

SectorVector

Reading the topical trends

July 2024

Power demand sizzles in summer heat

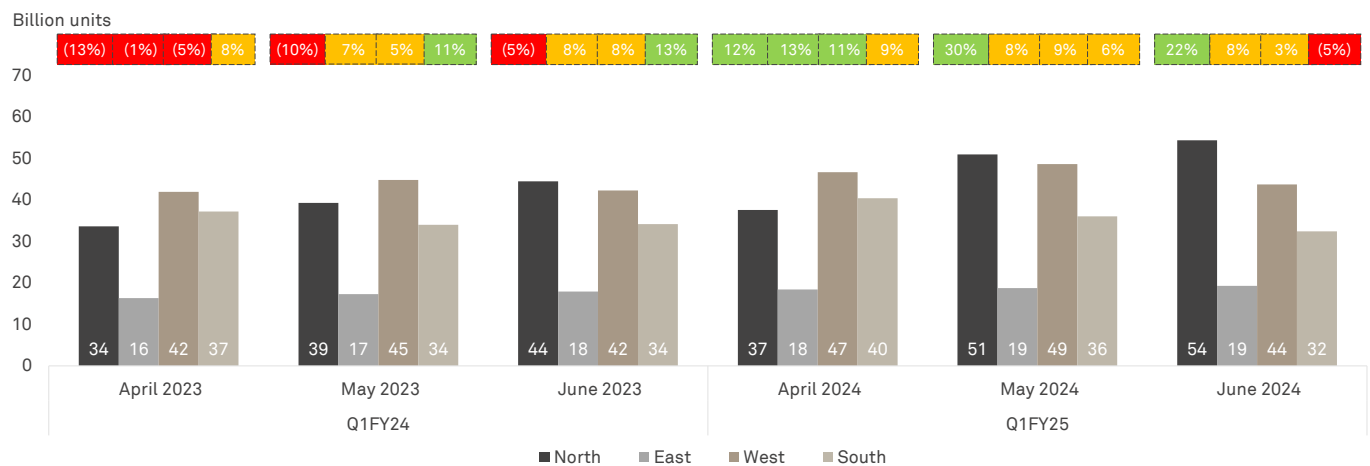
North India drives spurt in demand as heatwave grips region

In June, power demand in north India surged 22% on-year as a prolonged heatwave gripped the region. Temperature rose 5-8°C above normal, leading to considerably higher consumption of power for cooling appliances.

The fallout of heatwave was felt in other regions of the country as well. Power consumption in the north-eastern, eastern and western regions increased 8.3%, 7.8% and 3.5% on-year, respectively. The only respite was in the southern states, where power demand declined 5.1%.

The situation is unlikely to improve in a hurry pan India. Despite the southwest monsoon arriving early this year, data from 724 districts between June 1 and July 4 shows that 38% of the districts received deficient rainfall. And the north¹ continues to reel, with half the 209 districts registering deficient rainfall. In the west as well, 33% of the 159 districts were in deficit. In contrast, only 10% of the southern region's 147 districts had deficit rainfall.

Figure 1: As north India sweats, power demand rises



Note: POSOCO data for June and provisional Central Electricity Authority (CEA) data for May
Percentage above the bar indicates on-year power demand growth

Red: <0%, yellow: 0-10%, green: >10%

North: Chandigarh, Delhi, Haryana, Himachal Pradesh, UT of J&K and Ladakh, Punjab, Rajasthan and Uttarakhand. West: Chhattisgarh, Gujarat, Madhya Pradesh, Maharashtra, Dadra & Nagar Haveli and Daman, and Goa. South: Andhra Pradesh, Telangana, Karnataka, Kerala, Tamil Nadu, Puducherry and Lakshadweep. East: Bihar, DVC, Jharkhand, Odisha, West Bengal, Sikkim, and Andaman and Nicobar Islands

Source: CEA, Grid India, CRISIL MI&A Research

¹ North: Chandigarh, Delhi, Haryana, Himachal Pradesh, UT of J&K and Ladakh, Punjab, Rajasthan and Uttarakhand. West: Chhattisgarh, Gujarat, Madhya Pradesh, Maharashtra, Dadra & Nagar Haveli and Daman, and Goa. South: Andhra Pradesh, Telangana, Karnataka, Kerala, Tamil Nadu, Puducherry and Lakshadweep

