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Centre for Research on Energy and Clean Air

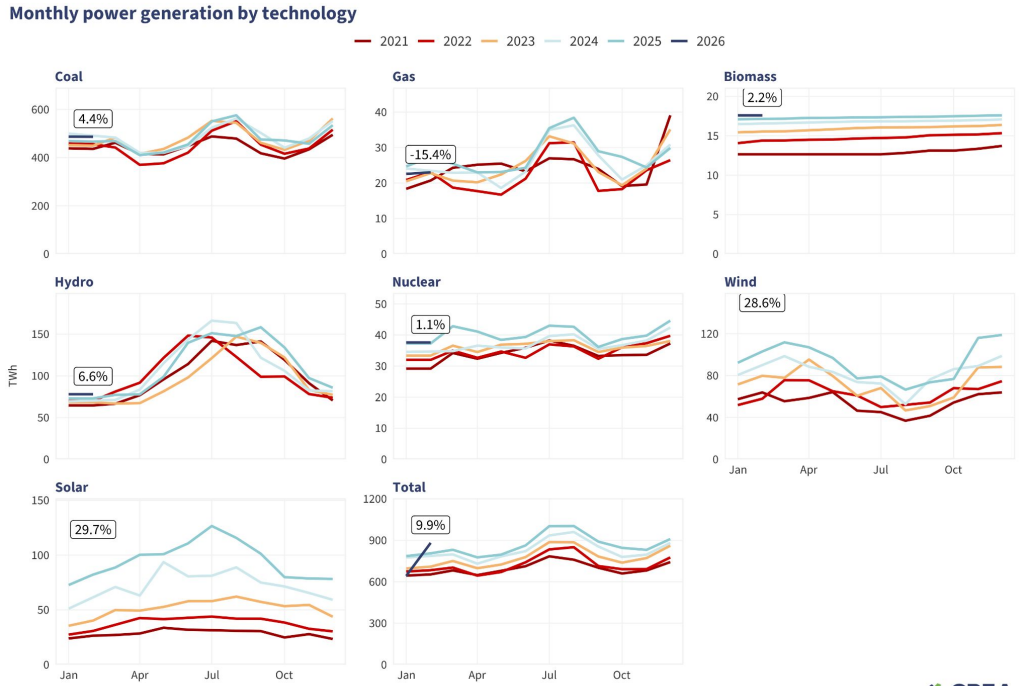
# China energy and emissions trends

## *January-February 2026 snapshot*

**17 March 2026**

# Power generation growth accelerated in the first two months

- As the Lunar New Year came later than in 2025 and pre-holiday industrial activity also gave a temporary boost, total power generation* is estimated to have increased by 9.9% in the first two months of 2026, while large-scale power generation rose by 4.1%.
- Coal power increased by 4.4% and gas power generation declined by 15.4%.
- In January-February, solar and wind power generation* increased by 29.7% and 28.6%, respectively.
- Hydro and nuclear grew 6.6% and 1.1% respectively.




*This is a prediction based on the assumption that there wasn't a major increase in wind and solar curtailment compared with the same period last year. National Bureau of Statistics (NBS) underreports wind and solar generation, particularly from rooftop and smaller solar plants. Find CREA's methodology for power generation here.*

