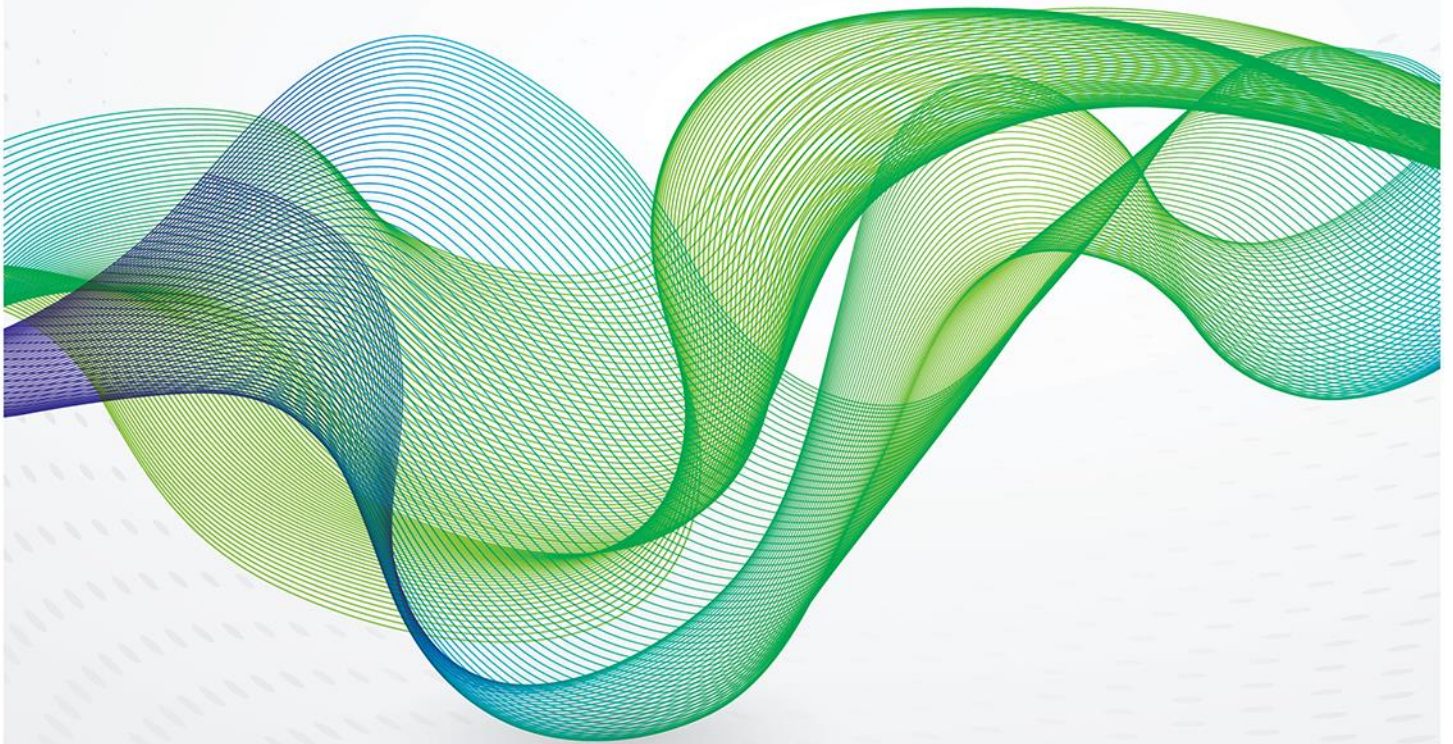


December 2023

Four contradictions in China's energy and environmental policies in 2023





Introduction

2023, as the mid-point of the 14th Five Year Plan is also when assessments begin ahead of planning for the next Plan in 2024. Yet the general direction of China's energy and environmental policies and priorities has been confusing: Despite a weak macroeconomic picture, energy and commodity demand has grown strongly in 2023. And despite a commitment to peak carbon emissions before 2030, China has been increasing coal production and adding new capacity. This has translated into a confusing stance in climate diplomacy: The US-China Sunnylands Declaration suggested progress and ambition, but China's position at COP28 was more circumspect. Finally, with questions around the decarbonisation of China's power sector, electric vehicle (EV) penetration continues to surge, even as sales slow. The domestic market seems to be facing a consolidation but exports are rising strongly. Countries in developed economies are now grappling with the need to protect their domestic auto industries from Chinese competition while also needing to accelerate the electrification of their fleets. What do these opposing trends mean for China's energy and environmental policies? This Comment looks back at China's energy policies and markets in 2023 and discusses these contradictions, assessing what they mean for 2024.