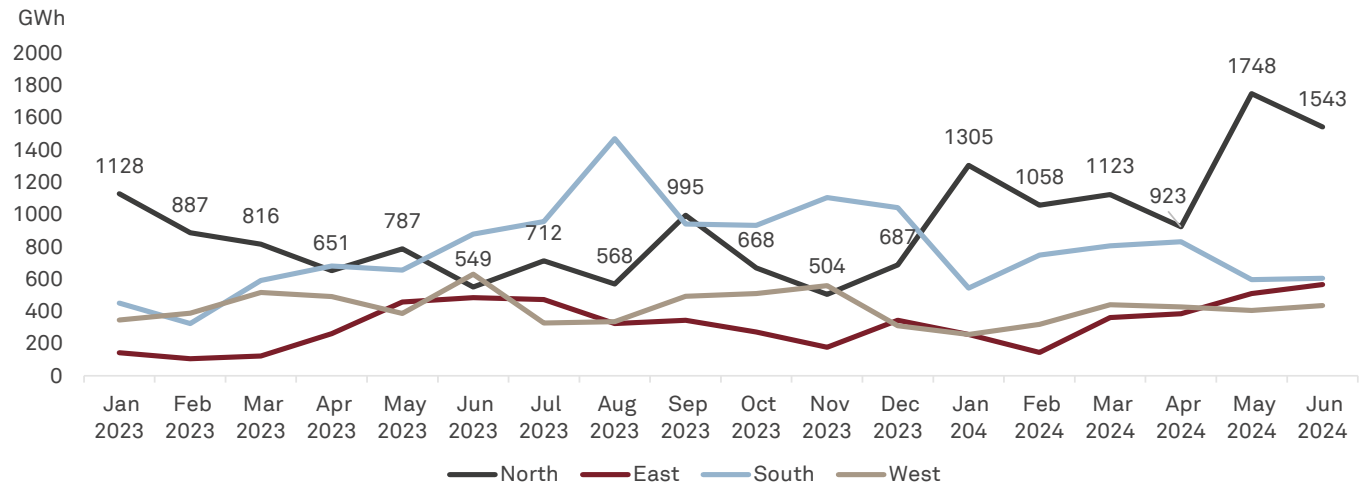
Short-term market booms in the north

To meet 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, volumes traded in the short-term power market

increased 19% on-year in June. Real-time market (RTM) volumes surged 20%, indicating the need for immediate delivery during periods of sudden high power requirement. Interestingly, RTM volume share on the Indian Energy Exchange (IEX) increased to 30% in June vs the average of 23% since its inception in June 2020.

Figure 2: RTM volumes in north jump ~181% on-year in June as heatwave increases demand



Note: North – Jammu and Kashmir, Himachal Pradesh, Chandigarh, Haryana, Uttar Pradesh, Uttaranchal, Rajasthan, Delhi and Punjab. East: West Bengal, Sikkim, Bihar, Jharkhand and Orissa. West: Madhya Pradesh, Maharashtra, Gujarat, Daman and Diu, Dadar and Nagar Haveli, North Goa and Chhattisgarh. South: Andhra Pradesh, Telangana, Karnataka, Pondicherry (Yanam), South Goa, Tamil Nadu, Pondicherry (Puducherry), Pondicherry (Karaikal), Pondicherry (Mahe) and Kerala
Source: IEX

Daily data on IEX RTM prices shows unique trends

- Last month, prolonged heatwave increased sales volume 181% and 17% in the northern and eastern regions, respectively, while rainfall-led relief caused sales volume in the western and southern regions to decline ~31% each
- Despite the surge in volumes traded, price increase was limited to 8% in the north due to increase in supply from coal and gas plants

- Due to the unusually high temperatures in the north during the second and third weeks of June, prices touched the peak price of Rs 10/kwh frequently, with the average MCP touching Rs 5/kwh compared with Rs 4.7/kwh in May, when peak demand reached an all-time high

Robust economic activity also contributes

While rising mercury is the main reason for the increase in power demand, another crucial factor is improvement in economic activity.