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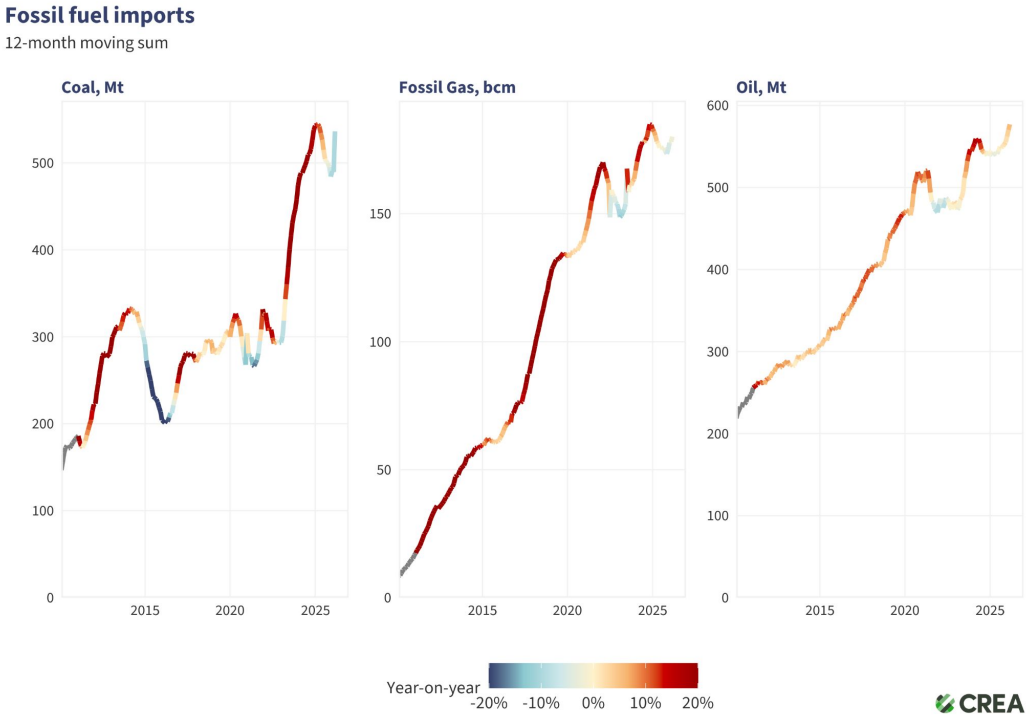
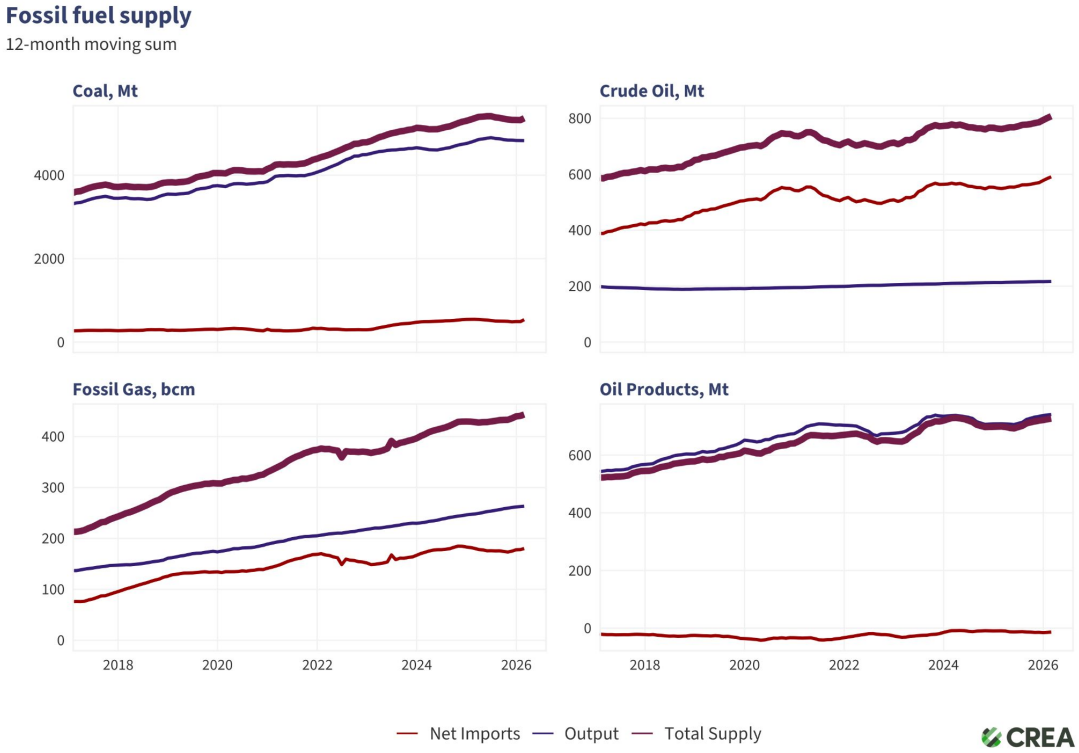
# Oil and coal imports grow, while gas declines

- China's coal imports were up 1.5% year-on-year over January-February 2026 as a whole. This reflected strong import growth in January, when lower coal prices supported buying, followed by a 10% year-on-year decline in February.
- China's crude oil imports rose 15.8% year-on-year in the first two months of 2026, despite continued weakness in domestic demand for refined oil products. However, refined fuel exports also increased by 12.7% over the same period, suggesting that the additional crude was absorbed through a combination of stockpiling, higher refinery runs, and stronger exports.
- Natural gas imports fell slightly, down 1.1% year-on-year, as higher domestic output and pipeline gas supplies from Russia displaced some seaborne imports on cost grounds.



