

waterstechnology



Buy-Side Technology
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CEIC Data, an ISI Markets company

Exploring Market-Moving Insights for Electricity, Gas and Utilities with CEIC

CEIC empowers multi-strategy fund managers to generate insights on the utilities sector, tapping our macro, alternative and high-frequency datasets – standardized for easy international comparisons.

Tap the granular datasets made possible by our deep roots and local curation in China – whose buildout has made it the world's biggest electricity generator. Get an early read on Europe's energy market using daily datasets on gas storage. Consider the lingering importance of thermal power plants with our macro data on coal imports.

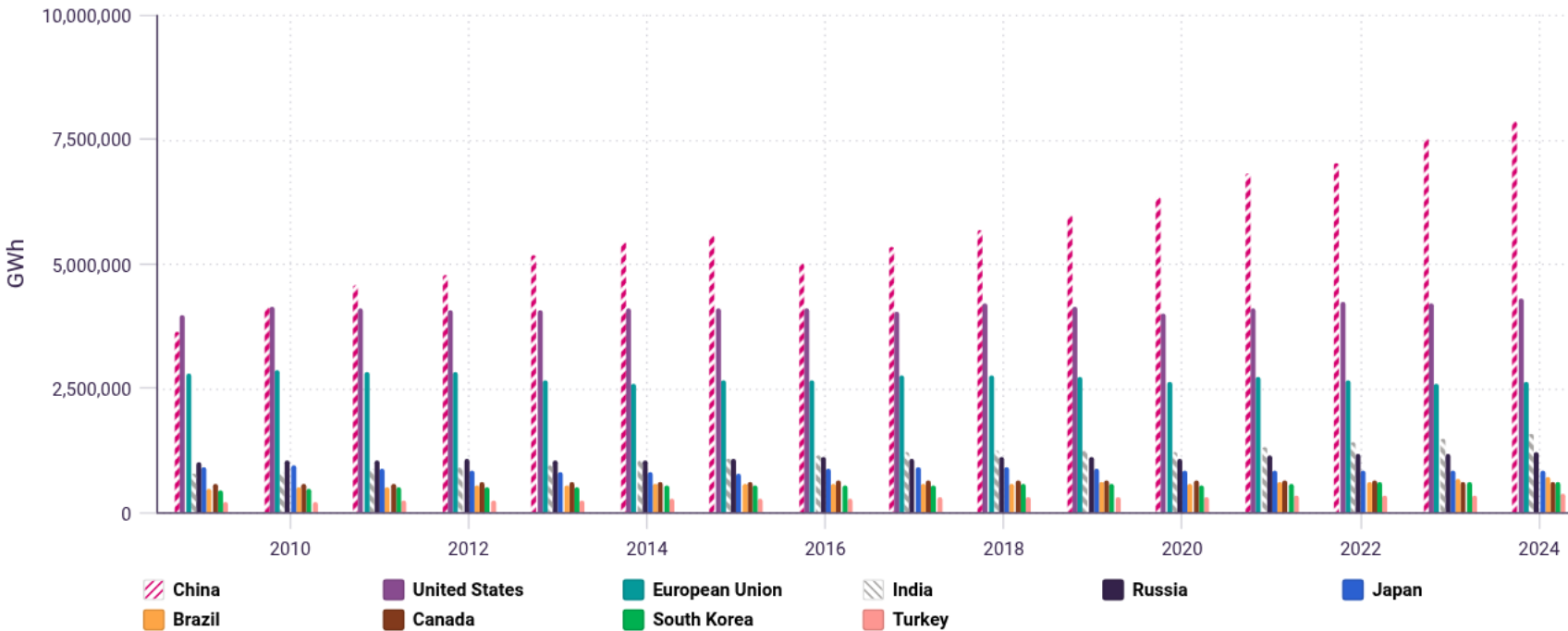
And explore the renewables boom and tech-driven megatrends complicating utilities' planning and business models: EVs and data centers, with their disparate demand stresses on the power grid.



China has been the story in global power generation this century

Global electricity at a glance: annual generation by top 10 economies

China doubles generation since 2009 amid relatively little change elsewhere (except India)



Our proprietary datasets standardize indicators across countries. This is especially useful when we analyze global power generation.

As recently as 2009, China was generating less power than the US. After years of installing coal-fired capacity and – more recently – emphasizing renewables, China generates 7.5 petawatt-hours (PWh) annually – 75% more than the US.

Total EU production has barely changed.



