

# India's electricity transmission system

## Selected indicators

JOHN KEMP  
REUTERS

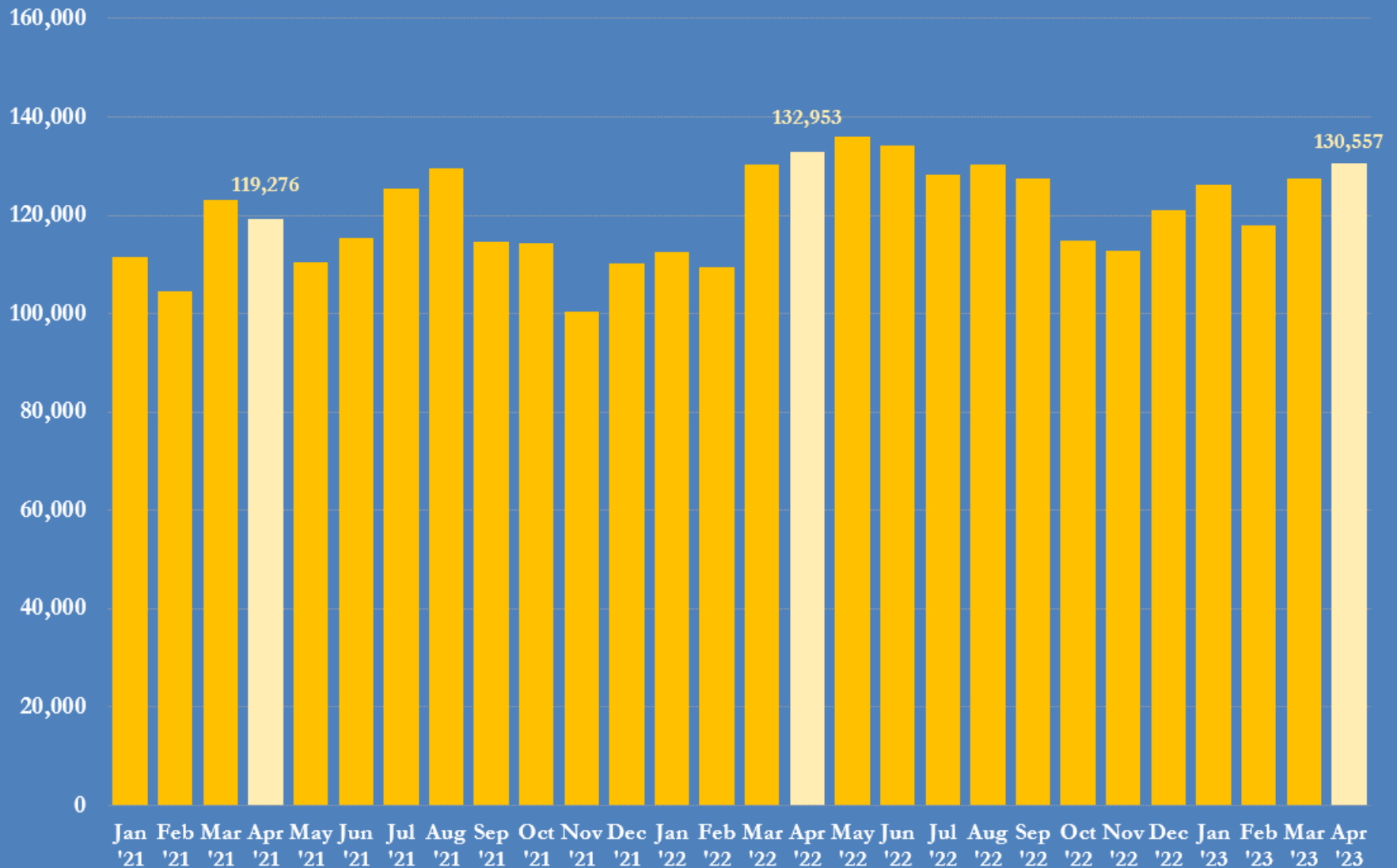
26 May 2023

| India electricity summary  |             | Feb 2022 | Mar 2022 | Apr 2022 | Feb 2023 | Mar 2023 | Apr 2023 |
|----------------------------|-------------|----------|----------|----------|----------|----------|----------|
| Peak demand (met)          | MW          | 193,648  | 199,298  | 207,111  | 209,665  | 209,017  | 215,882  |
| Average frequency          | Hz          | 50.00    | 49.98    | 49.93    | 50.00    | 50.00    | 50.0     |
| Time below target (<49.90) | %           | 6.0      | 14.5     | 32.0     | 10.8     | 9.0      | 10.5     |
| Total demand (met)         | million kWh | 109,448  | 130,260  | 132,953  | 117,846  | 127,520  | 130,557  |
| Hydro                      | million kWh | 7,806    | 11,138   | 12,270   | 8,771    | 8,155    | 9,247    |
| Wind                       | million kWh | 3,069    | 3,989    | 4,214    | 3,207    | 4,153    | 4,288    |
| Solar                      | million kWh | 6,828    | 7,840    | 7,829    | 8,974    | 9,517    | 9,597    |
| Other                      | million kWh | 91,745   | 107,293  | 108,640  | 96,894   | 105,695  | 107,425  |
| Total demand met by all    | %           | 100.0    | 100.0    | 100.0    | 100.0    | 100.0    | 100.0    |
| Hydro                      | %           | 7.1      | 8.6      | 9.2      | 7.4      | 6.4      | 7.1      |
| Wind                       | %           | 2.8      | 3.1      | 3.2      | 2.7      | 3.3      | 3.3      |
| Solar                      | %           | 6.2      | 6.0      | 5.9      | 7.6      | 7.5      | 7.4      |
| Other                      | %           | 83.8     | 82.4     | 81.7     | 82.2     | 82.9     | 82.3     |
| Total installed capacity   | MW          | 395,608  | 399,497  | 401,010  | 412,212  | 416,059  | 416,591  |
| Coal                       | MW          | 203,900  | 204,080  | 204,080  | 204,435  | 205,235  | 205,235  |
| Lignite                    | MW          | 6,620    | 6,620    | 6,620    | 6,620    | 6,620    | 6,620    |
| Gas                        | MW          | 24,900   | 24,900   | 24,900   | 24,824   | 24,824   | 24,824   |
| Diesel                     | MW          | 510      | 510      | 510      | 589      | 589      | 589      |
| Nuclear                    | MW          | 6,780    | 6,780    | 6,780    | 6,780    | 6,780    | 6,780    |
| Hydro                      | MW          | 46,525   | 46,723   | 46,723   | 46,850   | 46,850   | 46,850   |
| Renewables                 | MW          | 106,375  | 109,885  | 111,399  | 122,113  | 125,160  | 125,692  |

Source: National Load Despatch Centre, Grid Controller of India  
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# India electricity demand met, 2021-2023