1. Weak economy, strong energy demand

The first inconsistency energy markets have grappled with in 2023 has been the seeming contradiction between the weak macroeconomic environment and the strength in energy and commodity demand. The working assumption has therefore been that China has been stockpiling commodities and increasing exports, which has masked some of the underlying weakness in demand. But while production and imports of energy and commodities has outstripped demand growth, the discrepancy may not be as severe as some in the market estimate. We argue here that new economic activities, namely the 'Three New' industries—EVs, solar PV, and batteries—and the associated industries are offsetting some of the weakness in the property sector. The demand drivers for oil, gas and electricity differ, but have all seen some support from the 'Three New' industries and other targeted support measures. We unpack below the mixed economic picture, as well as some of the drivers of energy and commodity demand this year, before discussing the implications for 2024.

a. Not as bad as it seems?

The lack of a big rebound post-Covid, combined with major distress in the country's real estate sector and the absence of a full-bore economic stimulus, is ringing alarm bells. Maybe the long-dreaded economic collapse – or perhaps a Lost Decade and 'Japanization'¹ – is at hand?

Macro indicators have been something of a mixed bag: China's services activity expanded at a quicker pace in November, based on the Caixin (private-sector) survey, although the official PMI survey showed an unexpected contraction. Industrial output data (for October) pointed to strong growth in manufacturing and mining activities, but property sales, investment, and home prices continued to fall. However, market confidence seems to be improving. China recorded a new high in domestic travel during this October's Golden Week,² and outbound travel surged eight-fold from the prior (Covid-affected) year.³ Retail spending outpaced overall economic growth in Q3, as consumers snapped everything from cars to alcohol and food in restaurants—which were said to be packed.⁴ Yet consumers are focusing more on thrifter items.⁵ The optimists point to the long-heralded shift from saving for apartments and towards buying goods and services, in line with the government's structural shift from

¹ <https://www.eastasiaforum.org/2023/10/09/is-the-chinese-economy-headed-for-japan-style-lost-decades/>;
<https://www.reuters.com/markets/rpt-analysis-imf-warning-china-puts-japanization-risk-spotlight-2023-10-16/>

² <https://gobserver.net/5715/culture/a-tourism-record-was-set-in-china-this-year/>

³ <https://www.cnn.com/2023/10/09/chinas-domestic-tourism-is-finally-back-to-pre-pandemic-levels.html>

⁴ <https://www.bloomberg.com/news/articles/2023-10-18/china-s-growth-beats-forecasts-as-consumer-spending-strengthens>

⁵ <https://www.nytimes.com/2023/10/11/business/china-consumer-spending.html>



investment to consumption. The pessimists suggest these are only relative bright spots that cannot sustain a V-shaped recovery.⁶ But it is important to consider whether the government is really intent on securing a strong recovery, and where that sits in the policy agenda.

These concerns are also noted in media reports citing an ‘Age of Malaise’, given the extreme levels of distress among young job-seekers and middle-aged families with exposure to real estate.⁷ Moreover, the leadership’s seeming reluctance to engage in meaningful economic reform could mean that structural weaknesses will weigh on growth for years to come.⁸ International business sentiment on China is at record lows⁹ prompting President Xi to give American business leaders in California a glowing pep talk.¹⁰ The red carpet is rolled out for EU officials in China with promises of less red tape for businesses and that Beijing will do its best to level the playing field even as concerns about the operating environment in China remains high¹¹.

Regardless of how pundits are interpreting the data, the government seems relatively sanguine and in late November, the head of the PBOC said full-year GDP should meet the country’s 5% target.¹² The IMF has also upgraded its full-year estimate to 5.4% growth (which it had downgraded to 5% over the summer). Though a full-scale 2009-2010 economy-wide stimulus was never in the cards, H2 has seen a drumbeat of smaller, targeted measures aimed at promoting strategic industries while shoring up distressed sectors. In September, real estate was thrown a lifeline, with relaxed mortgage requirements and other moves.¹³ The aim seems to be avoiding a meltdown rather than propping up the sector. This does not mean China is on the brink of financial ruin, but it does highlight the challenges its economy faces. Aside from direct fiscal support, provincial governments continue to ramp up energy infrastructure and other investment to stabilise their local economies, which helps explain the huge power sector build-out underway.