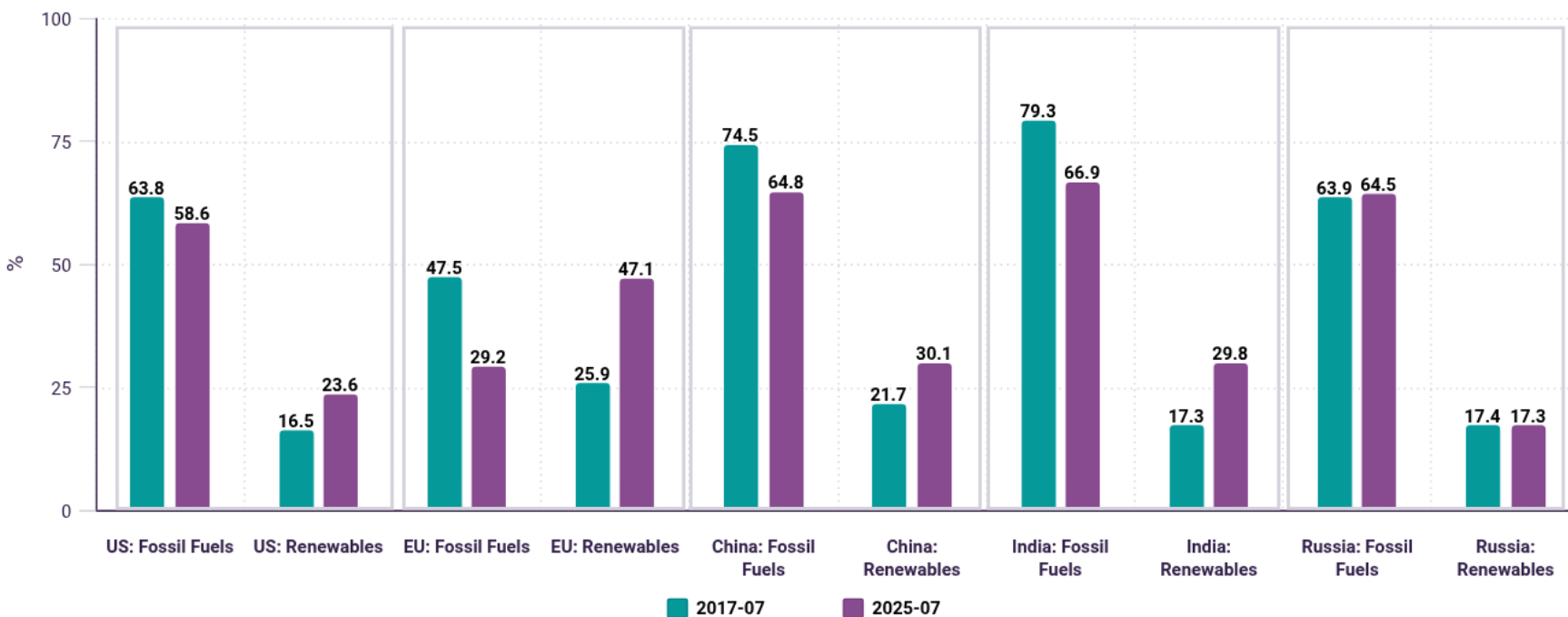
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Tracking the green energy transition around the world

Global energy transition: 2017 vs. 2025, fossil fuels vs. renewables

Electricity generation by share across major economies



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Our granular datasets on power generation span the globe.

From the US to China, from Europe to India, most major economies are becoming less reliant on coal and gas to generate electricity; renewables have steadily gained share since 2017, especially in the EU.

Russia is an outlier; its energy mix has changed little in eight years.



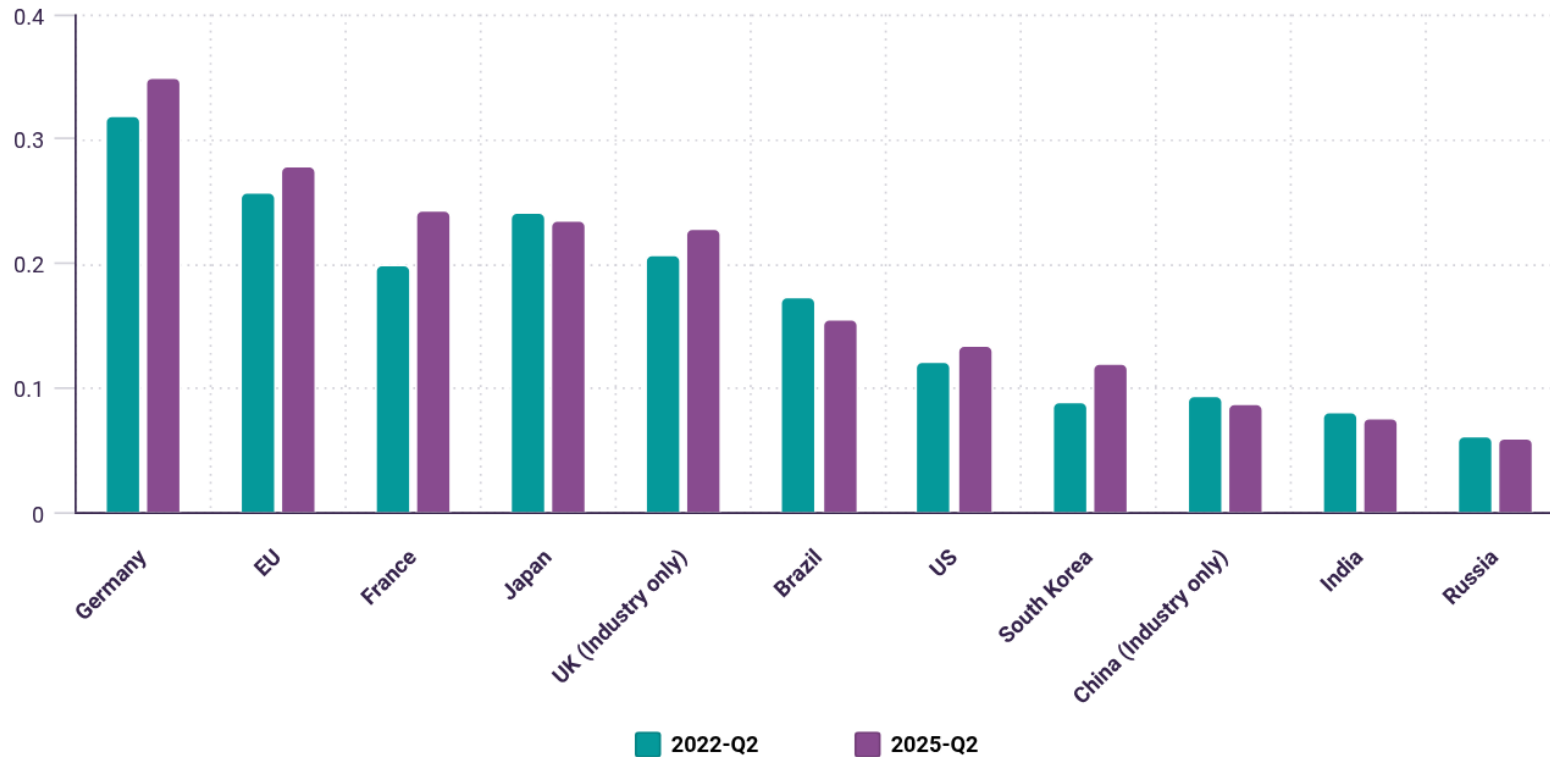
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Europe's structural challenge vs. the world: expensive energy

Europe pays more for power than the US and China do

2022 vs. 2025: Electricity retail prices across major economies (USD/kwh)



The drop in Russian energy supplies after the outbreak of war in Ukraine sent European prices soaring; surcharges linked to renewables are also a factor. Germany's industrial base has been especially hard-hit by expensive power.