monthly, billion kilowatt-hours

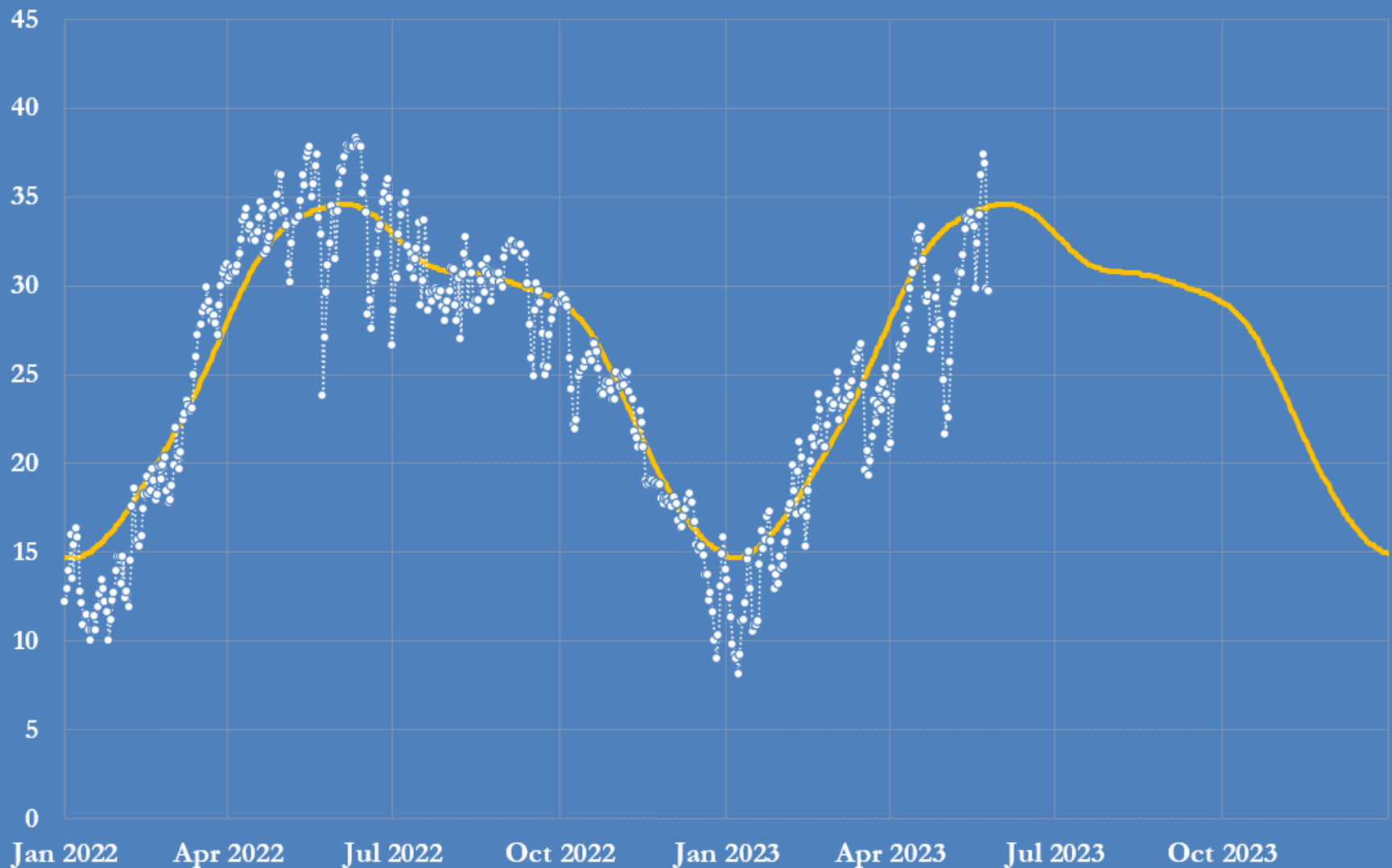


Source: Grid Controller of India

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# New Delhi (Palam) temperatures, 2022-2023

°C, daily average compared with long-term normal (1981-2010)

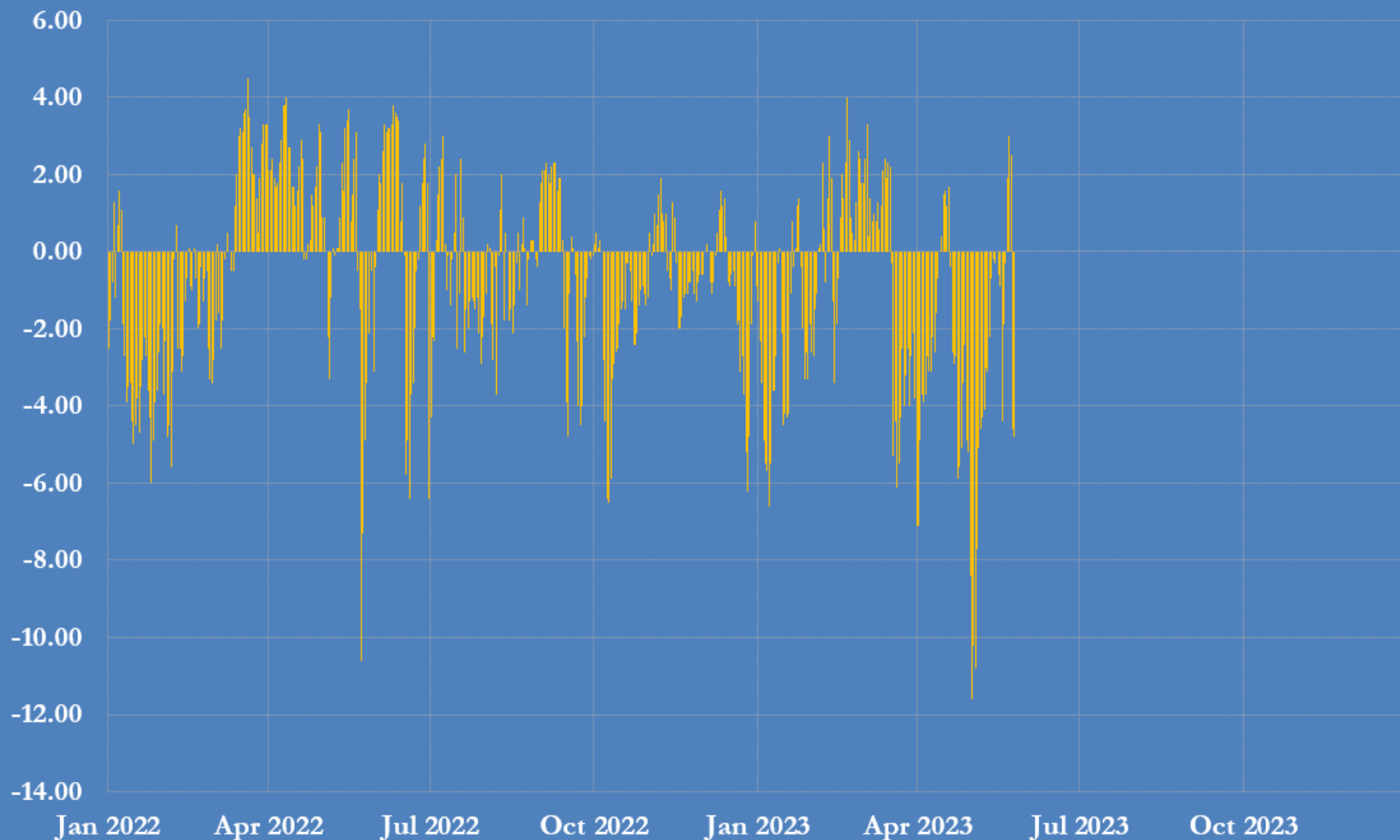


Source: U.S. Climate Assessment Database

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# New Delhi (Palam) temperatures, 2022-2023

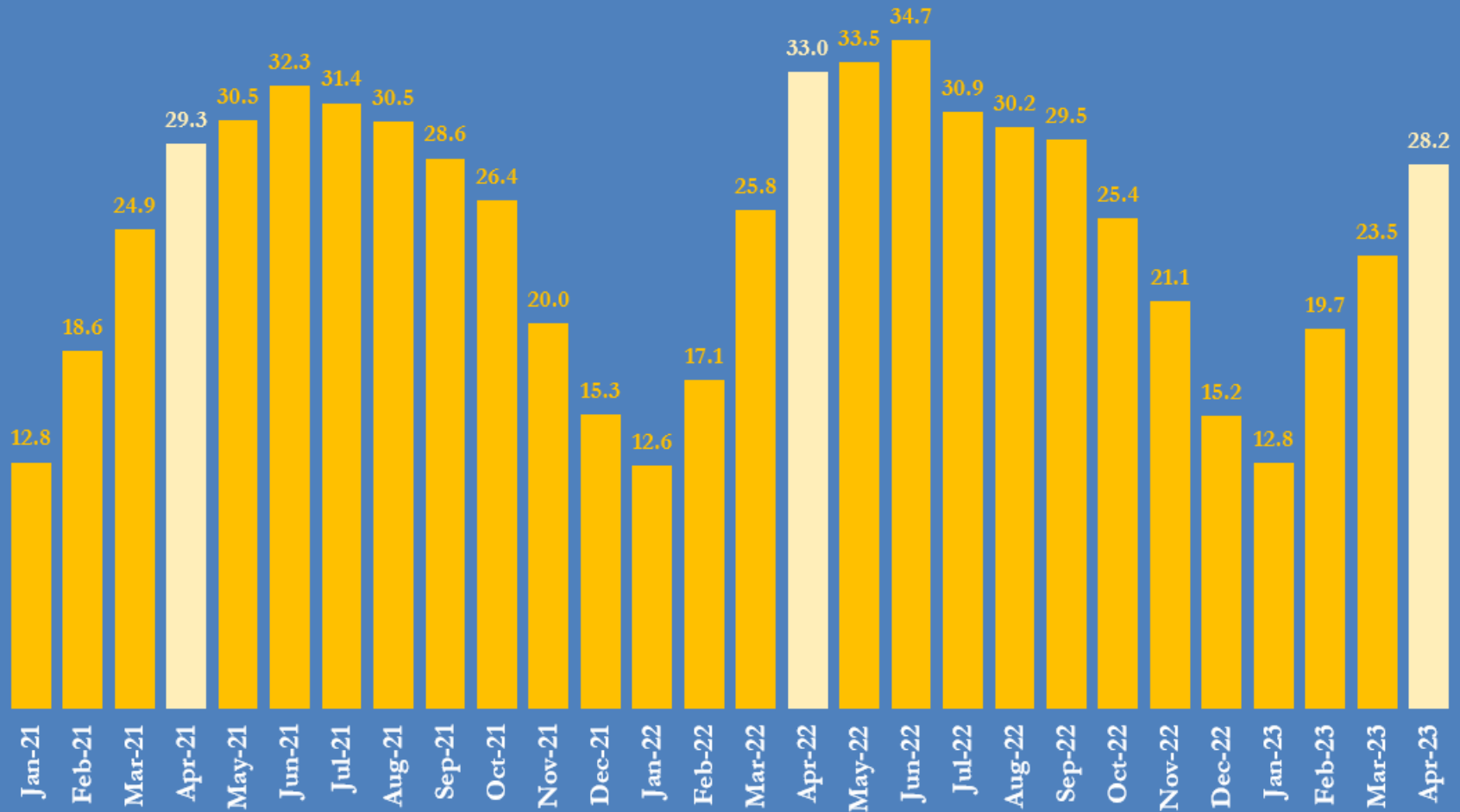
°C, daily average, deviation from long-term normal (1981-2010)