In sum, for all the contradictory evidence, the situation may not be as dire as feared when Q2 2023 GDP growth disappointed. The IMF has raised its 2024 growth forecast from 4.2% to 4.6% and there is speculation that policy makers in China may set the 2024 GDP growth target at around 5% again.¹⁴ The Central Economic Work Conference (CEWC)—an annual event in which China’s leaders outline priorities for the year ahead—concluded in Beijing on Tuesday 12 December, highlighting ongoing support for the economy. But support does not mean 2008-style stimulus. The meeting readout emphasised “progress” as a means to “stability”, the first time in over a decade that progress has outranked stability.

But what does this mean in practice? Monetary policy will remain “flexible, appropriate, and precise”, suggesting limited interest rate cuts while fiscal support will only be cranked up slightly with the government stating that “proactive fiscal policies [will] be appropriately strengthened”. The nine-part plan for the coming year included industrial innovation through scientific and technological progress; support for consumer spending; reducing trade and investment barriers; de-risking the real estate market and the financial sector; securing food supplies and promoting green and low-carbon development. These tend to suggest a continuation of this years’ support measures alongside additional focus on tackling local government debt and stabilising the real estate market: an ongoing focus on growth, but no appetite for a large stimulus. If the government sets another 5% growth target, it will look for new drivers to generate that growth, with a focus on consumption and emerging industries.

⁶ <https://www.cnbc.com/2023/12/01/china-consumption-shows-no-sign-of-strong-v-shaped-recovery-mckinsey.html>

⁷ <https://www.economist.com/leaders/2023/08/17/why-are-chinas-young-people-so-disillusioned>;
<https://www.newyorker.com/magazine/2023/10/30/chinas-age-of-malaise>; <https://www.ft.com/content/942d7334-2d20-4b57-89cc-335d16e5877c>

⁸ <https://www.scmp.com/economy/china-economy/article/3236778/chinas-economic-malaise-boils-down-failure-reform-system-pathfinder-report-warns>

⁹ <https://www.forbes.com/sites/miltonezrati/2023/10/23/western-business-sours-on-china--dramatically-so/>

¹⁰ <https://www.reuters.com/world/tricky-politics-menu-chinas-xi-us-business-dinner-2023-11-14/>

¹¹ EU Chamber of Commerce business confidence survey 2023 <https://www.europeanchamber.com.cn/en/publications-business-confidence-survey>

¹² <https://www.caixinglobal.com/2023-11-28/china-to-hit-5-gdp-growth-target-for-2023-pboc-chief-says-102140260.html>

¹³ <https://www.ft.com/content/976b551c-d275-4e42-9a0f-8cef99e645aa>

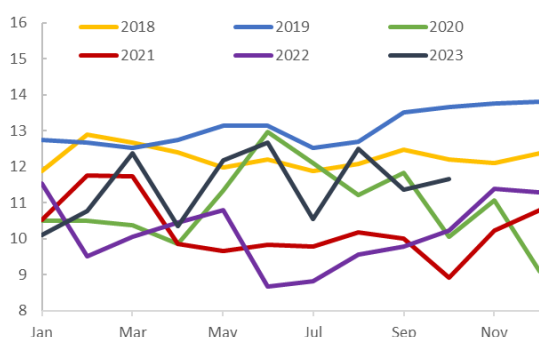
¹⁴ <https://www.reuters.com/world/china/china-choose-fiscal-muscle-over-big-reforms-revive-economy-2023-10-24/>

b. The energy story is not all about stockpiling

The strength in energy and commodity demand also suggest the economy is not as weak as is portrayed by the more pessimistic narratives. The large increases in energy and commodity production and imports can be partly explained by stockpiling, but it does not fully explain the seeming discrepancy.