The US and South Korea have also seen electricity prices rise, but from a lower base; energy has become cheaper in Brazil, China and India.

CEIC's data curation lets users easily compare power prices on a global basis.



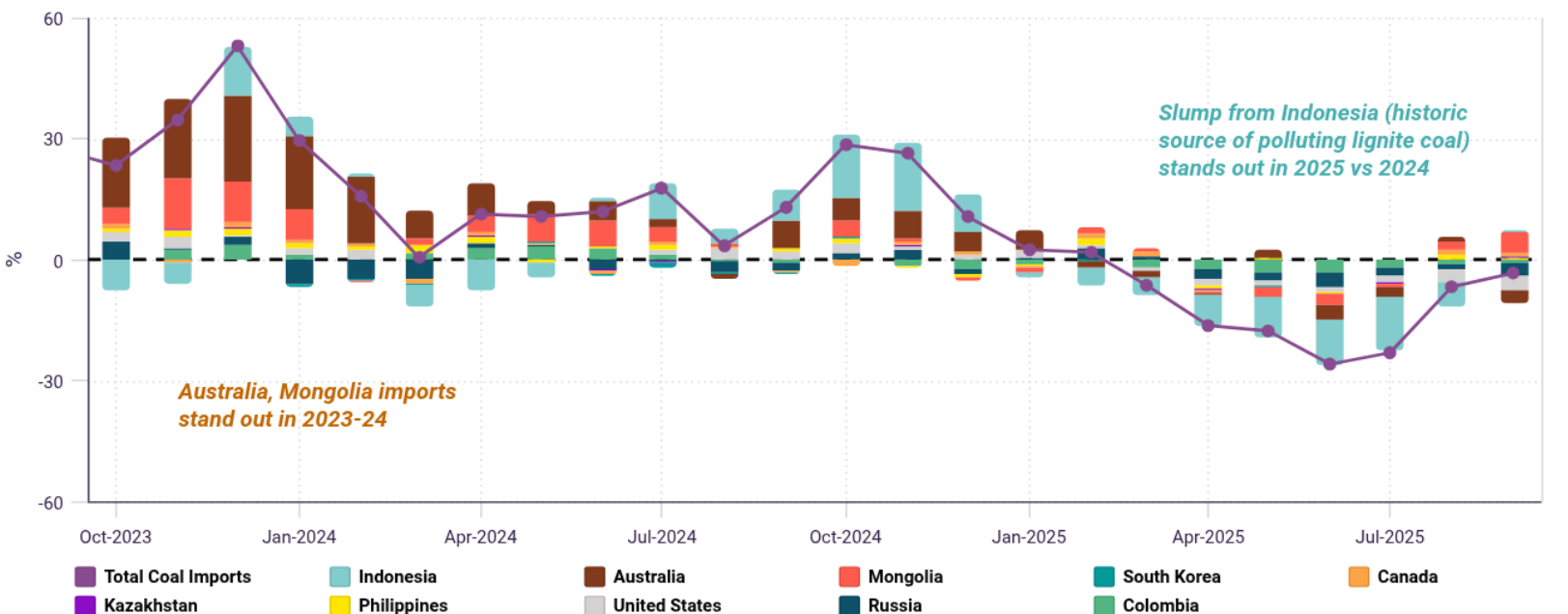
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Watching coal imports for clues about China's power-generation mix

China: Coal imports from most sources started dropping this year

% contributions %y/y by origin, volume



Chinese coal imports have been declining of late – especially from Indonesia. Historically, China is a major importer of lower-calorie (and more heavily polluting) lignite coal from Indonesia, which is blended with higher grades for use in power stations. But Chinese utilities have been able to source better-quality coal more cheaply and locally of late.

Tighter emissions standards in China are likely also a factor.