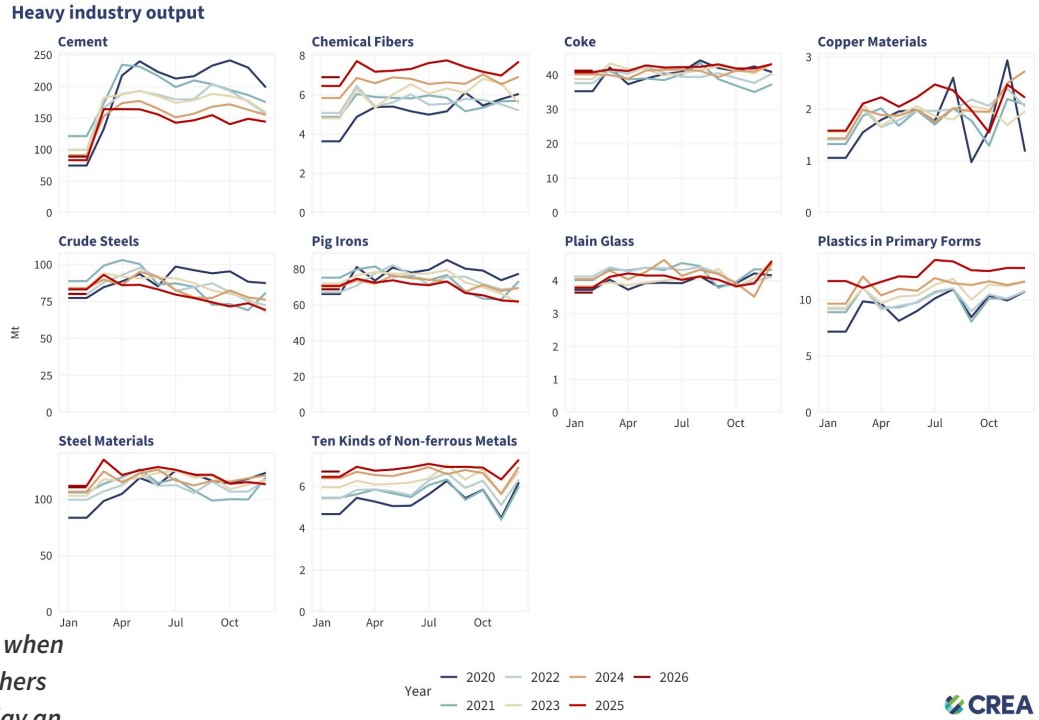
# Refining activity strengthens despite weak demand

- In the first two months of 2026, coal output fell 0.3% year-on-year, with sluggish growth in coal consumption constraining further expansion in domestic production.
- Domestic natural gas production rose by 2.9%. Domestic supply increasingly replaces imports.
- Crude oil production increased by 1.9%.
- Refinery throughput rose 2.9% year-on-year in January-February 2026, while both refined product exports and imports increased sharply, up 12.7% and 43.3%, respectively. This points to more active product trade and firmer refinery activity despite weak domestic fuel demand.



# Pig iron and crude steel outputs continue to fall

- With the Lunar New Year falling later in 2026, the usual cycle of pre-holiday construction, holiday shutdowns and post-holiday reopening was pushed back, mechanically lifting the January-February year-on-year figure, while likely weighing on the March data in turn.
- In the first two months of 2026, pig iron, crude steel, and steel product output declined 2.7%, 3.6%, and 1.1%, respectively.
- Cement output rose 6.8% year-on-year, but still remained the second-lowest for the January-February period in the past 17 years.
- Chemical fibre and non-ferrous metal output grew by 6.9% and 3.9%, respectively.
- Ethylene production, used as a key feedstock for plastics, grew by 5.1%.




*The steel and cement industries are the largest CO2 emitters in China, when emissions from their electricity use are included. They are also bellwethers of real estate, infrastructure, and other fixed asset investments that play an outsized role in China's emissions and economy.*

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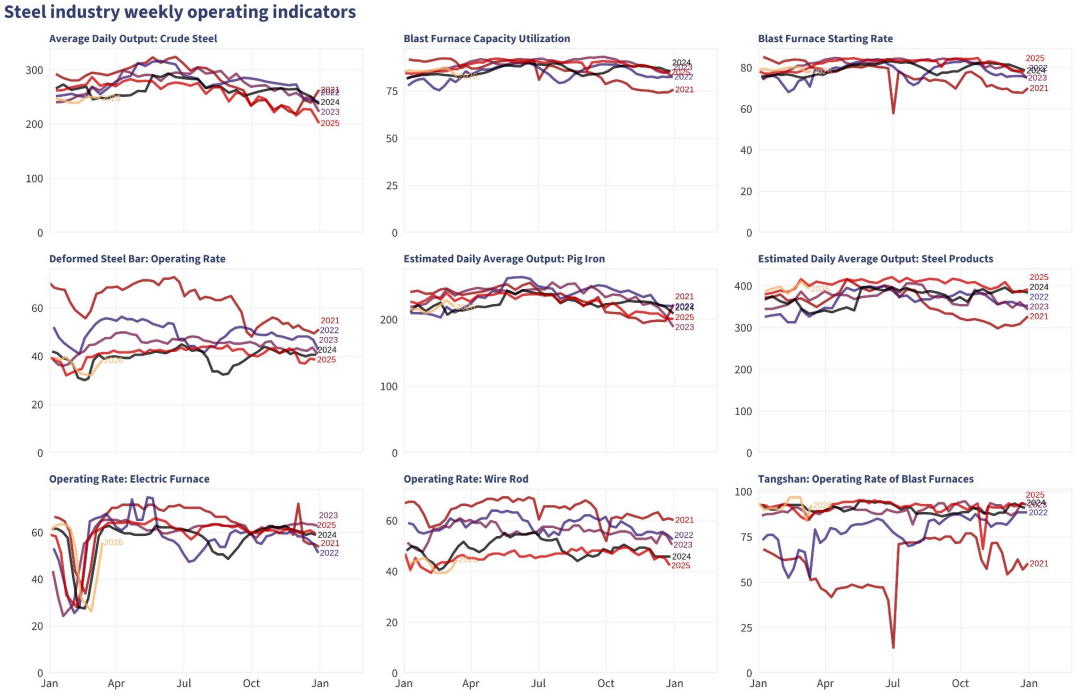
# Steel sector remains sluggish