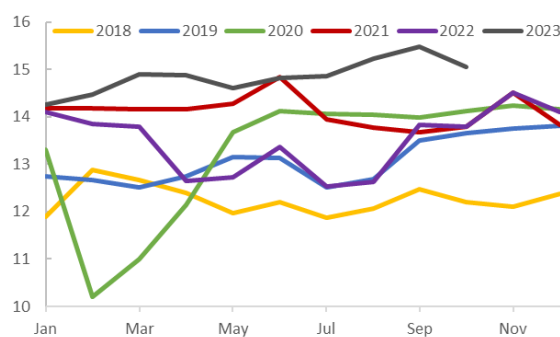
Oil stands out among the energy and commodities in its strength: Refinery runs increased by close to 12% y/y between January and October, and implied product demand grew by 14% just as net crude imports were up by a staggering 17% (albeit both rose from a low base in 2022). Implied gas demand has expanded by 8% y/y in the first ten months of the year, with power use tracking GDP growth more closely. Iron ore imports rose by 4% y/y, output of rolled steel was up by almost 6% and refined copper increased by 13%. To be sure, since these are for the most part implied demand numbers (or production data), they do not account for exports and could be masking some stockpiling. With actual demand likely not as strong as these commodities suggest and inventories filling, an adjustment in imports and production is likely.

Figure 1: China crude imports, mb/d



Source: China customs

Figure 2: China refinery runs, mb/d



Source: NBS

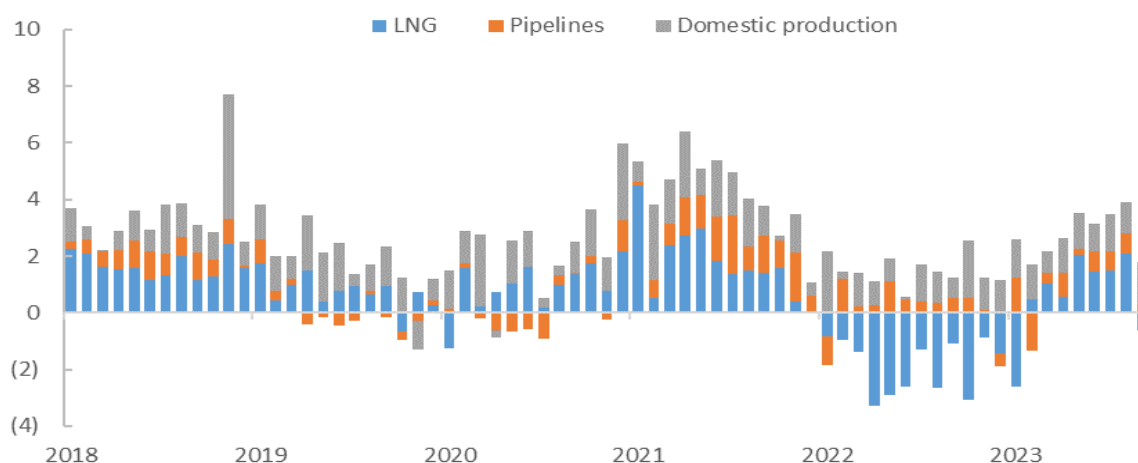
But the large increase in commodity use across the board, even when accounting for some inventory builds, does suggest that industrial and manufacturing activity—likely from the ‘Three New’ industries, namely EVs, solar PV, and batteries—is offsetting at least some of the weakness in the property sector.

Moreover, each energy commodity has its own specific growth drivers: for oil, it has been a combination of recovery in mobility combined with a surge in new petrochemical plants starting up. Large additions of steam crackers, propane dehydrogenation plants and paraxylene units are boosting naphtha and LPG demand. And even though petrochemical margins are weak, and China is likely already seeing overcapacity in chemicals, the strive for self-sufficiency means China is effectively displacing imports of intermediate petrochemical components in favour of crude, naphtha and LPG. While this means both a shift in trade flows and a rise in emissions from the chemicals industry, it is bolstering economic activity and oil demand.

If the government continues to prioritise on economic growth in 2024, oil demand will continue rising, but there will likely be a more limited upside for gasoline use even as international air travel recovers and supports oil demand. And while chemicals will continue supporting oil demand, fewer chemical plants are set to start up, suggesting a softer outlook for China’s oil demand growth in 2024.