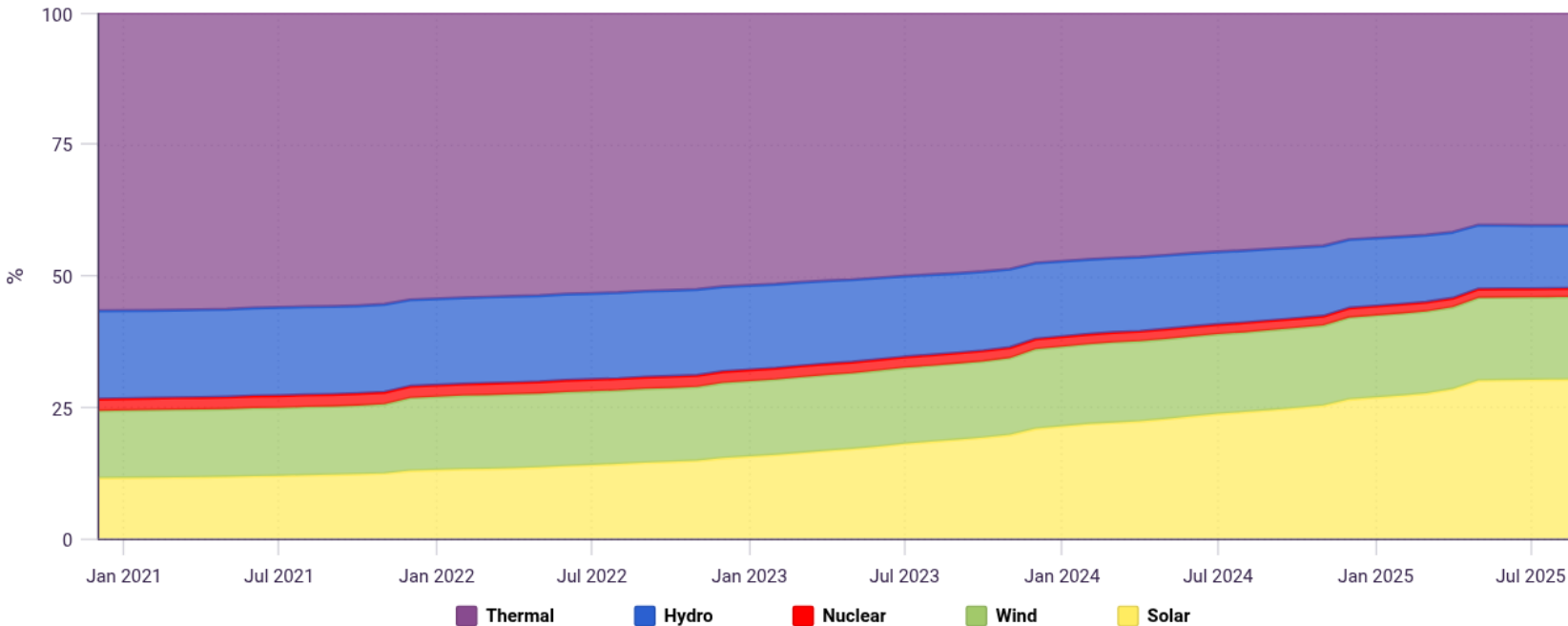
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Renewables' increasing role in China

China: Expanding role of solar power (in yellow) as coal-plant reliance recedes

Capacity of power generating equipment by source



Another take on China's energy transition can be seen in this visualization, which taps our locally curated data from industry sources. Solar power has been taking on a steadily greater role in the national energy mix; its share has doubled since 2021, surpassing 1,000 GW for the first time.



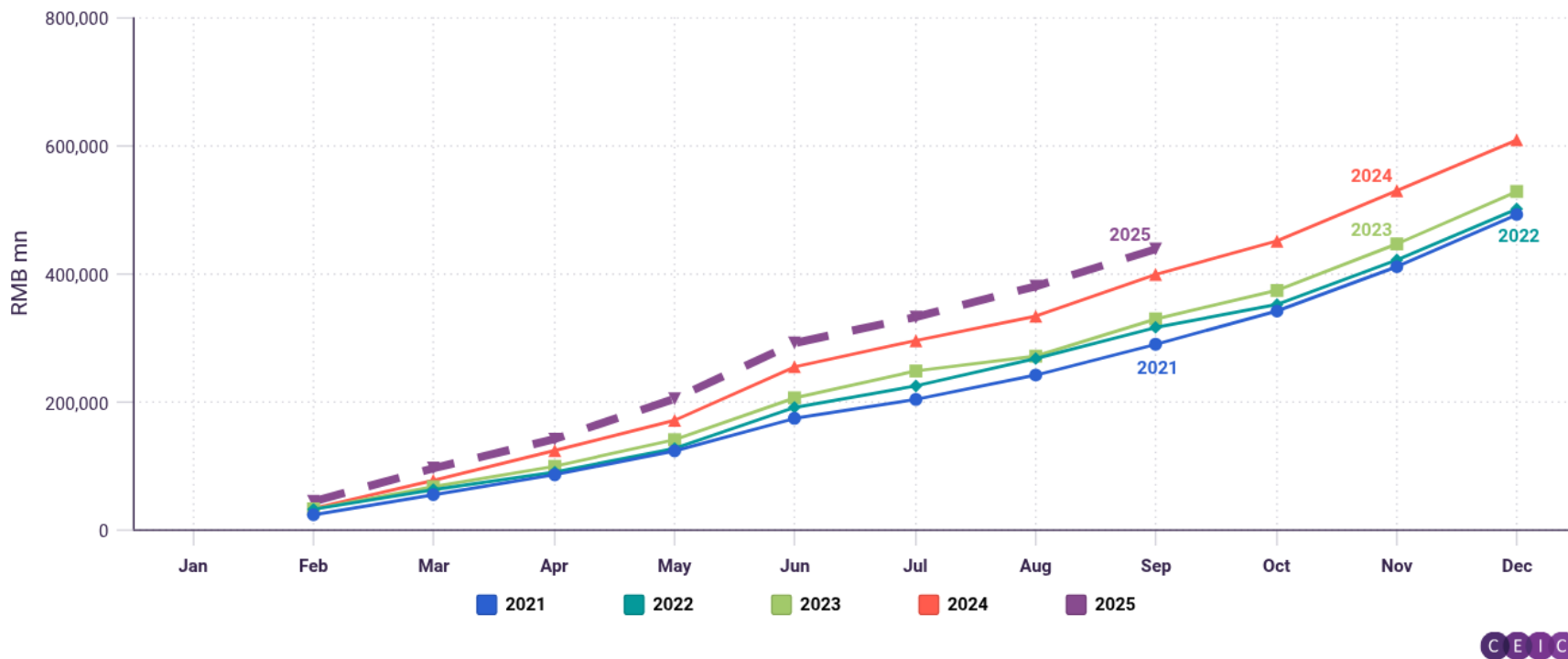
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China spends more on power transmission and distribution

Accelerating investment in China's electricity networks

Electricity construction investment in the nation's grid, 2021-25



CEIC's granular energy data for China lets users break out grid-related construction spending.

As this visualization shows, spending on transmission and distribution infrastructure to support demand has picked up every year since 2021.