- Blast furnace starting rates and utilisation slightly went down compared to a year earlier. Electric arc furnace operating rate was also much lower than in the same period last year.
- Steel production showed little sign of a meaningful rebound in the first two weeks of March. Higher raw material costs are supporting steel prices, but weak demand and high inventories are keeping margins under pressure, leaving mills reluctant to increase output.
- The operating rate of blast furnaces in Tangshan, China's 'steel capital' and an important source of air pollution in Beijing, remained at a high level.

*Hebei Province industrial output is a bellwether of national priorities: when air quality and emissions are the priority, it is the most tightly regulated area*

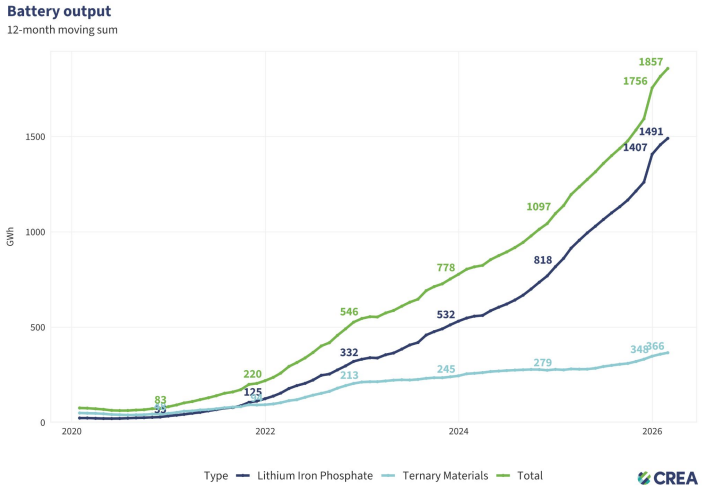


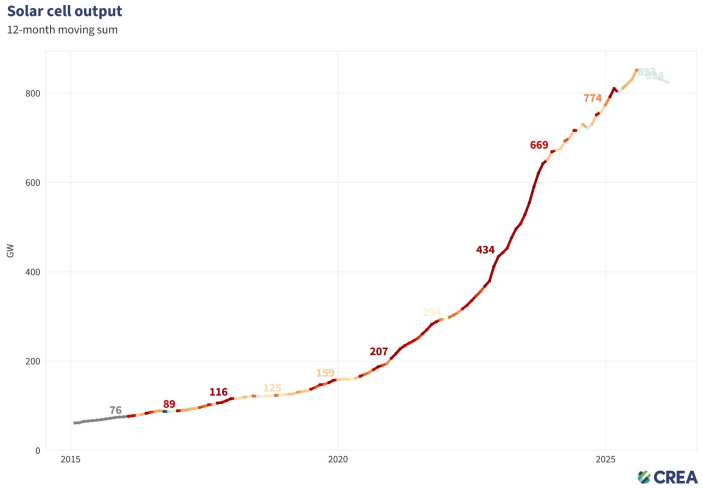

Source: Wind Information

*Read more:* [*Closing the loop: from stalled green steel targets to a strategic reset in China*]

# Battery output keeps growing

- Solar output decreased by 7.8% in the first two months. Cumulative solar output in February 2026 grew by 2% year-on-year. Despite the recent dip, production levels are still elevated, suggesting that manufacturing activity remains strong.
- In January-February, total battery output reached 309.7 GWh, up 48.8% year-on-year, supported by strong demand from the energy storage sector.