Source: U.S. Climate Assessment Database

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## New Delhi (Palam) temperatures, 2021-2023 °C, monthly average

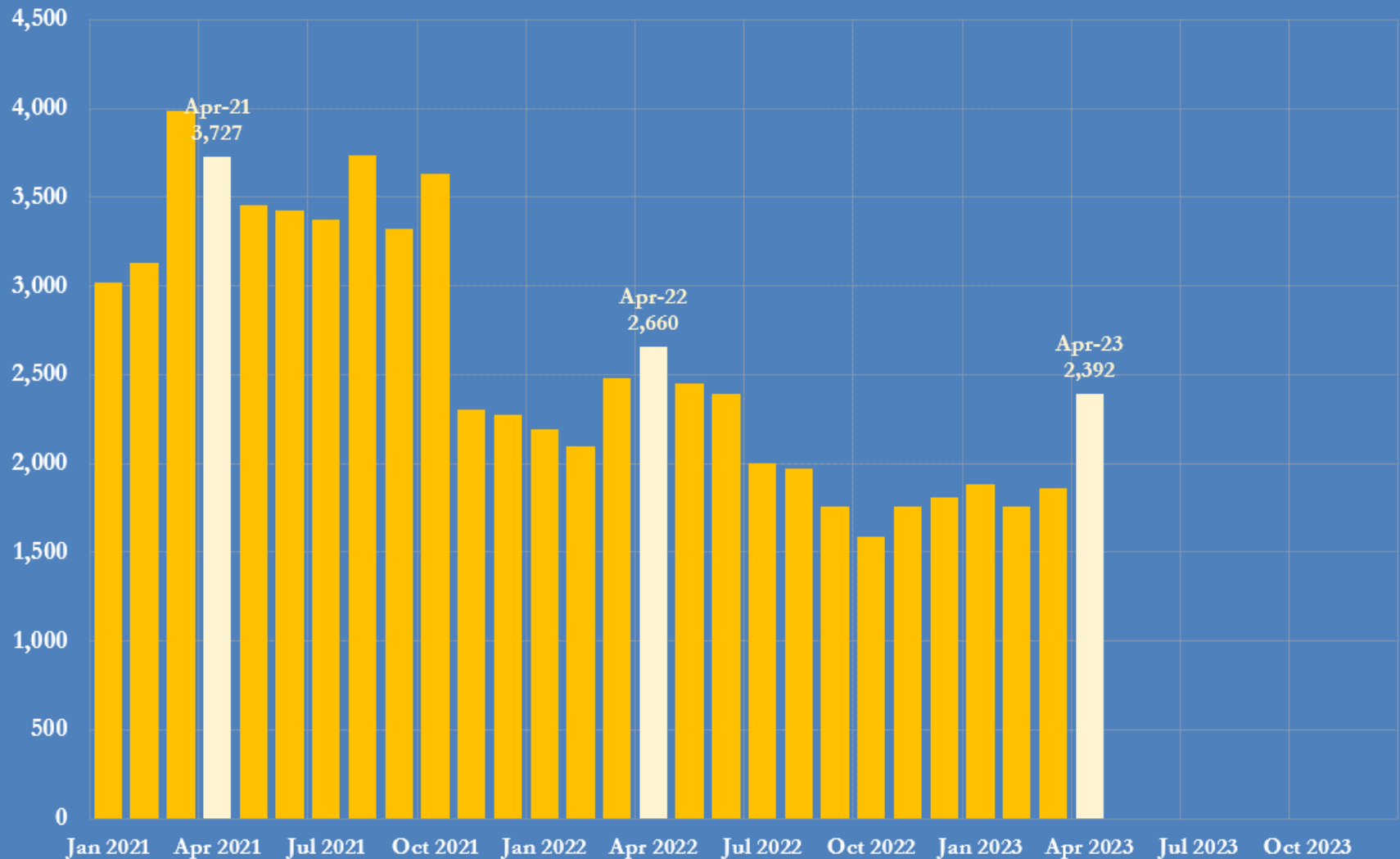


Source: U.S. Climate Assessment Database

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## India gas-fired electricity generation, 2021-2023

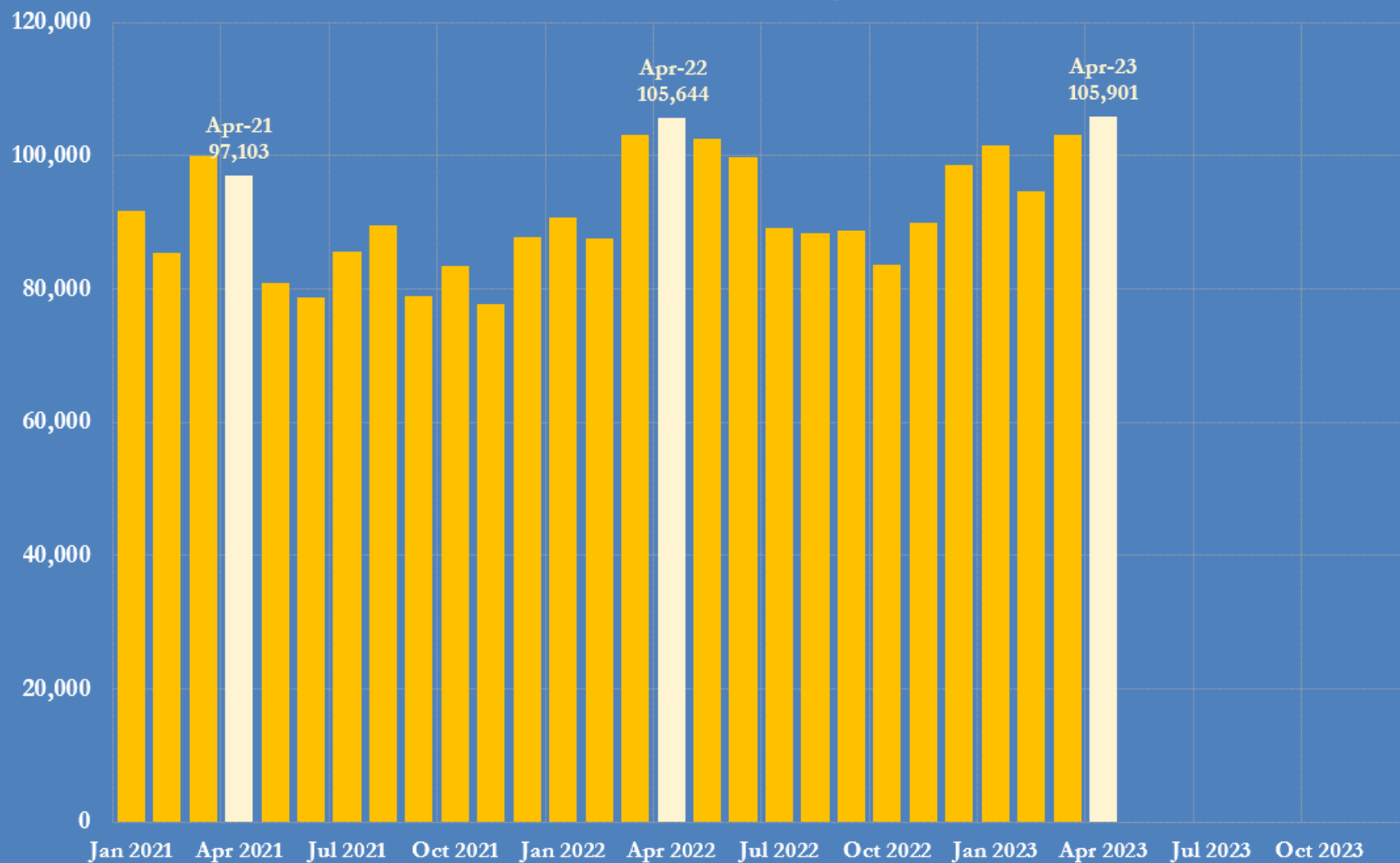
### GWh, monthly



Source: Central Electricity Authority, Ministry of Power, Government of India

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## India coal-fired electricity generation, 2021-2023 GWh, monthly