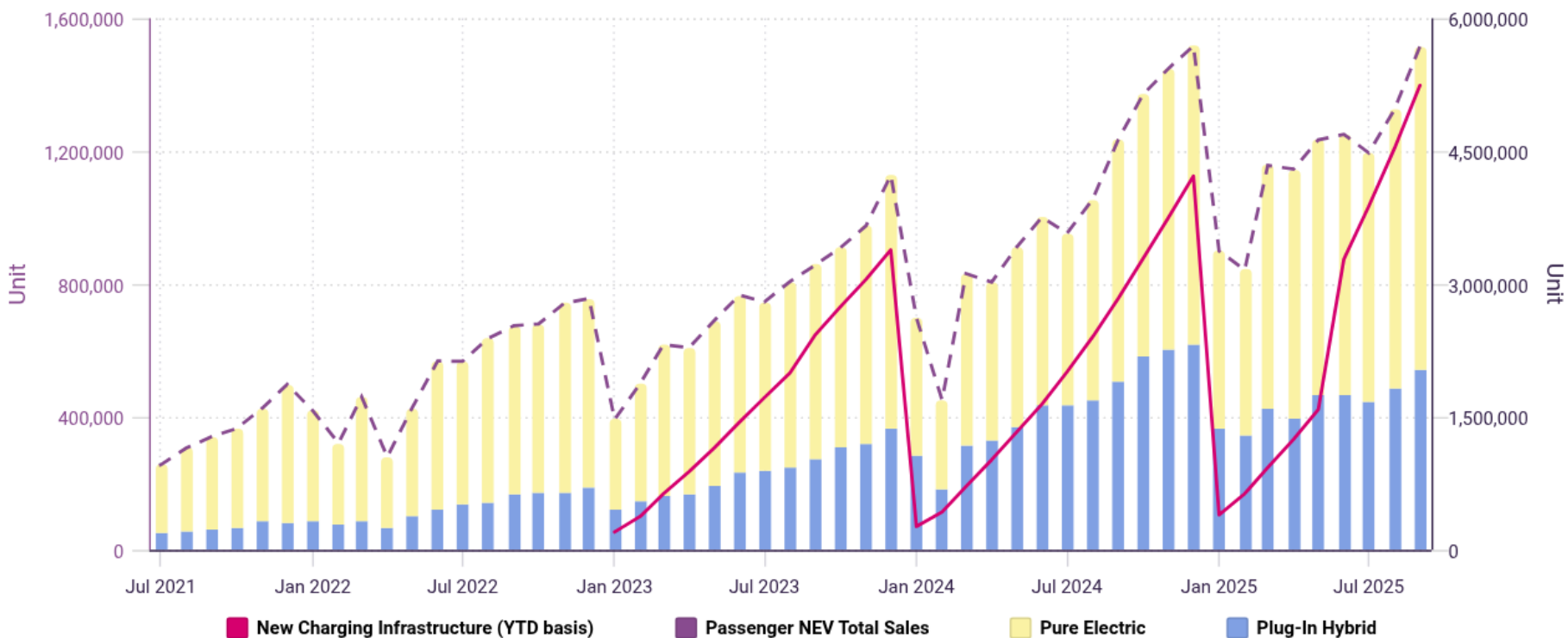
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The rush to install EV infrastructure in China

China's utilities speed up charging-point installations in 2025 amid EV boom

Passenger New Energy Vehicle (NEV) sales vs new charging infrastructure (ytd basis)



Adapting to the boom in electric mobility has become a top priority for power grids. CEIC's locally sourced Chinese datasets allow our users to compare electric-vehicle sales to installed charging-point capacity – measuring the pace of both over different calendar years. (We can also explore granular details in our datasets, such as breaking down EV sales by vehicle type.)



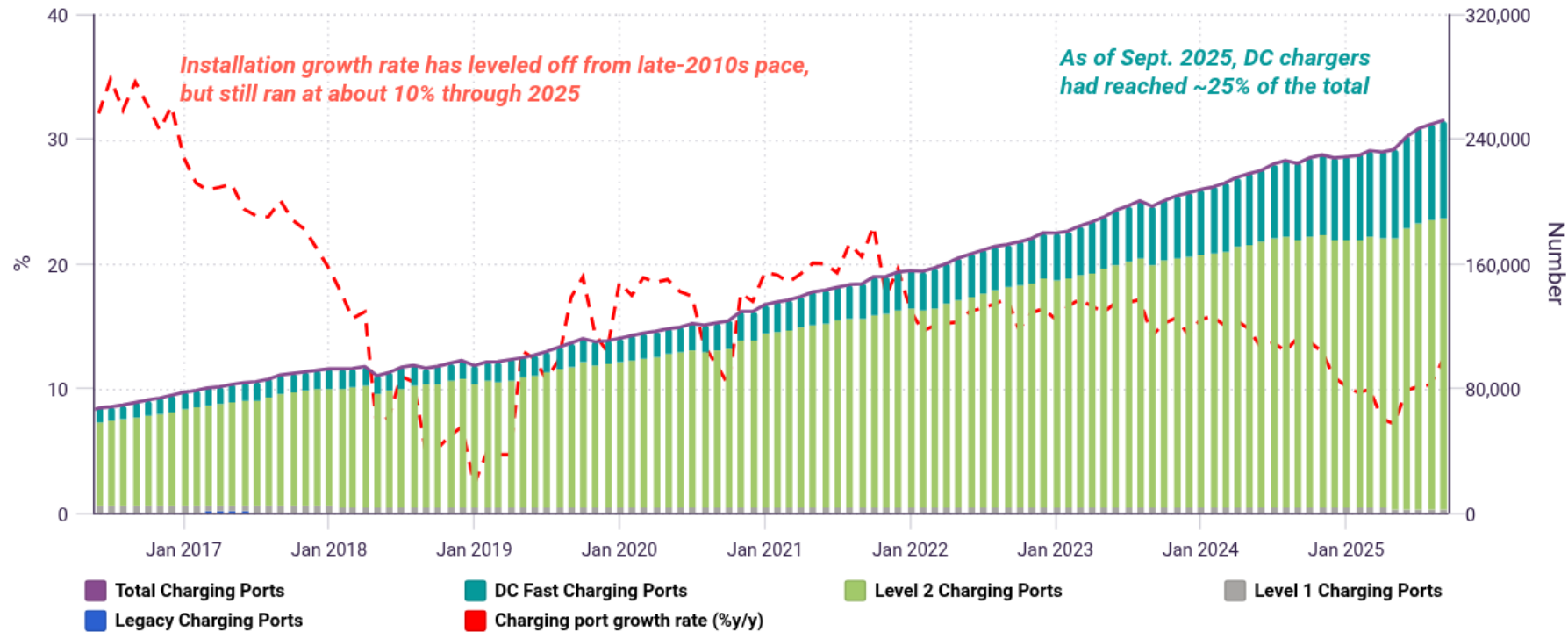
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Ever more EV charging points in the US: a key driver of power demand