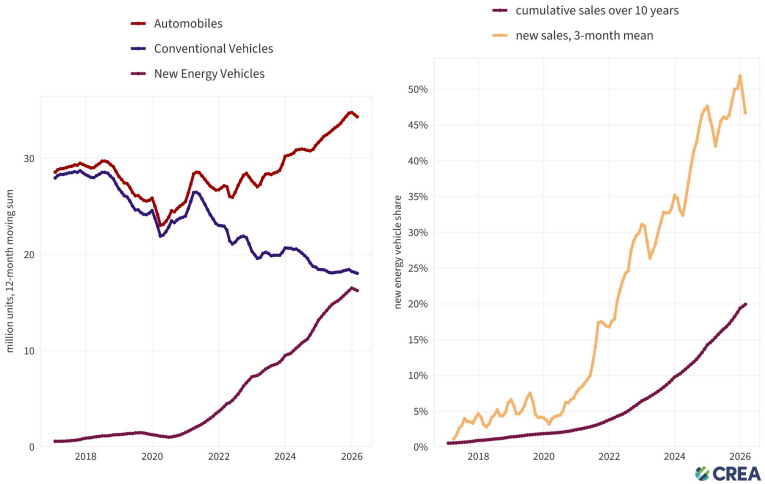


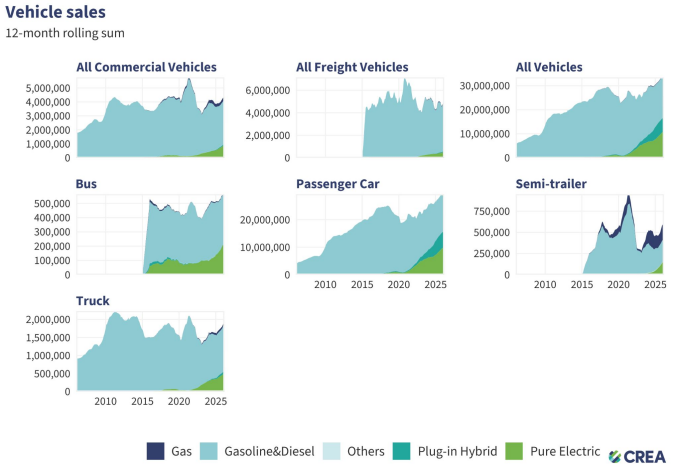



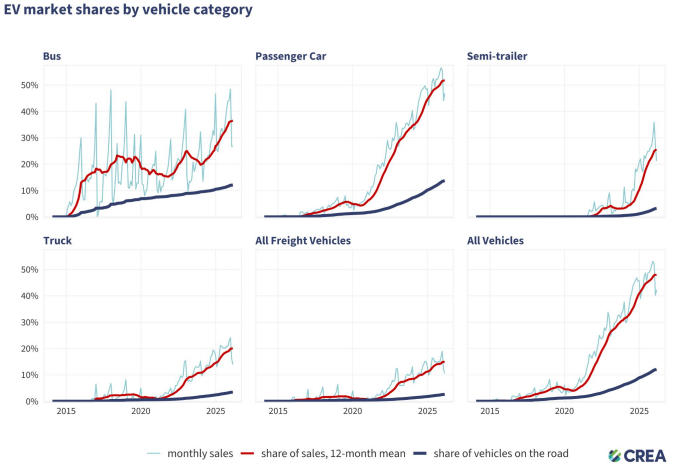
# NEV momentum eased in early 2026

With consumer subsidies scaled back in 2026, EV and plug-in hybrid output fell 13.7% year-on-year in the first two months, accounting for 40% of total vehicle production. The three-month average share of NEVs in new vehicle sales also eased, falling from 51% at the end of last year to 47%.

## Vehicle production

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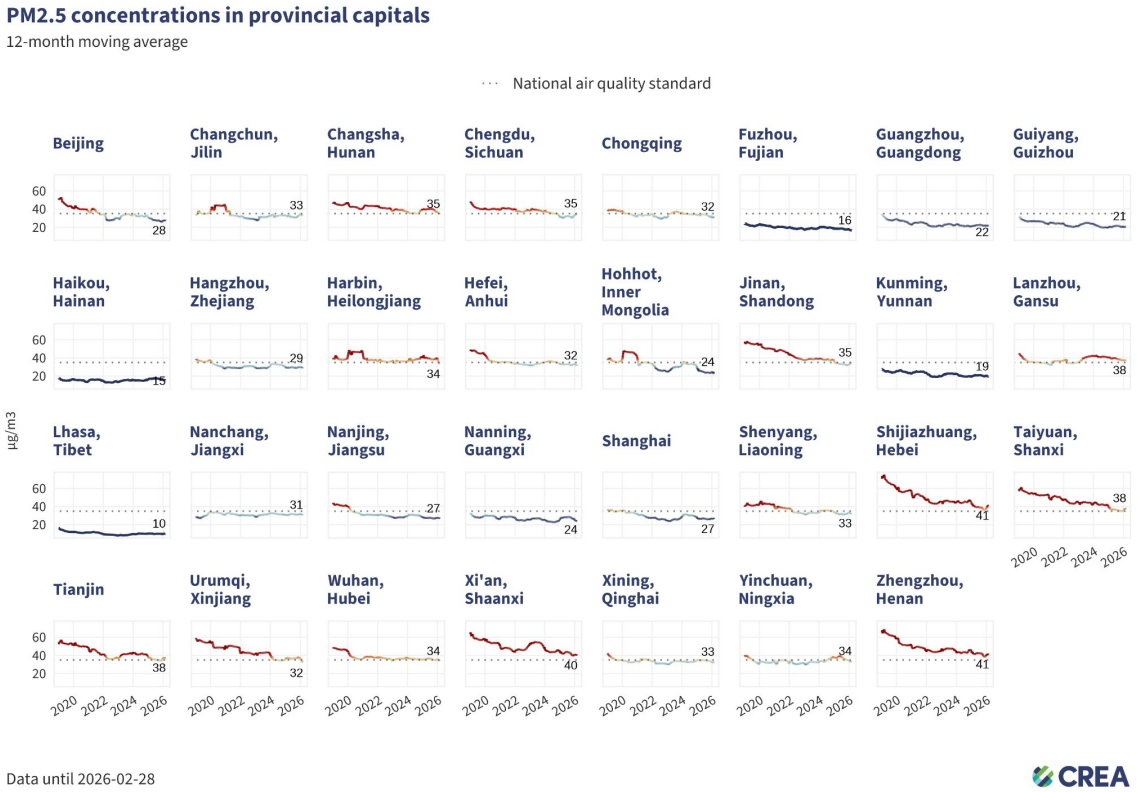
# Six provincial capitals failed to meet annual PM2.5 standards