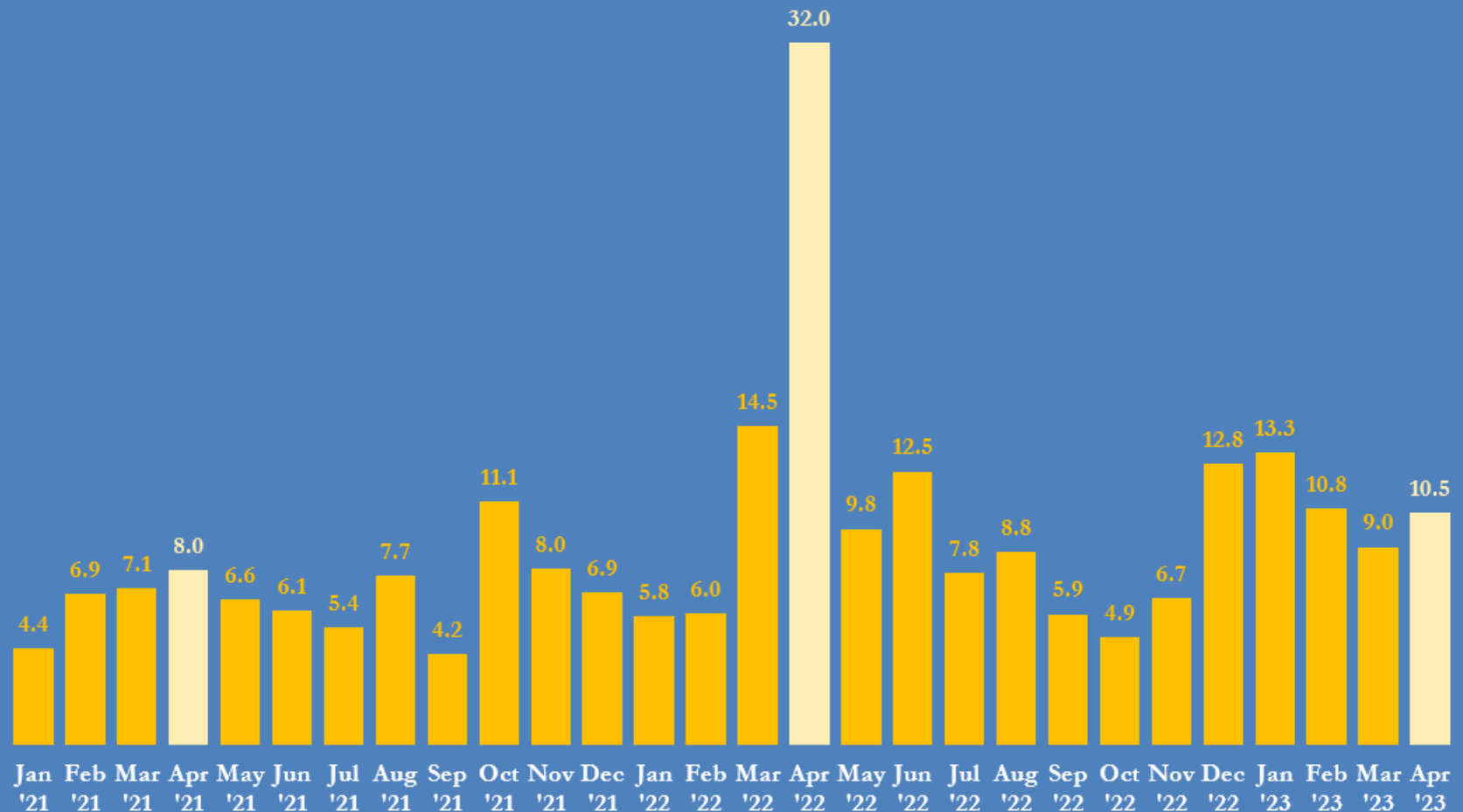


Source: Central Electricity Authority, Ministry of Power, Government of India

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# India electric grid frequency, 2021-2023

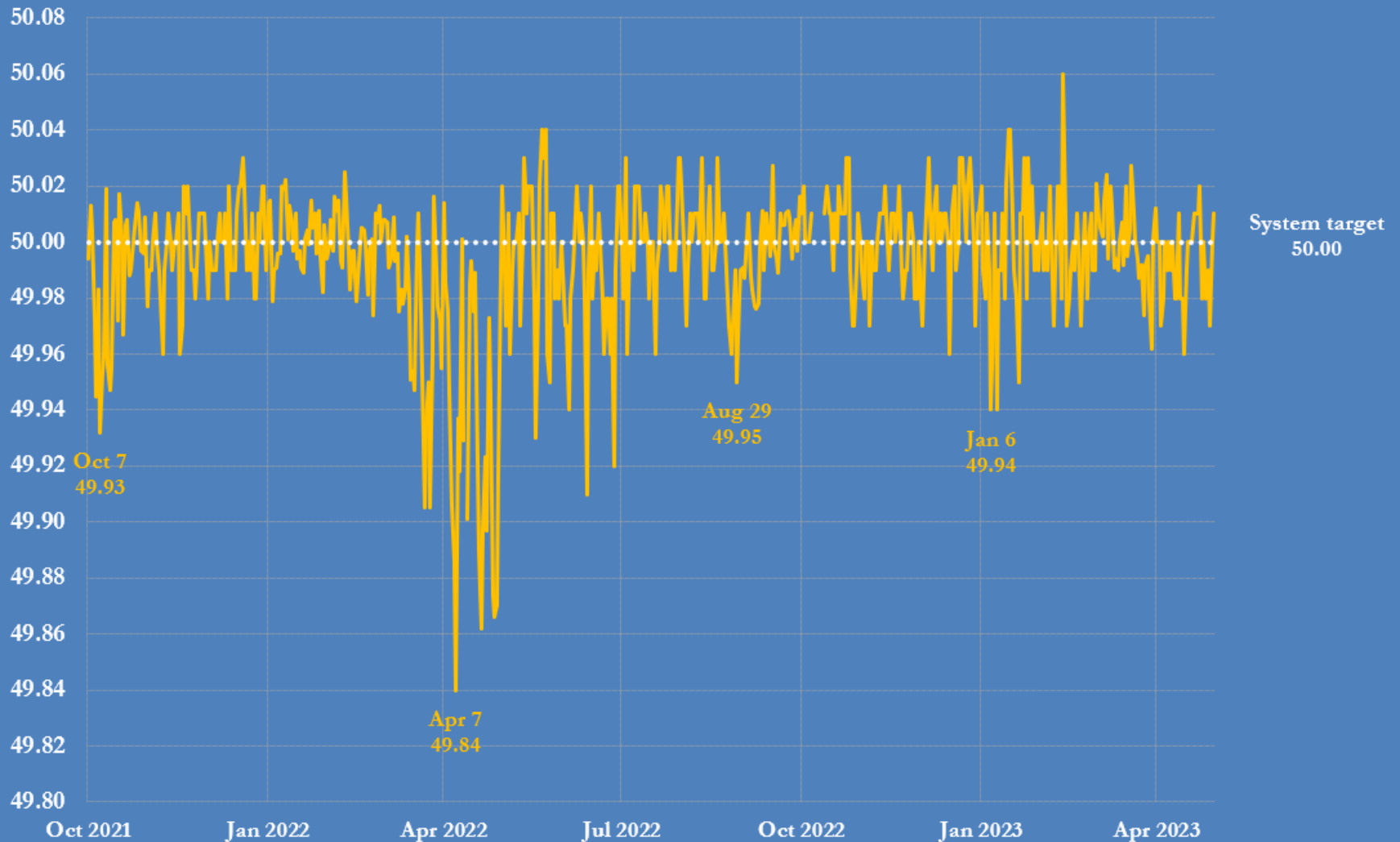
monthly, percent of time spent below minimum limit of 49.9 Hz



Source: Grid Controller of India

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## India power grid frequency, 2021-2023 daily average, cycles per second (Hz)

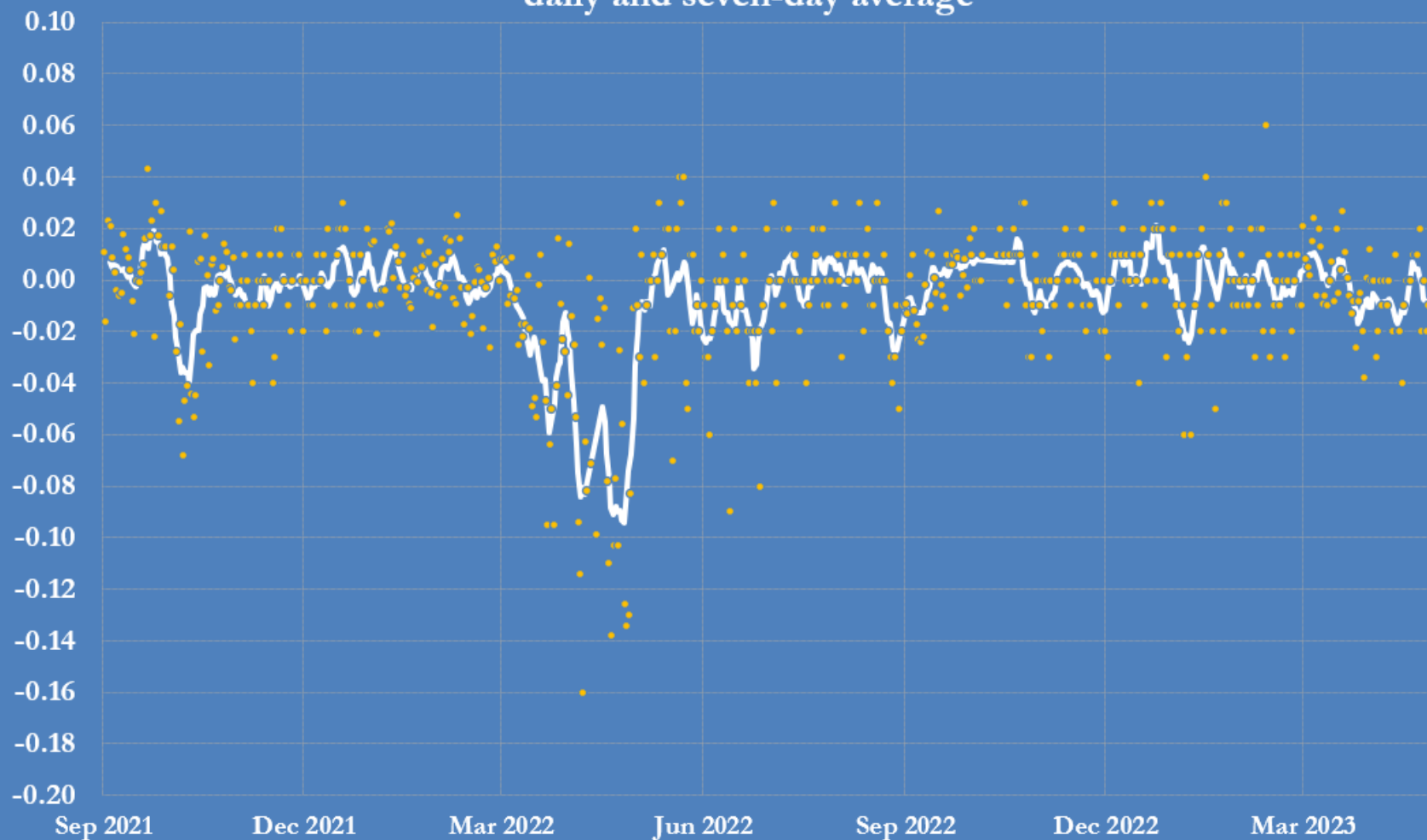


Source: National Load Despatch Centre, Grid Controller of India

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# India power grid frequency, 2021-2023

deviation from target (50) in cycles per second (Hz)  
daily and seven-day average