The growing role of DC fast-charging ports for electric vehicles

Total EV charging infrastructure in the US by type



As charging points for electric vehicles proliferate, they create new demand peaks for utilities and reshape investment priorities – from grid reinforcement to smart meters and demand-side management. And not all charging points are created equal: fast, high-voltage DC ports (such as Tesla's Supercharger network) are becoming more important, and place different demands on the grid. Our granular data covers these various categories.



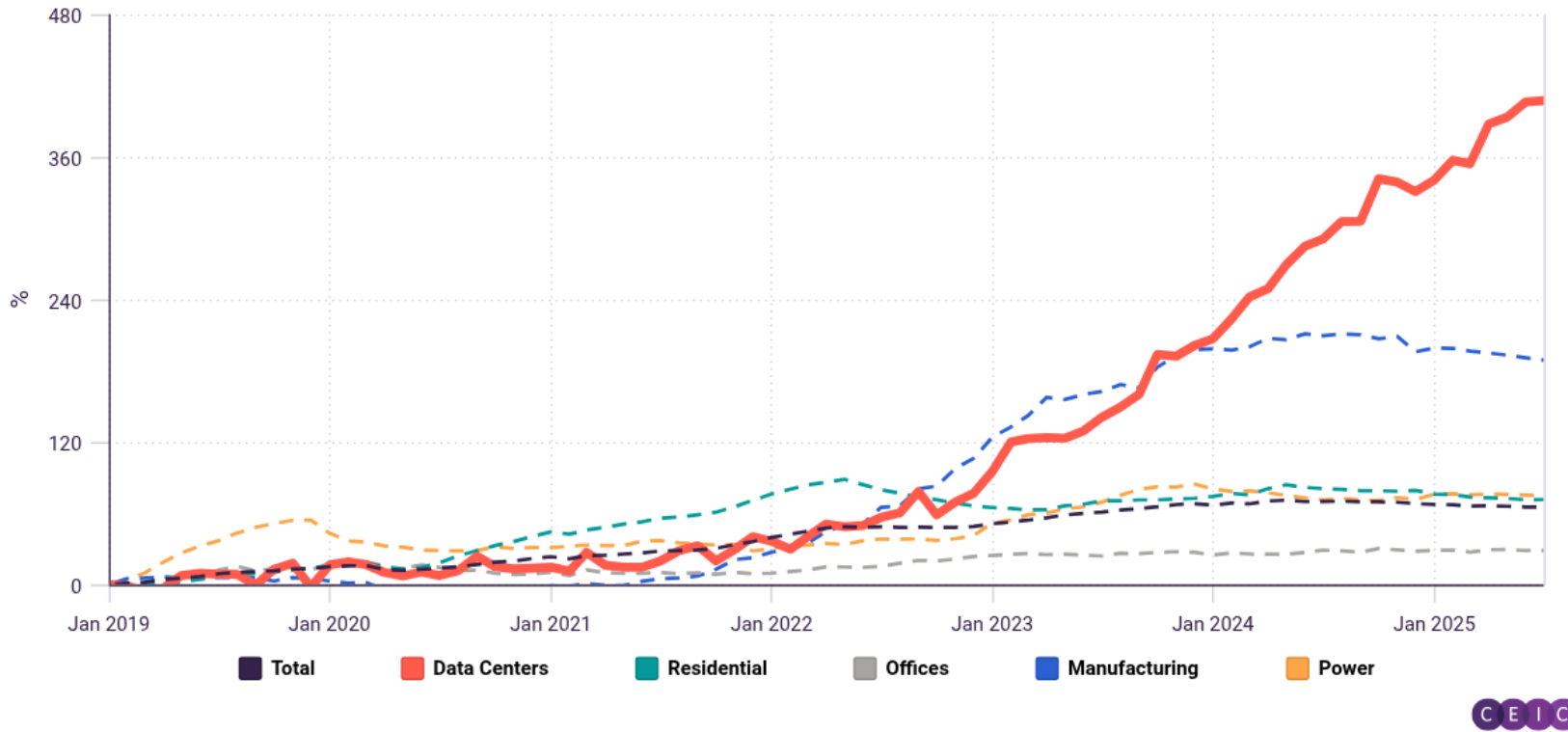
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AI boom means more electricity-hungry US data centers

Data centers: one of the only US construction categories in growth mode

% growth for residential, offices and other categories since Jan 2019: Construction value put in place, seasonally...



US data-center construction is up nearly 400% since 2019. This signals a profound transformation in electricity demand and load-growth models for utilities, given the doldrums in other sectors that would otherwise provide new customers.

Indeed, US electricity prices outpaced inflation in 2025 as a result; before the data-center boom, energy demand for all commercial uses in the US had been stagnant.