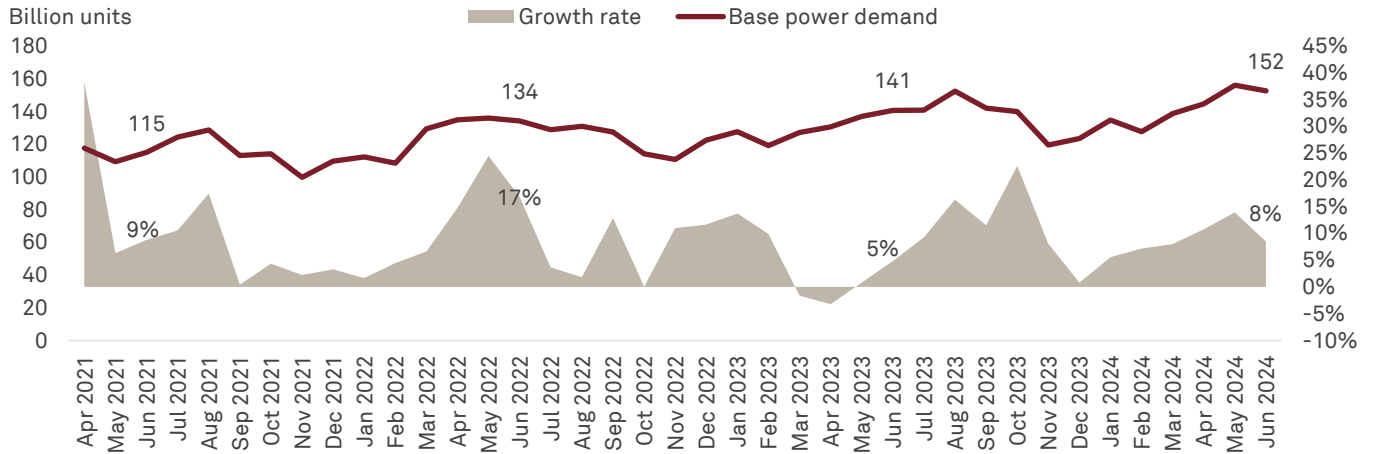
Aggregated at the national level, power demand increased 8% on-year to 152 billion units (BU) in June, following up on a sharper 14% on-year growth in May.

Robust demand led to expansion in new order, output

and buying levels. This can be gauged from the fact that the Purchasing Managers Index increased to 58.3 in June from 57.5 in May, led by the commercial and industrial segment, which makes up ~50% of the country's power demand.

Consequently, peak power consumption touched 245.41 GW in June following a historic high of 250 GW in May.

Figure 3: Heatwaves, humidity, healthy economic activity led to 8% on-year rise in power demand in June



Note: POSOCO data for June and provisional CEA data for May. Source: CEA, Grid India, CRISIL MI&A Research

Figure 4: Peak demand surges 9.5% on-year to 245 GW

| 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 | 245* | | | | | | | | | |

% Deviation from peak: Less than 0% (grey), >0% & <=5% (yellow), >5% & <=10% (red), More than 10% (teal), Peak demand for respective fiscal (dark red)

Note: *Estimated peak demand in June. Source: CEA, Grid India, CRISIL MI&A Research