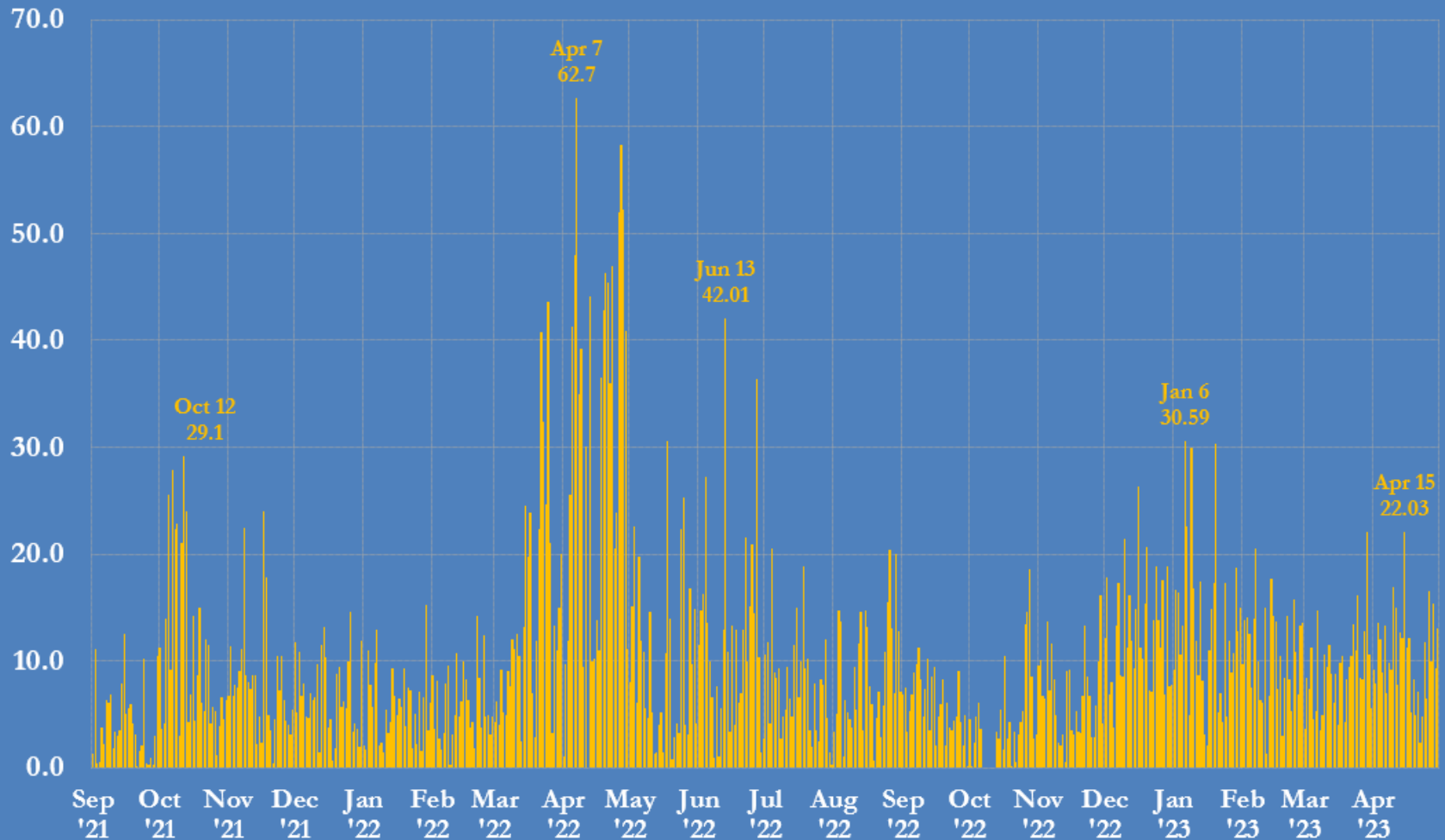


Source: National Load Despatch Centre, Grid Controller of India

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# India power grid frequency, 2021-2023

daily, percent of day spent below minimum target of 49.9 Hz

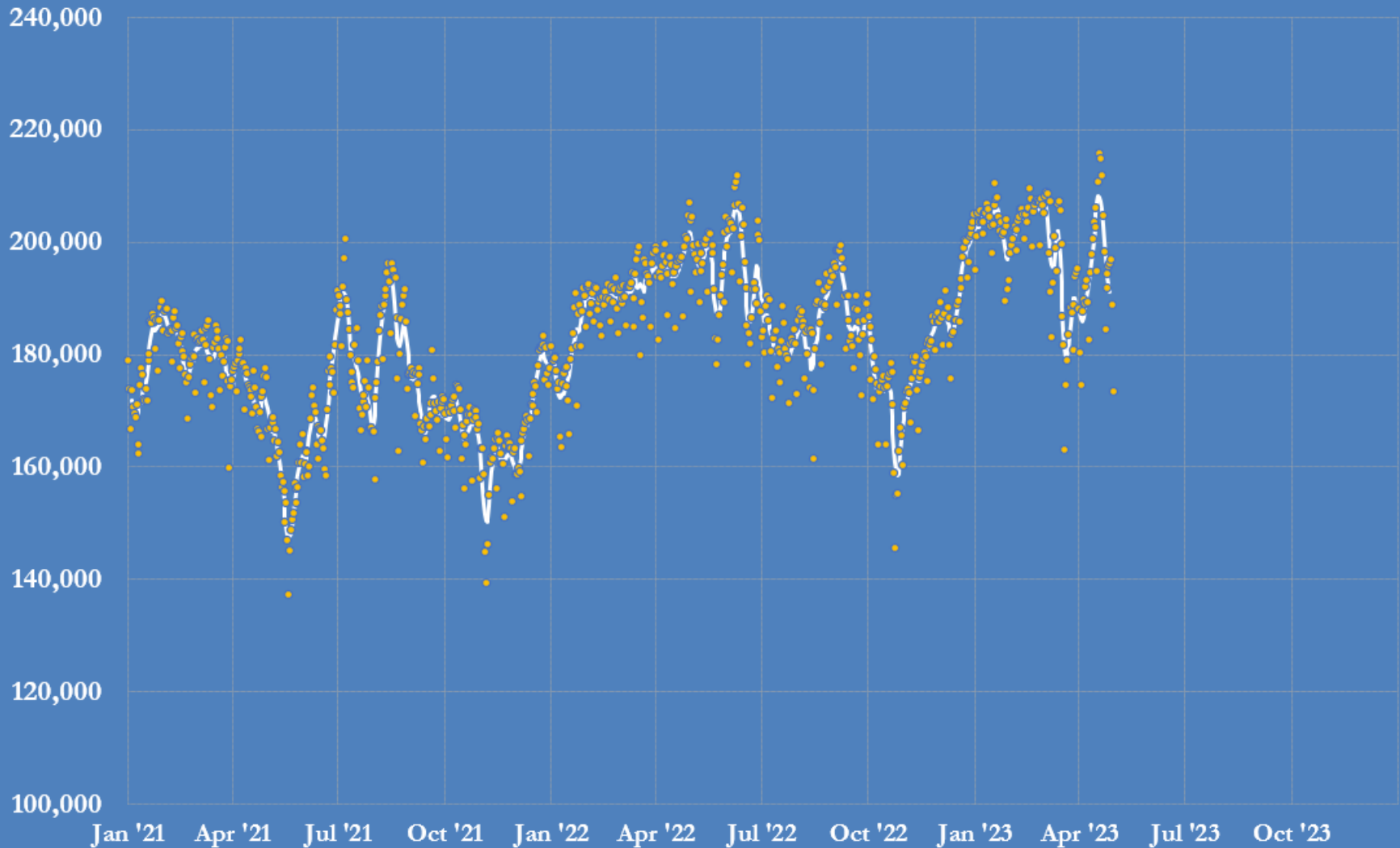


Source: National Load Despatch Centre, Grid Controller of India

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## India daily peak electricity demand met, 2021-2023