- As of the end of February, six of China's 31 provincial capitals had 12-month average PM2.5 concentrations above the national annual standard of 35 μg/m³, meaning they failed to meet the standard. Starting in March, the new national standard for PM2.5 will be tightened to 30 μg/m³.
- The cities with the highest PM2.5 levels were concentrated in China's key northern air-pollution regions, particularly the Beijing-Tianjin-Hebei surrounding area and the Fenwei Plain. Zhengzhou (Henan) and Shijiazhuang (Hebei) recorded the highest levels, both at 41 μg/m³, followed closely by Xi'an (Shaanxi) at 40 μg/m³.
- Compared with the previous month, 12 provincial capitals saw increases in their 12-month PM2.5 averages.

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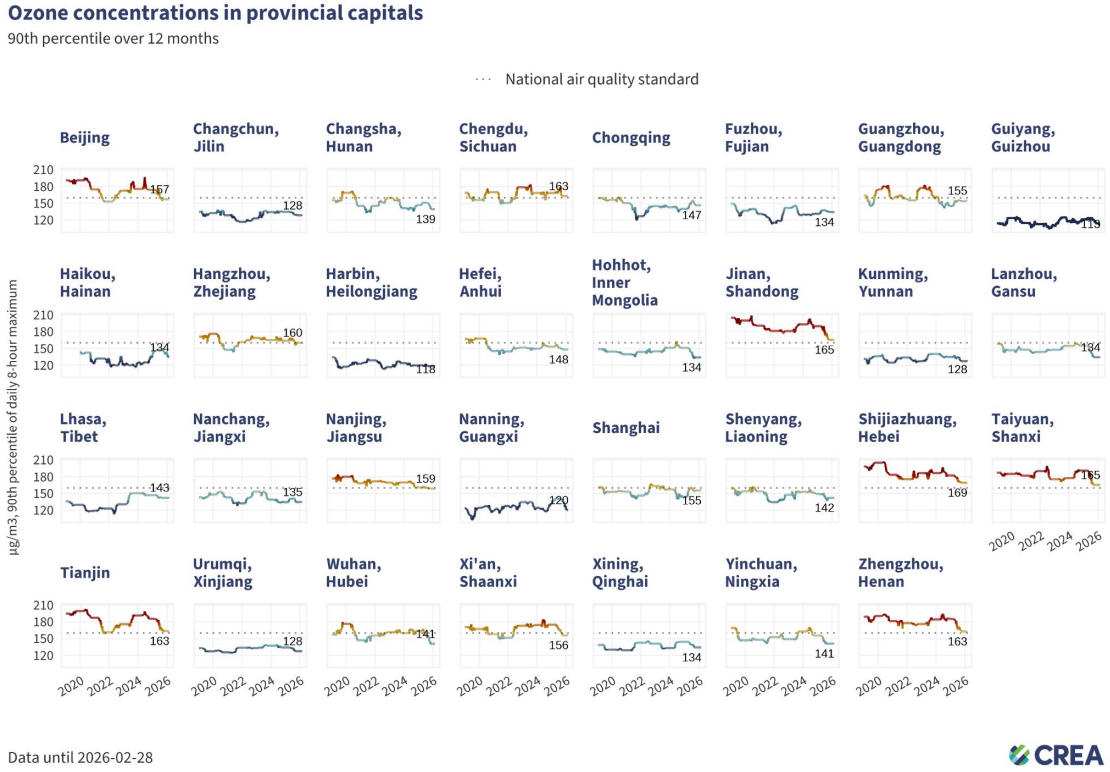
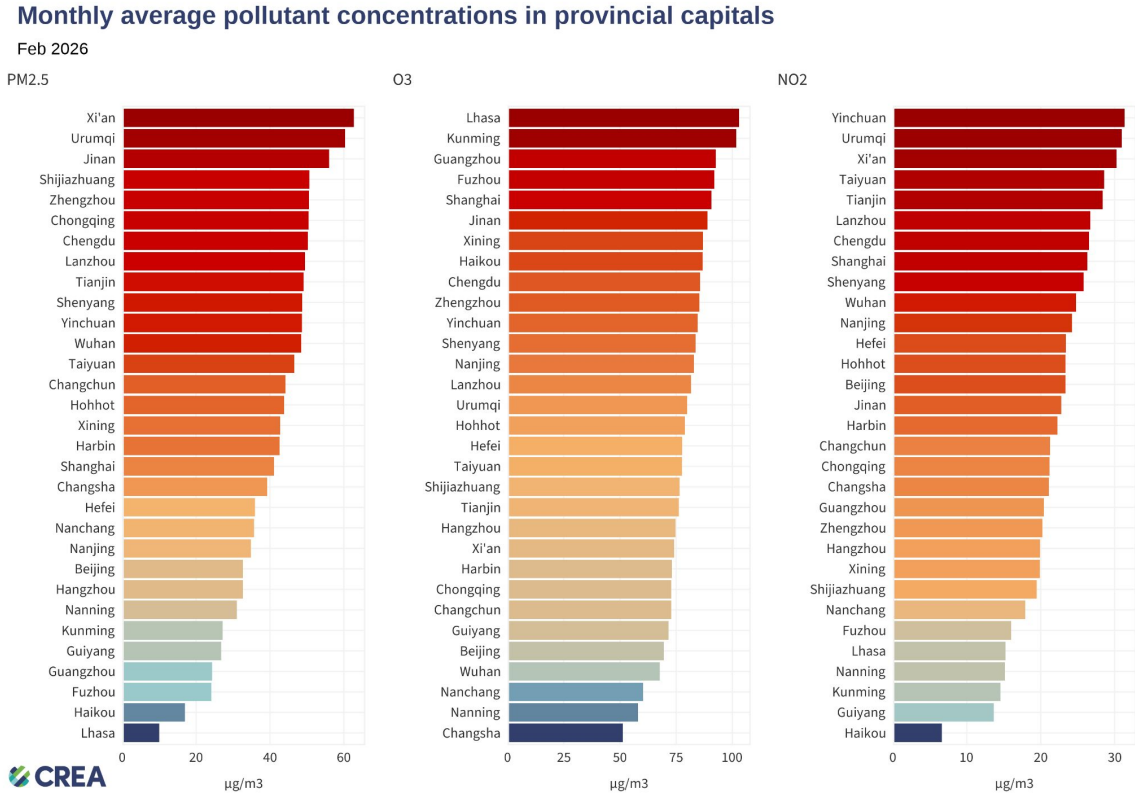
# Six provincial capitals exceeded annual ozone limit