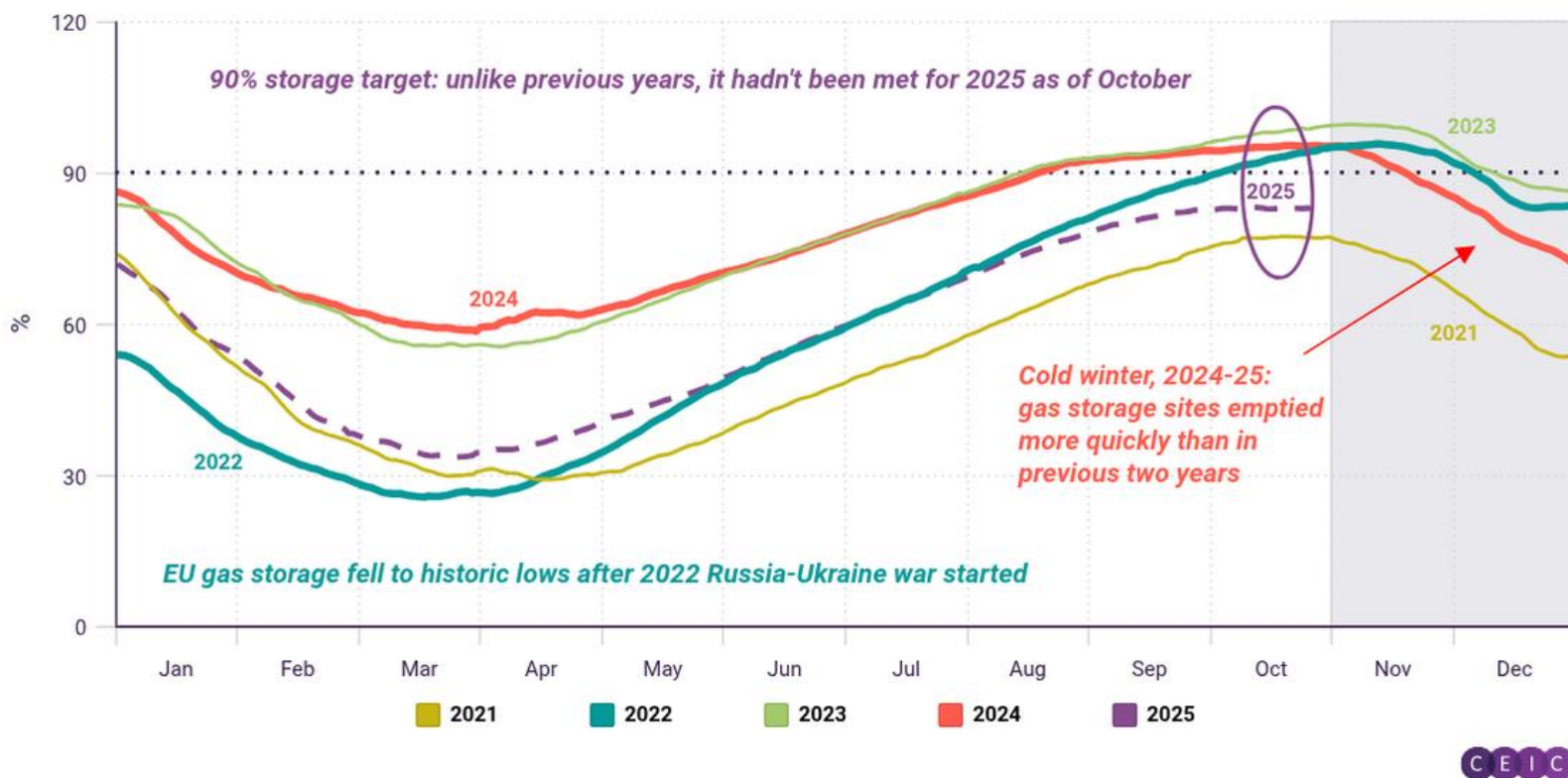
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Gas storage levels in Europe: a high-frequency indicator

European gas storage levels: year-on-year cycle comparisons

EU countries aim to ensure facilities are filled to at least 90% of capacity before peak winter demand



European gas storage, which is tracked daily by CEIC, informs energy price expectations – especially ahead of peak winter demand by utilities. This indicator has become especially closely watched after Russian supplies withered following the 2022 outbreak of war in Ukraine.

After a cold 2024-25 winter drew stocks down more than usual, piped gas from Norway and LNG vessels had only refilled storage facilities to 83% of capacity as of Oct. 28 – a level considered “resilient,” but below the 90% target the EU mandates as a buffer against supply shocks.