megawatts, daily and seven-day centred average

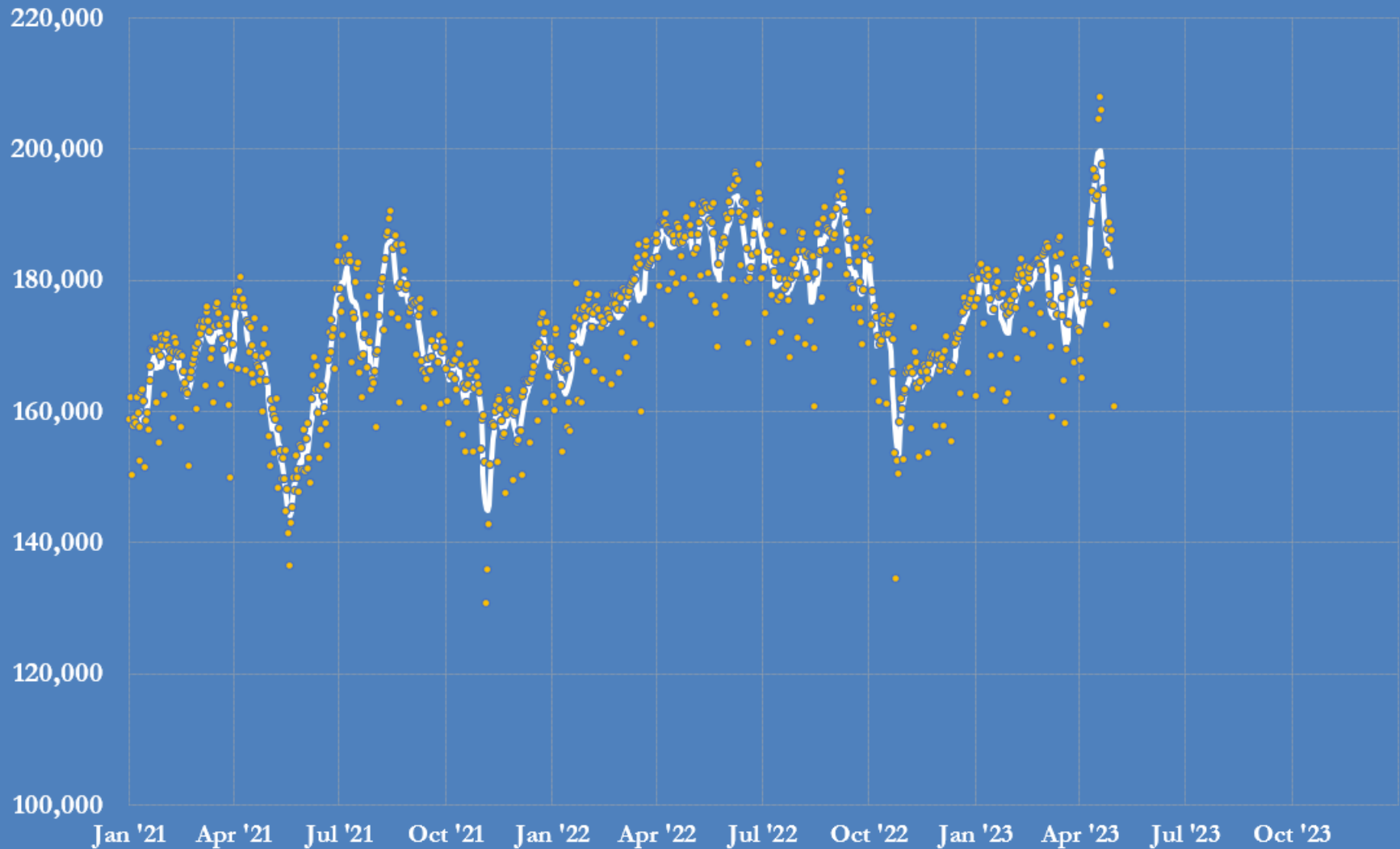


Source: National Load Despatch Centre, Power System Operation Corporation

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## India evening peak electricity demand met, 2021-2023

megawatts, daily and seven-day centred average

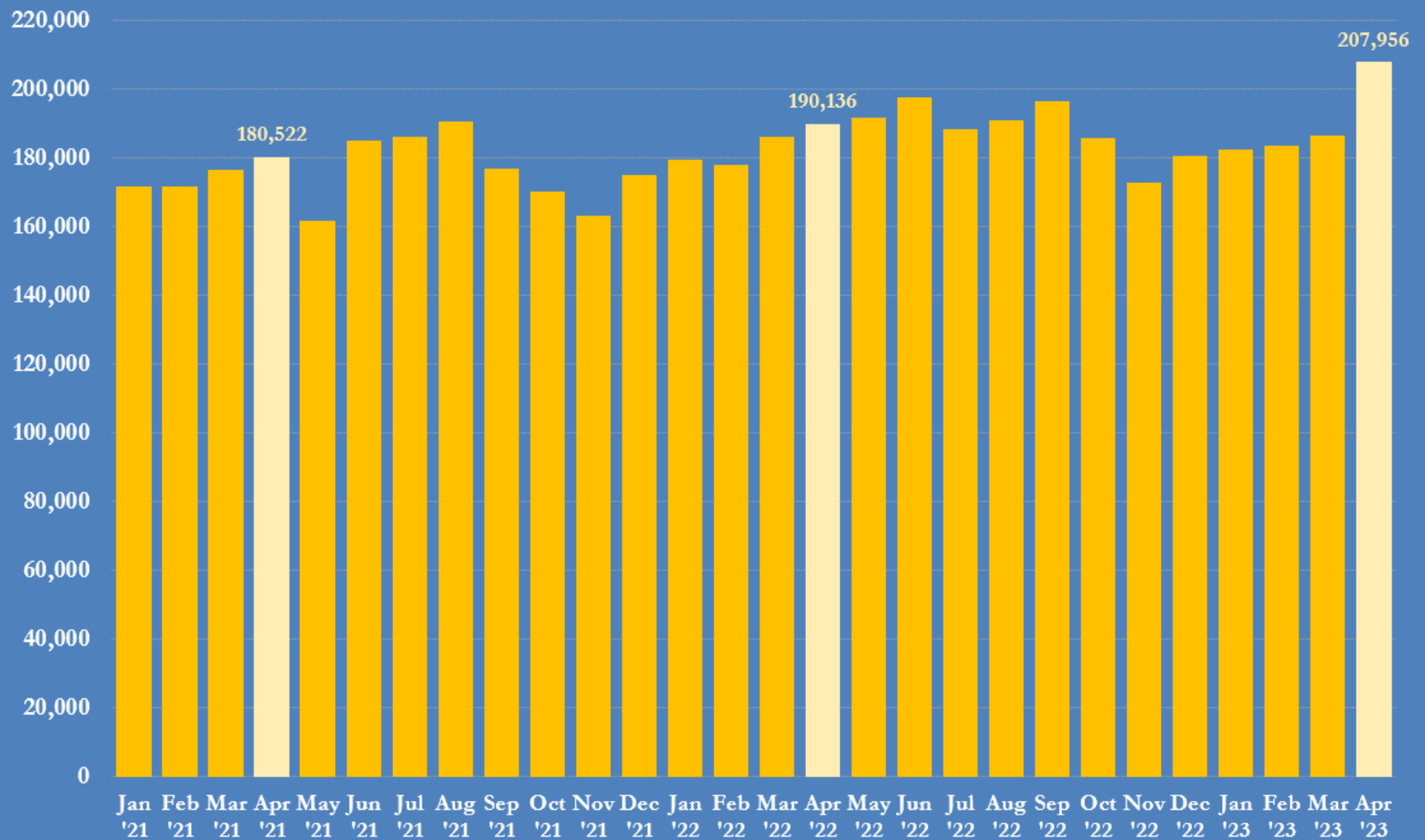


Source: National Load Despatch Centre, Grid Controller of India

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## India evening peak electricity demand met, 2021-2023