- As of the end of February 2026, six out of 31 provincial capitals recorded 12-month 90th percentile ozone concentrations above the national standard of 160 μg/m³.
- Cities with the highest ozone levels were mainly located in Beijing-Tianjin-Hebei surrounding area. Shijiazhuang (Hebei) recorded the highest level at 169 μg/m³, followed by Jinan (Shandong) and Taiyuan (Shanxi) at 165 μg/m³, and Tianjin, Chengdu (Sichuan), and Zhengzhou (Henan) at 163 μg/m³.
- Compared with the previous month, Kunming (Yunnan) and Lhasa (Tibet) had an increase in their annual ozone assessment values.



# Northern cities led in monthly average PM2.5 and NO2, while western cities saw the highest ozone

- Xi’an (Shaanxi) recorded the highest monthly average PM2.5 concentration among China’s provincial capitals, at 62.7 μg/m$^3$, followed by Urumqi (Xinjiang) at 60.4 μg/m$^3$, and Jinan (Shandong) at 56μg/m$^3$.
- Ozone levels were the highest in West China, with Lhasa (Tibet) topping the list at 103 μg/m$^3$, followed by Kunming (Yunnan) and Guangzhou (Guangdong), at 102 μg/m$^3$ and 93 μg/m$^3$, respectively.
- Yinchuan (Ningxia) recorded the highest NO2 concentration at 31 μg/m$^3$, followed by Urumqi (Xinjiang) and Xi’an(Shaanxi), at 31 μg/m$^3$. Nitrogen dioxide not only poses direct health risks, but also contributes to the formation of PM2.5 and ozone.

