	197	200	187	188	206	213	210	209
FY24	217	221	224	208	238	243	221	204	213	223	222	221
FY25	224	250*										

% Dev from peak
■ Less than 0%
■ More than 10%
■ > 0% and <=5%
■ Peak demand for respective fiscal

Note: *Provisional number for May 2024
Source: Central Electricity Authority (CEA), Grid India, CRISIL MI&A Research

Summer power generation mirrors demand

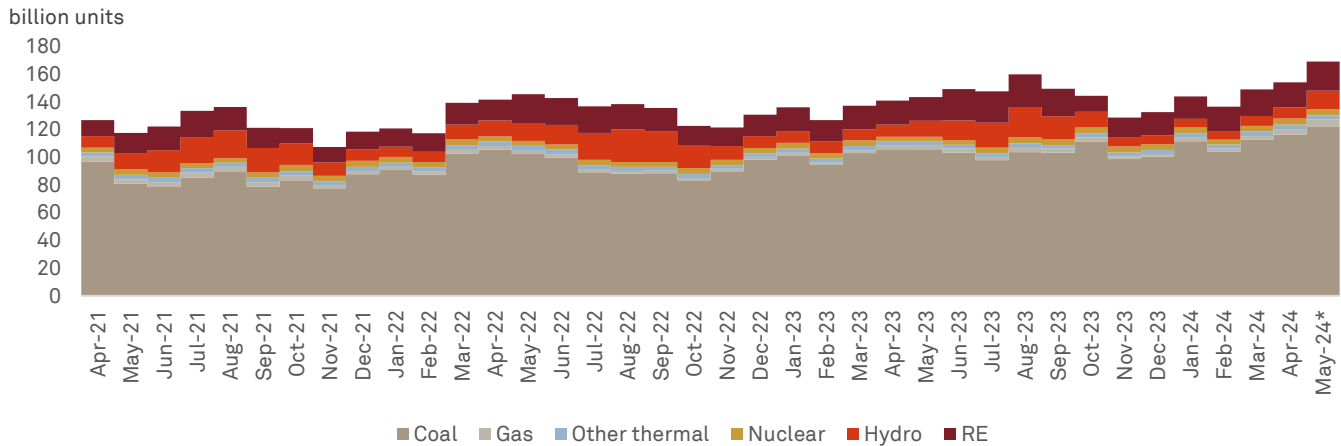
Overall generation is estimated to have increased ~9% and ~18% on-year in April and May, respectively, with the latter month recording a high of ~169 BU.

With the implementation of Section 11 for gas-based power plants, the share of gas in overall

generation increased to 3.1% in May 2024 from 1.6% in May 2023.

At the other end, the share of coal in overall generation declined marginally, from 73% to 72%, while that of remaining fuels remained unchanged.

Overall generation surges 18% in May; gas generation increases ~117% on-year



Note: *Provisional number for May 2024; Other thermal includes lignite and diesel
Source: CEA, Grid India, CRISIL MI&A Research

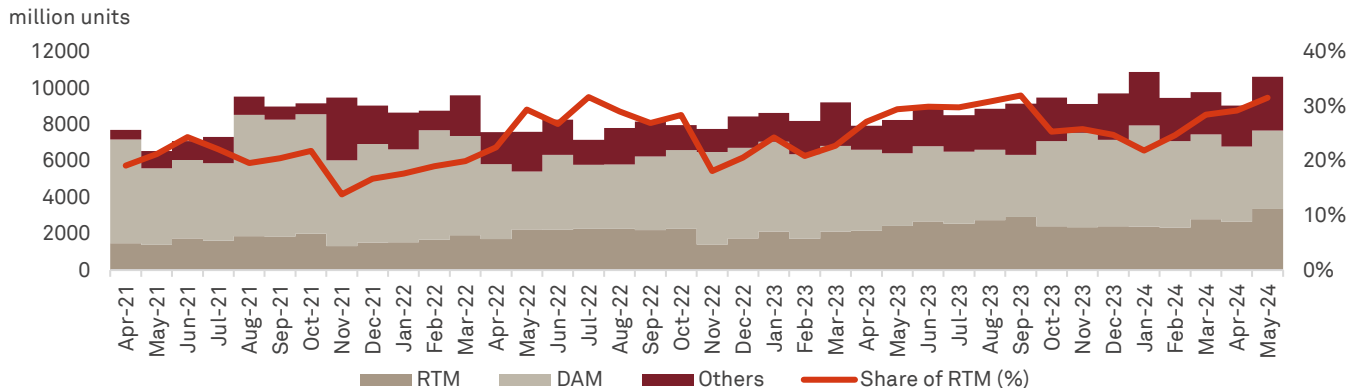
To cater to the rising demand for electricity, generators have been increasingly turning to the short-term power market.