megawatts, monthly peak

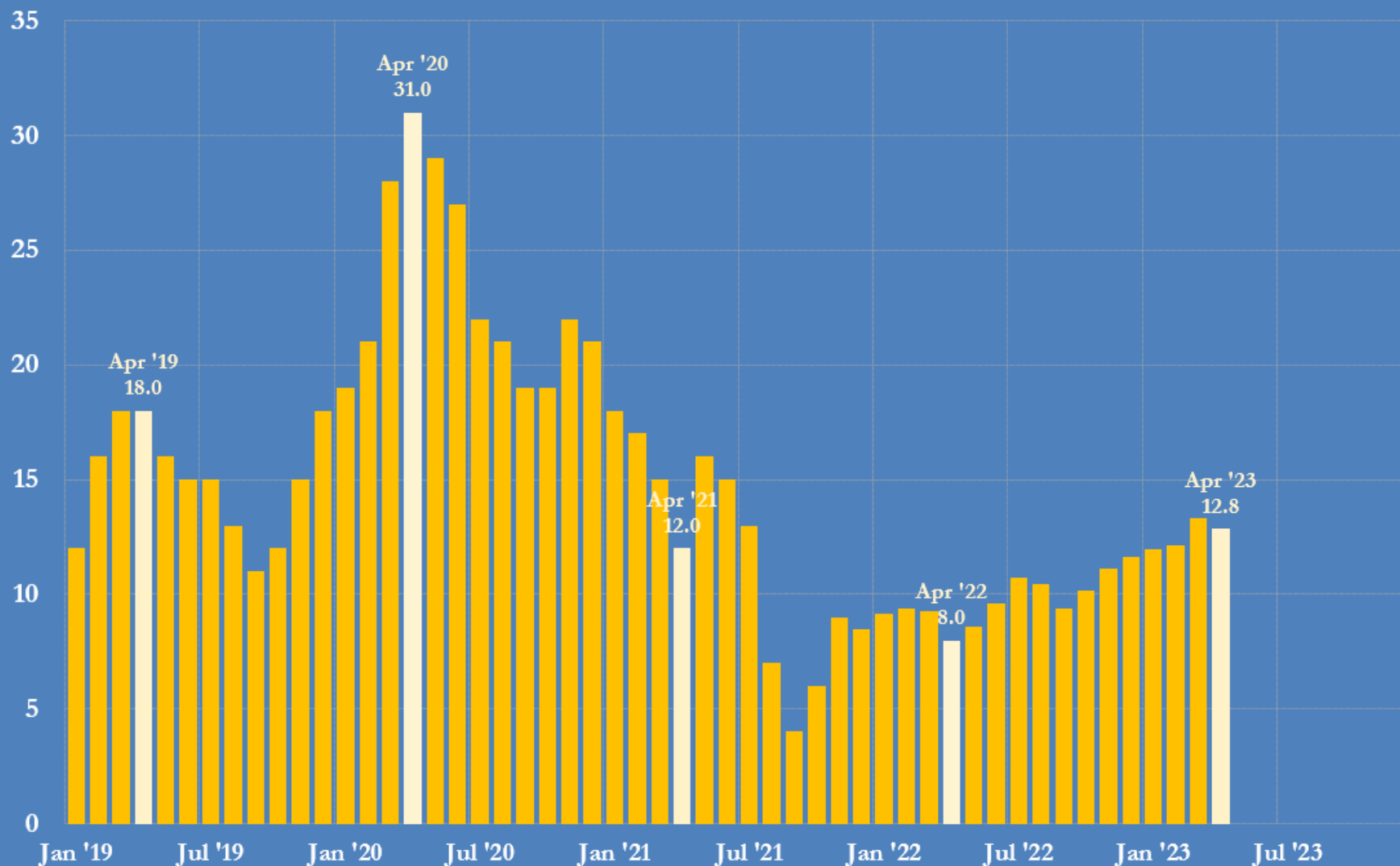


Source: National Load Despatch Centre, Grid Controller of India

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## India coal stocks at power plants, 2019-2023

stocks in days of consumption, month-end except most recent month

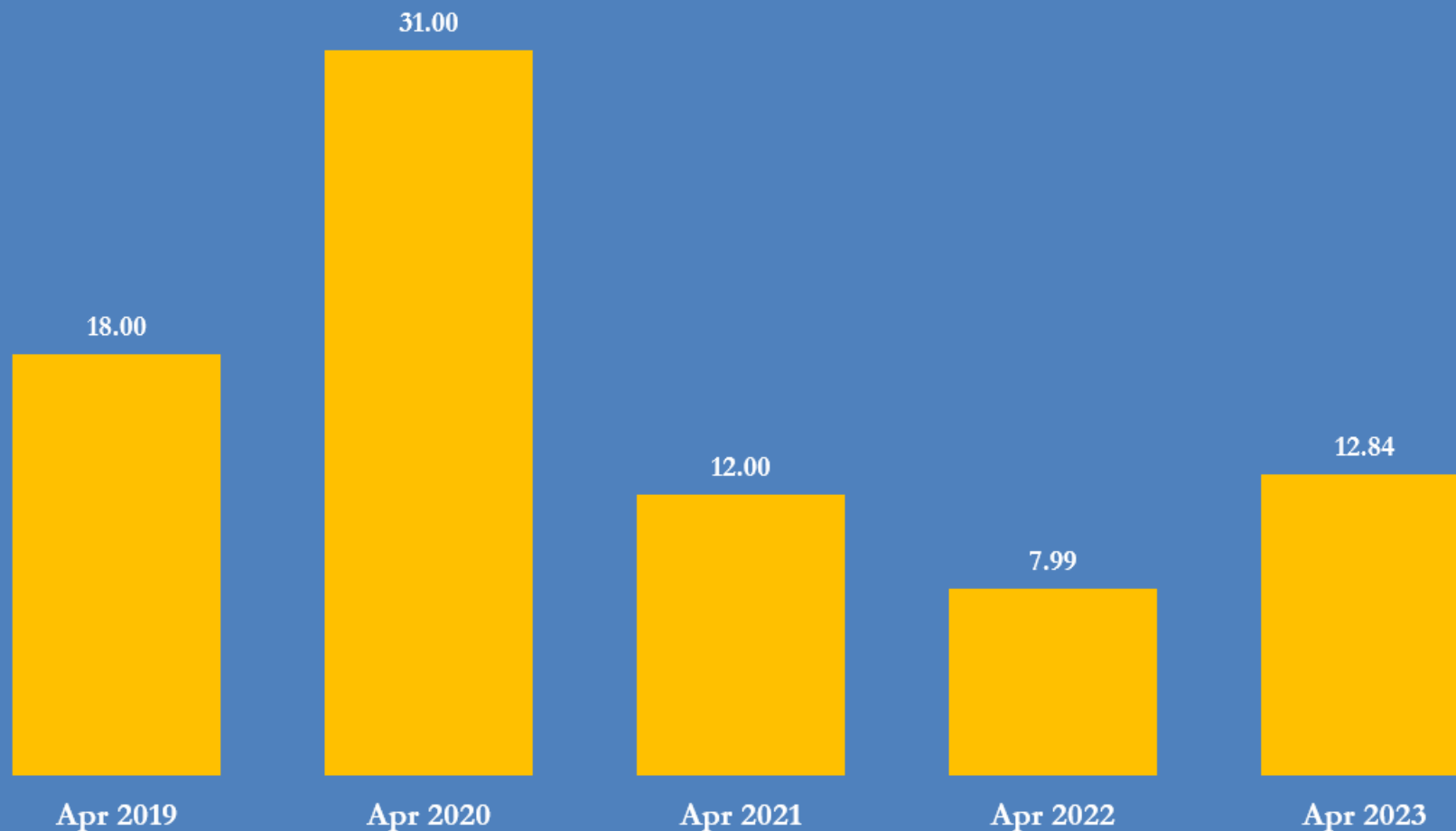


Source: India Central Electricity Authority / National Power Portal

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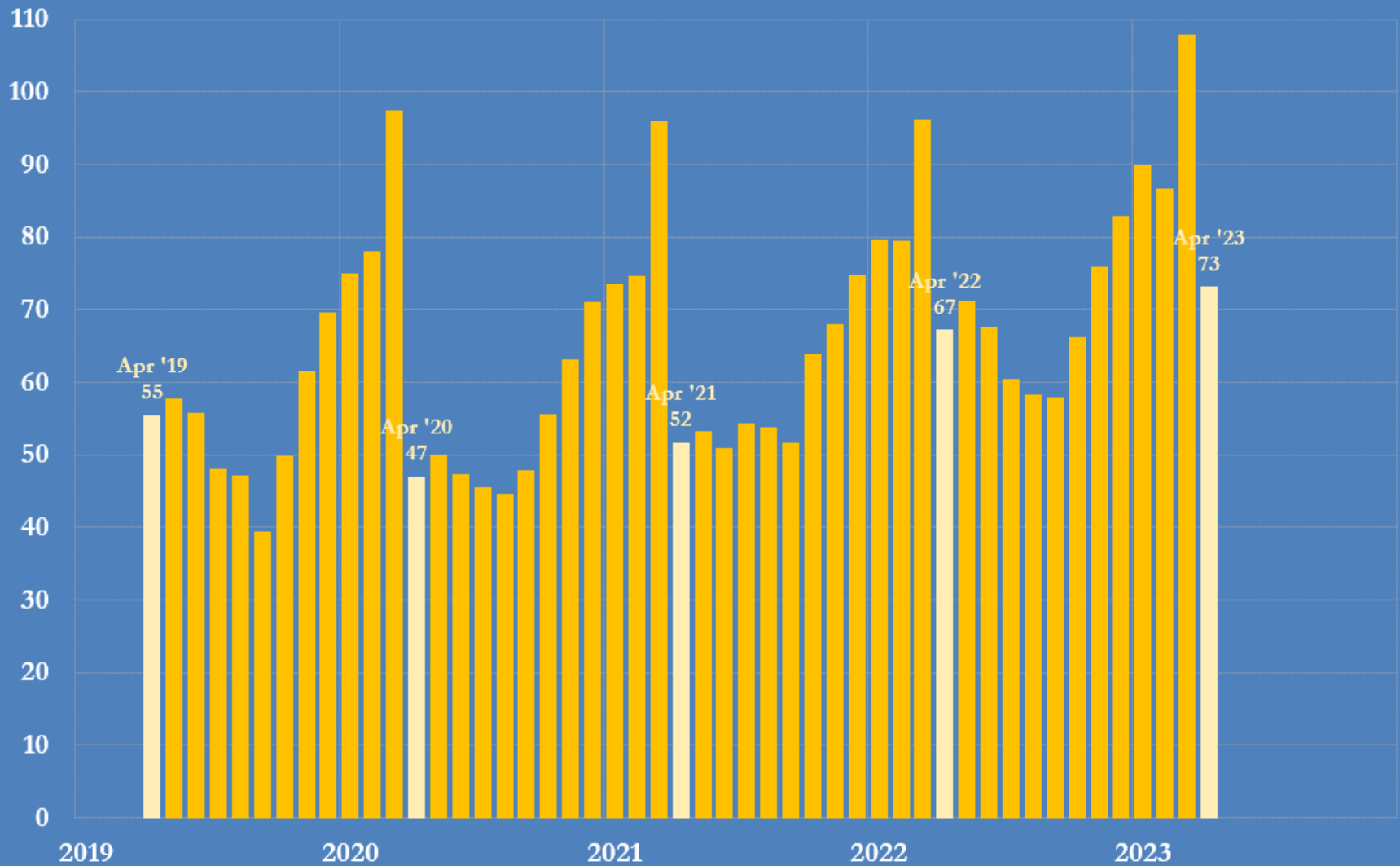