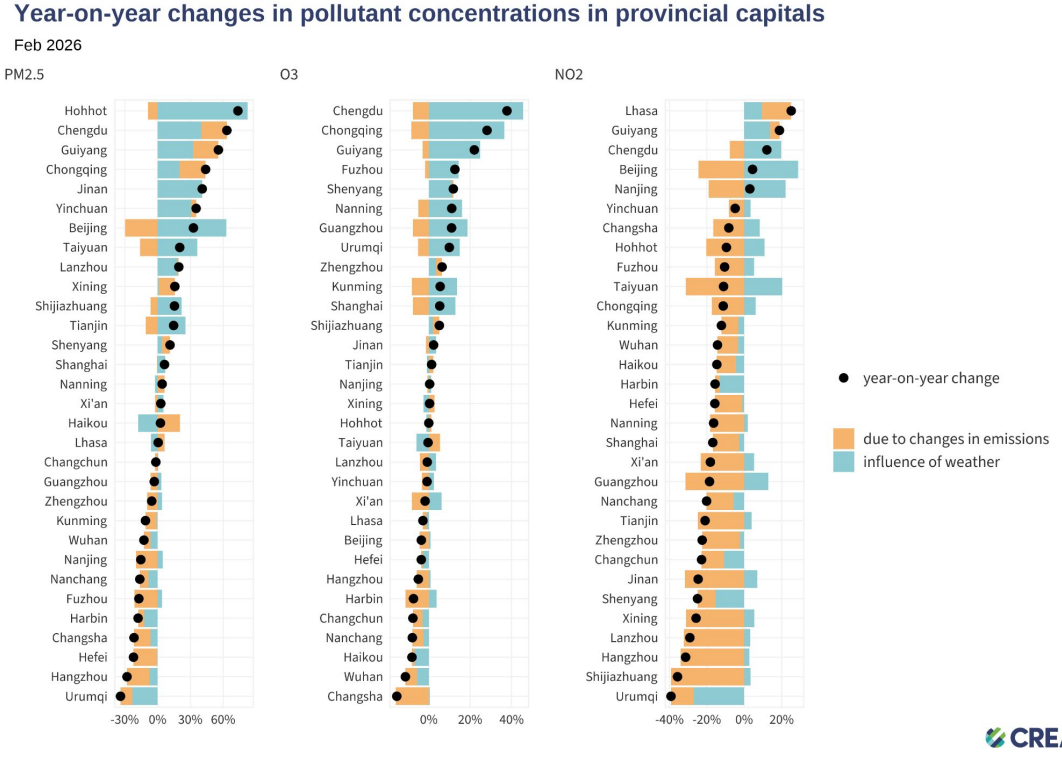


# Southwestern cities saw year-on-year increases in air pollution

- Hohhot, Chengdu and Guiyang saw the most significant year-on-year increases in PM2.5 concentrations. Hohhot recorded a 73% increase, driven mainly by meteorological conditions. Chengdu and Guiyang saw increases of 63% and 55%, respectively, of which 23% in each city was attributable to  emissions.

- Year-on-year increases in ozone concentrations were mainly observed in southwestern China. Chengdu, Chongqing, and Guiyang recorded the largest year-on-year increases of 38%, 28% and 22%, respectively, mainly driven by meteorological conditions.

- Nitrogen dioxide (NO2) concentrations rose most noticeably in Lhasa, Guiyang, and Chengdu, mainly due to unfavourable weather conditions.




*Our analysis projects the influence of weather conditions on air pollution levels using a machine-learning model trained on actual data for each city. The variations that cannot be explained by weather conditions are attributed to changes in emissions.*

# Worst 7-day air pollution episodes by pollutant

*$PM_{2.5}$ (excluding sandstorms)*

| city | province | dates | average concentration | highest daily concentration |
|---|---|---|---|---|
| Wujiaqu | Xinjiang | Jan 27– Feb 02 | 178 | 214 |
| Shihezi | Xinjiang | Jan 27 – Feb 02 | 147 | 174 |
| Anshan | Liaoning | Feb 26 – Mar 04 | 138 | 299 |
| Hebi | Henan | Jan 26 – Feb 01 | 138 | 202 |
| Jiaozuo | Henan | Jan 26 – Feb 01 | 138 | 171 |

*Ozone*

| city | province | dates | average concentration | highest daily concentration |
|---|---|---|---|---|
| Rigaze | Tibet | Feb 24 – Mar 02 | 134 | 158 |
| Baoshan | Yunnan | Feb 28 – Mar 06 | 134 | 160 |
| Lincang | Yunnan | Feb 28 – Mar 06 | 133 | 141 |
| Pu'er | Yunnan | Feb 28 – Mar 06 | 129 | 138 |
| Kunming | Yunnan | Feb 28 – Mar 06 | 128 | 135 |

*Sandstorms ($PM_{2.5}$)*

| city | province | dates | average concentration | highest daily concentration |
|---|---|---|---|---|
| Wuzhong | Ningxia | Feb 19 – Feb 25 | 77 | 195 |
| Zhongwei | Ningxia | Feb 19 – Feb 25 | 66 | 159 |
| Zhangye | Gansu | Feb 05 – Feb 11 | 58 | 107 |
| Wuhan | Inner Mongolia | Feb 19 – Feb 25 | 56 | 202 |
| Wuwei | Gansu | Feb 21 – Feb 27 | 52 | 114 |

*$NO_2$*

| city | province | dates | average concentration | highest daily concentration |
|---|---|---|---|---|
| Urumqi | Xinjiang | Jan 27 – Feb 02 | 63 | 78 |
| Shenyang | Liaoning | Jan 26 – Feb 01 | 52 | 64 |
| Yulin | Shaanxi | Jan 27 – Feb 02 | 52 | 56 |
| Ili Kazak | Xinjiang | Jan 27 – Feb 02 | 52 | 80 |
| Yinchuan | Ningxia | Jan 27 – Feb 02 | 51 | 76 |

***Unit: μg/m³***

# Data sources

- Industrial output, power generation and power capacity additions, as well as fuel imports and exports, are based on Chinese government data, through Wind Financial Terminal. Some of the data is not included in public releases.
- Measured air quality data is compiled from Chinese government air quality monitoring stations. Weather-controlled air quality is derived from CREA's deweathering algorithm.