In line with the on-year increase in power demand, the volume traded in the short-term power market increased 29% on-year in May. The volume in real-time-market (RTM) surged 38%, indicating the

need for immediate delivery during spikes in power requirement.

Interestingly, RTM's share as a percentage of volume on the Indian Energy Exchange (IEX) increased to 32% in May, higher than the average 22% since its inception in June 2020.

RTM sees a surge during periods of high power demand



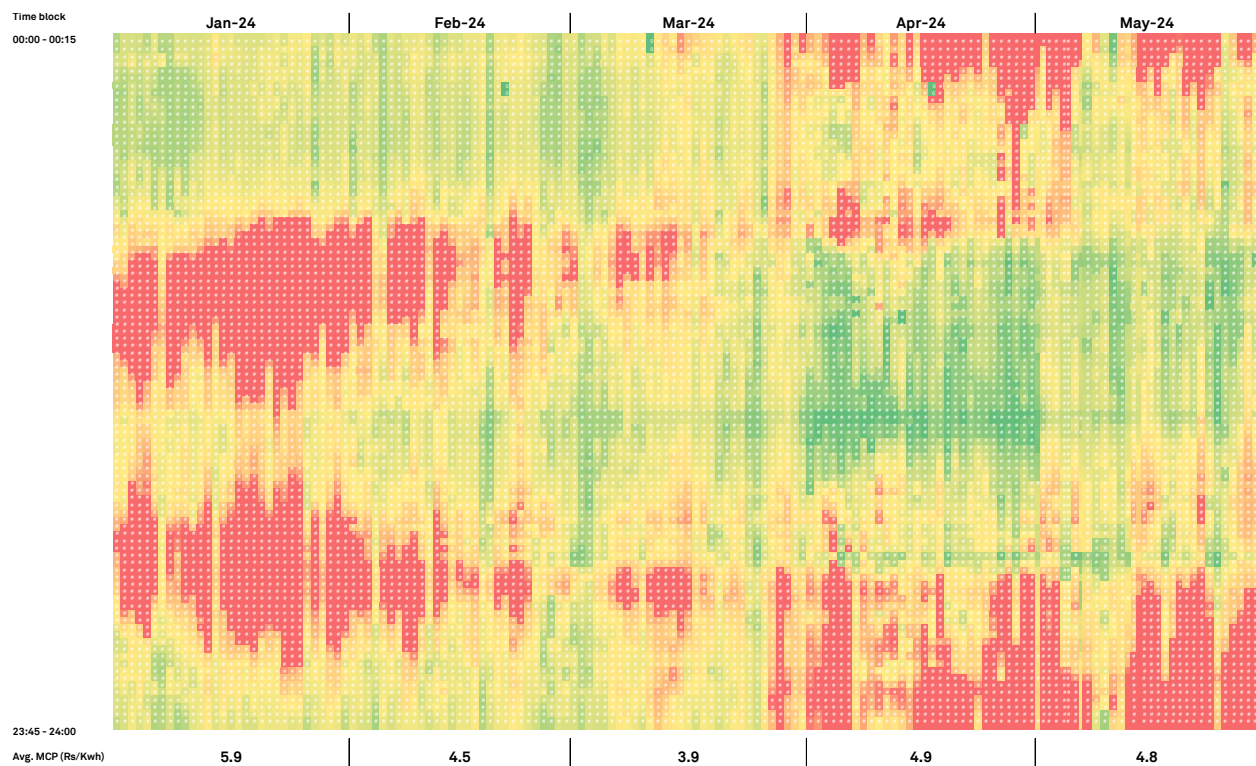
Note: RHS=Share of RTM as a % of total IEX volume
Source: Indian Energy Exchange (IEX)

Insufficient rainfall, higher temperatures and decline in hydro generation drove prices in August 2023



Red – Highest price for the day; Green – Lowest price for the day; Yellow – 50th percentile; Source: IEX

Adequate generation kept a leash on RTM prices in May 2024



Red – Highest price for the day; Green – Lowest price for the day; Yellow – 50th percentile; Source: IEX