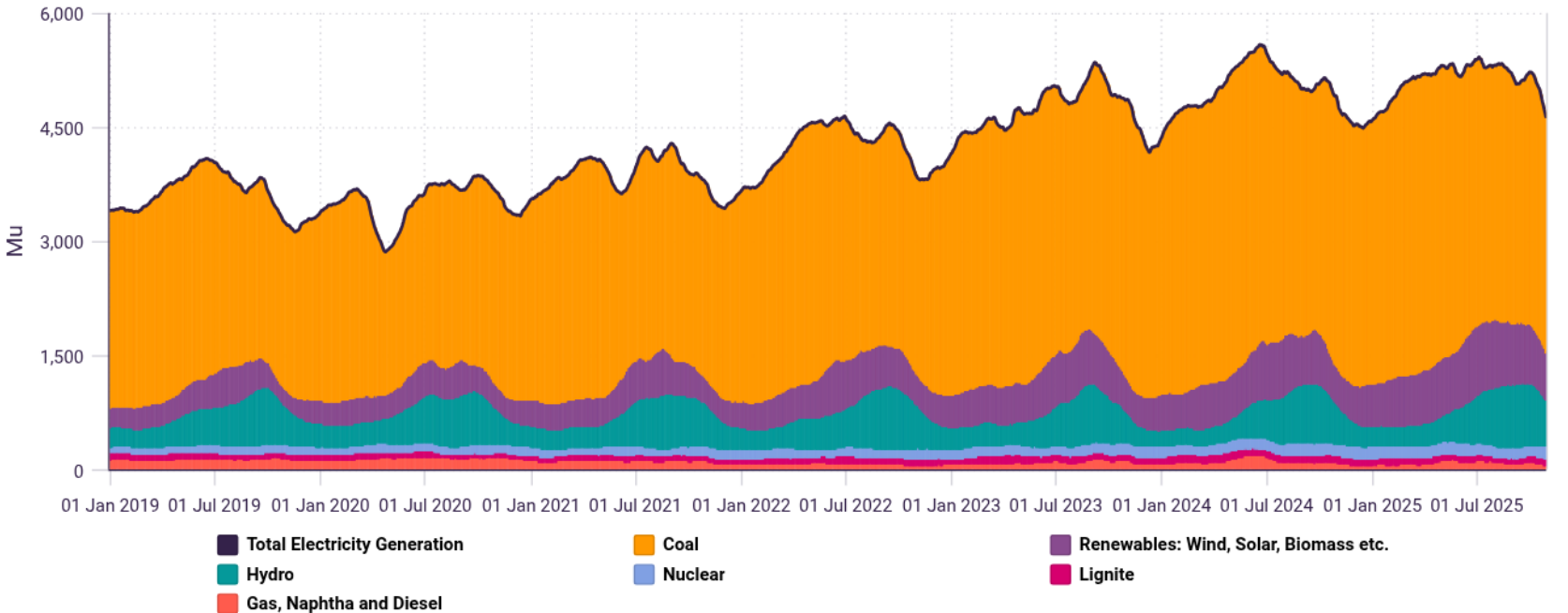
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Breaking down India's energy mix with high-frequency data

India: Renewables gradually gain importance, but coal still dominates

Daily electricity generated by source of energy



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We track Indian power generation on a daily basis and in granular detail. India remains very reliant on cheap homegrown coal, but renewables are taking on a greater role. Generation from wind, solar and biomass has roughly doubled over the past six years, but accounts for just 15% of the total – versus 30% of installed capacity. That's partly due to intermittence; the seasonality of solar and hydro power is notable on our chart. Monsoon season means less power from solar plants (but more hydroelectricity).



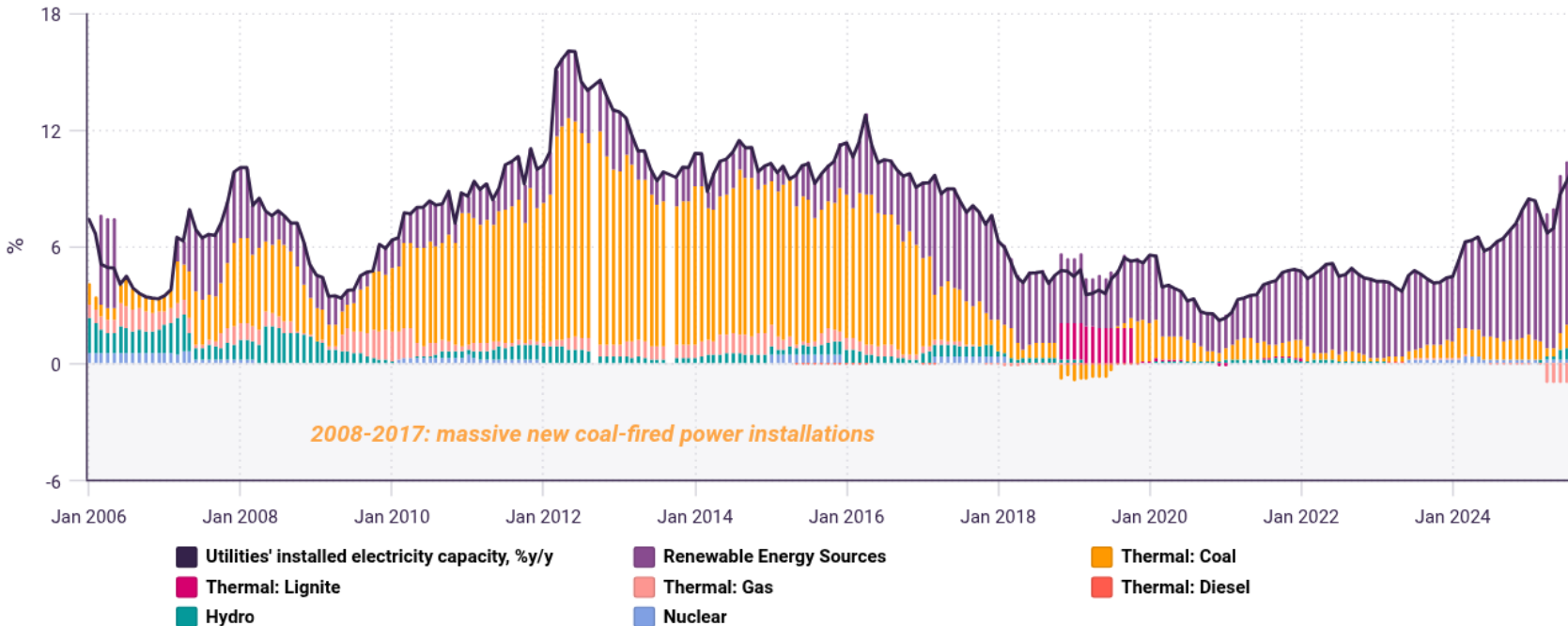
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More solar and wind capacity has been rolled out lately in India

India: Renewable energy currently dominates new installations as coal is de-emphasized

% contribution to year-over-year growth of newly installed capacity in utilities



As India seeks to meet national and international climate targets, it has prioritized clean-power projects recently, as our granular data shows. New coal plants are still planned for coming years, but other, older and more polluting facilities could be retired.



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