Source: India Central Electricity Authority / National Power Portal

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## India coal production, 2019-2023

monthly, million tonnes

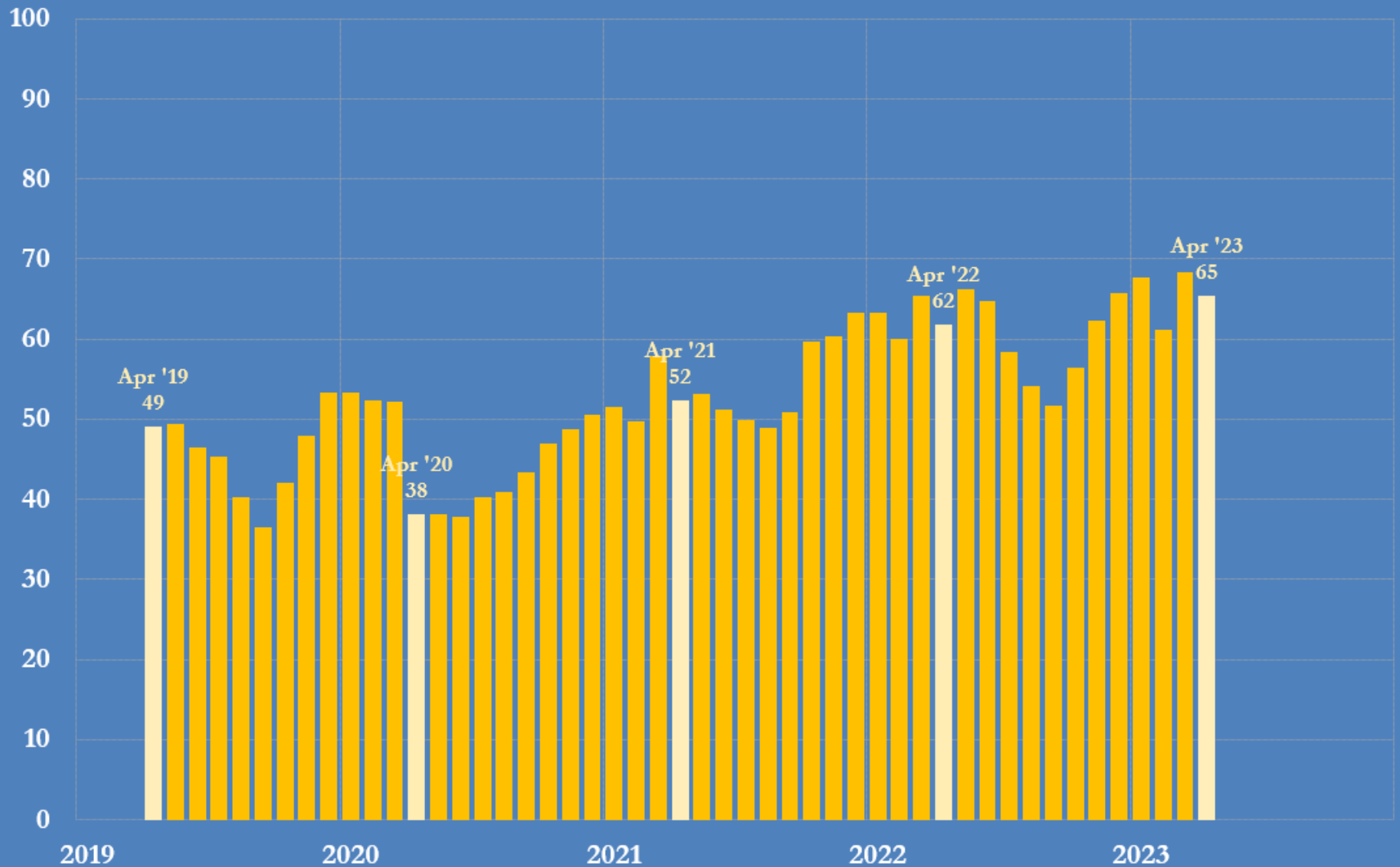


Source: Ministry of Coal, Government of India

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## India coal despatched to power producers, 2019-2023

monthly, million tonnes

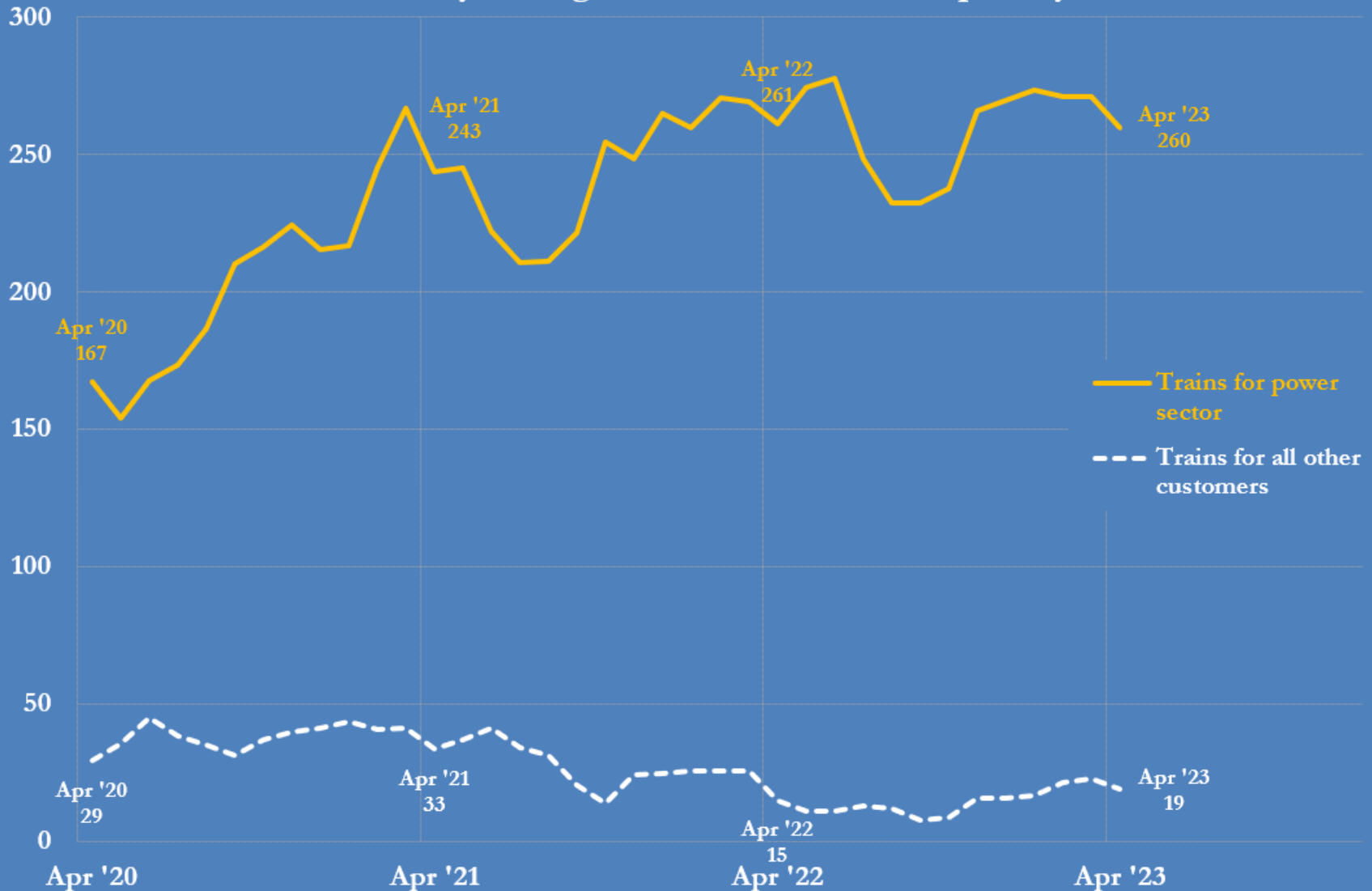


Source: Ministry of Coal, Government of India

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## India daily coal trains, 2020-2023

monthly, average number of coal trains per day



Source: Ministry of Coal, Government of India

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