Daily data on IEX RTM prices and frequency of peak indicates some unique trends:

- The average market clearing price (MCP) on the RTM across the high power demand month of August 2023 was Rs 6.5/kWh vis-a-vis Rs 4.8/kWh in May 2024. Power demand in August 2023 had reached an all-time high of 152 BU and is estimated to have jumped to a new peak of ~156 BU in May 2024
- The average MCP on the RTM increased in August 2023 due to an unexpected surge in power demand due to unusually low rainfall. This was especially during the sowing period, leading to higher demand from irrigation, along with cooling demand. The situation was further exacerbated by an 8% decline in hydro power generation in the month

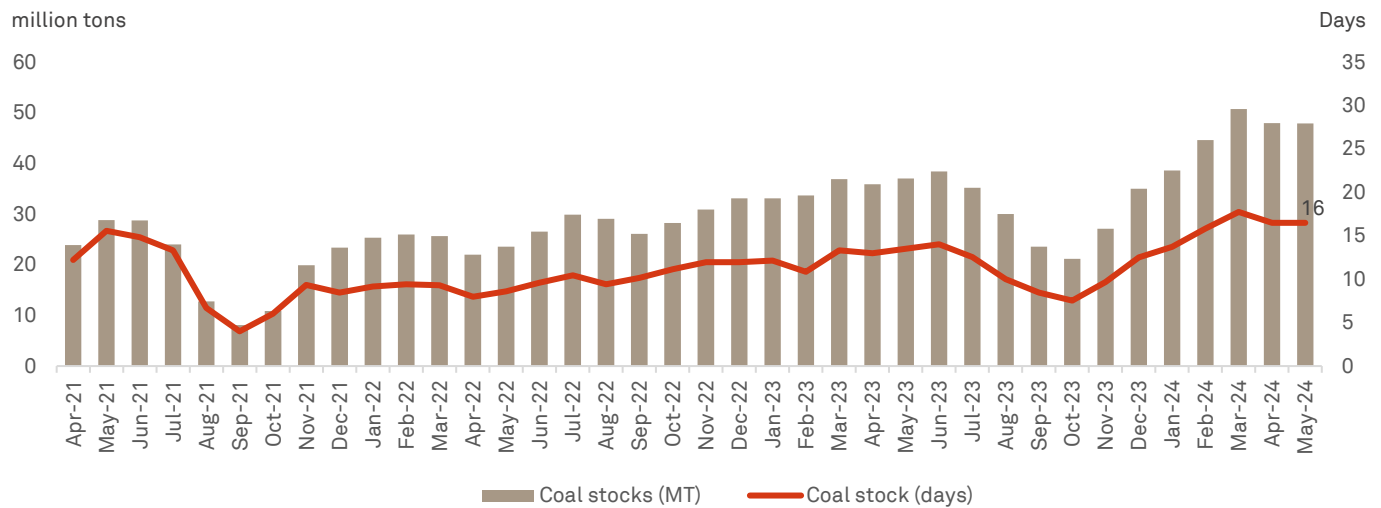
Despite power demand in reaching an all-time high, prices remained below Rs 5/kWh in May 2024 as generation increased across fuel categories.

Mandatory operations of imported coal-based plants along with gas-based plants under Section 11 aided generation, leading to a comfortable supply situation. Gas-based generation recorded the highest growth, at ~117%. Hydro power generation surged 10% on-year, while solar increased 21%.

Sufficient coal availability may have capped rise in short-term prices

Coal dispatch to power plants surged 5.4% on-year in April 2024, aiding coal stocks in April and May. As of May 31, 2024, thermal power plants had 48 MT of coal stocks, an increase from 37 MT during this period last year.

Sufficient coal supply to power plants keeps coal stocks healthy at 48 MT



Source: NPP, CRISIL MI&A Research

To address the increase in coal requirement from the power sector during the summer, the government extended the period of necessary blending of imported coal to June and increased the weightage from 4% to 6%.

With El Nino expected to wind down by June and La-Nina likely to settle in, growth in power demand is expected to ease in June and in the second quarter of this fiscal.

Economic activity is expected to continue aiding growth in power demand. However, a normal monsoon is expected to limit power demand from the agricultural and domestic segments in the second quarter. In the milieu, CRISIL MI&A Research expects full-year power demand to increase 5.5-6.5% on-year this fiscal.

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