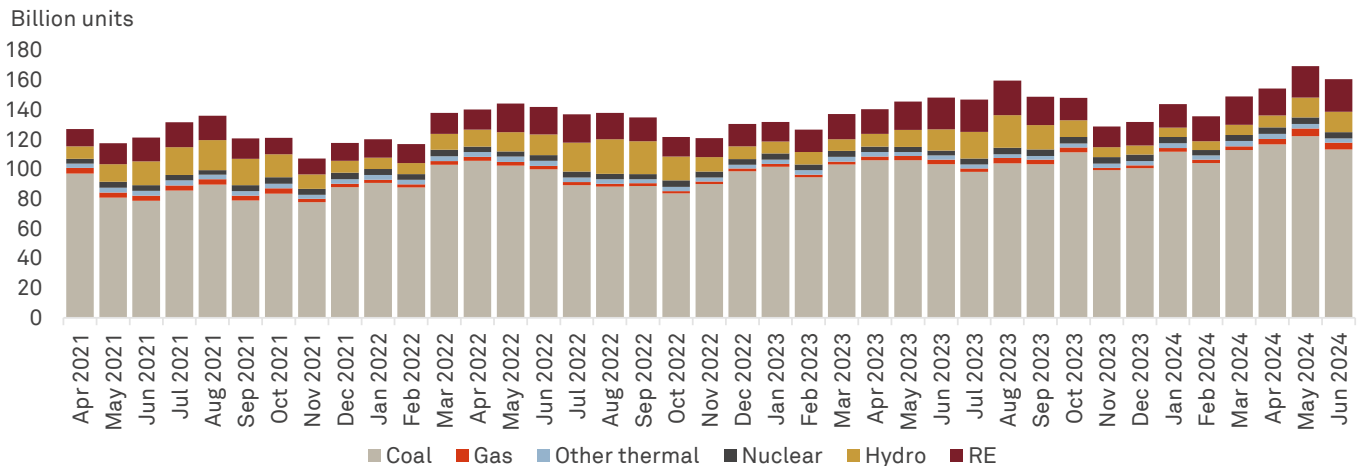
Powering up to meet demand

Power output is estimated to have increased ~8% on-year to ~160 BUs in June. Within the generation mix, the share of gas increased from 2% in June 2023 to 2.8% with the implementation of Section 11 of the

Electricity Act, 2003 for gas-based power plants.

The share of coal and hydro increased marginally as well, whereas the share of renewable energy declined a marginal 0.84% on-year owing to 7% decline in wind generation. However, solar generation rose 19%.

Figure 5: Generation surged ~8% in June, led by coal, gas and solar energy



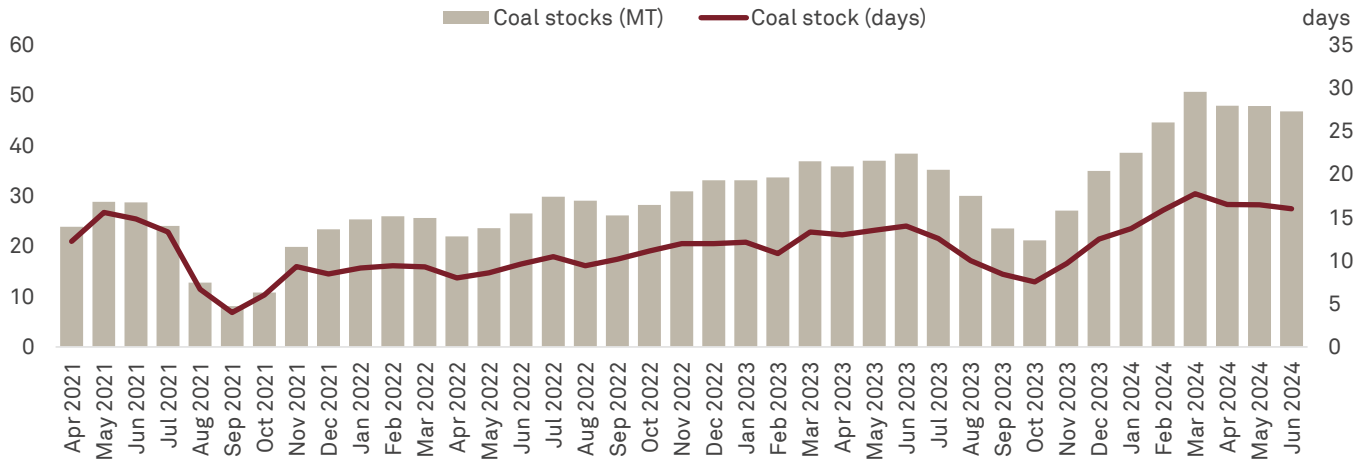
Source: POSOCO, CEA, CRISIL MI&A Research

Sufficient coal availability provides comfort to generation pace

Dispatch of coal, still the key source of electricity generation, to power plants surged to 6.7% on-year in the first quarter of fiscal 2025, bumping up coal stocks.

As on June 30, thermal power plants had 47 million tonne (MT) of coal as against 36 MT during this period last year.

Figure 6: Sufficient coal supply to power plants



Source: NPP

To address the increase in coal requirement from the power sector during the summer months, the government extended the period of necessary blending of imported coal to June 2024, and increased the weightage from 4% to 6%.

To conclude, CRISIL MI&A Research expects power demand to remain stable at 0-(-1%) on-year in the second quarter of the fiscal, due to the La Niña effect, but clock 5.5-6.5% growth for the full year.

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