Gas demand growth, which is already higher y/y by 23 bcm in the first ten months of the year, is also linked to the rise in chemicals given its importance in powering these industrial processes. Meanwhile, higher diesel prices and relatively softer LNG costs have led to a small uptick in gas use in freight, another sector that has supported energy use this year.

Figure 3: China's gas supplies, y/y change, bcm



Source: China Customs, NBS

For oil products, chemicals and gas, inventories are likely full or close to capacity, suggesting that spot LNG purchases are unlikely this winter—barring a coal snap and/or widespread restrictions on coal—and the overcapacity in the system will need to be resolved through higher exports or lower activity next year. But if, as we argue above, the underlying demand is not as weak as initially thought, then the excess is perhaps not as severe as expected.

At the same time, policy guidance seems to point to an adjustment, now that Beijing seems reassured that its GDP target for 2023 is within reach. Decision makers seem to be more comfortable prioritising environmental protection, which has taken a back seat this year. That Beijing did not issue additional oil product export quotas at the end of 2023, contrary to market expectations, and has signalled the crude import licences next year will be capped at this year's levels, point to reduced urgency to stimulate activity. Gas price reforms and power market reforms are once again being implemented. And with an uptick in pollution and a fatal coal mine accident¹⁵, policy focus could revert back to coal mine safety and greater emphasis on coal quality. In late November, the State Council released a new air quality action plan, spanning 2020-2025¹⁶. The plan calls for PM2.5 concentration reductions from 2020 levels in 337 cities with ambitious targets for the Beijing-Tianjin-Hebei area and the Fenwei area around Xi'an, areas with a large concentration of coal and heavy industry. Meeting these targets will require reducing coal use (outside the power sector) and limiting emissions from the steel industry, suggesting some potential upside for gas.

2. China's energy transition is derailed by coal capacity additions

With strong power demand, and China's renewed appetite for coal, the energy transition (or China's pledge to peak emissions by 2030 and reach net zero by 2060, known as the 2030-2060 pledge) seems like a pipe dream. But despite the alarming rates of coal additions, and new capacity mechanisms that complicate China's 2030-2060 goals, the energy transition is still on track. The guidance from the National Energy Administration (NEA) at the end of December will offer insights into the plans for 2024. In 2023, official wind and solar capacity targets were set at conservative levels, so the targets for next year may not be as important as general indications of whether the government sees the need to slow down either wind or especially solar additions. With the official conclusion of the Whole County PV pilots, and local concern about rising surplus PV output at midday, we could see a slowdown in annual

¹⁵ "Eleven killed in accident at northeast China coal mine – CCTV", Reuters, 28 November 2023, <https://www.reuters.com/world/china/eleven-killed-accident-northeast-china-coal-mine-cctv-2023-11-28/>

¹⁶ https://www.gov.cn/zhengce/content/202312/content_6919000.htm



solar additions, which could be exacerbated by lower compensation for renewables in energy markets as a result of the new coal capacity payments. However, a slowdown need not jeopardise China's long-term carbon goals.

Electricity consumption, which is often a proxy for economic performance, continues to track slightly above top-line GDP growth numbers. Total electricity demand for the full year is projected to rise by 6%, in line with China Electricity Council (CEC) forecast. Q3 electricity demand growth was most rapid in primary industry (extraction-related industries) and tertiary industry (loosely, services and related industry), growing at 11% and 10% respectively, compared to secondary industry (manufacturing and basic industry) at 5.5% and residential demand (which flat-lined due the high base of the heat-wave-affected 2022).¹⁷ CEC anticipates higher growth of 7% year-on-year in Q4, given the Covid-depressed base 2022.¹⁸ As for 2024, according to a forecast from Orient Securities, electricity demand growth should come in at 6.2%, roughly similar to this year, with a range between 5.2 and 7.4%.¹⁹

Even after weathering the summer, planners remain concerned that extreme weather will drive new load peaks in future years, similar to the heatwave that gripped Sichuan in 2022 and led to major power outages. Earlier this year, analysts with the China Electricity Council (CEC) estimated that summertime peak demand growth will remain strong through 2025, suggesting that regional tightness is set to persist²⁰ and driving Beijing's focus on bolstering the supply side. Perhaps as a result, power market reform efforts have remained modest. In September, the National Energy Administration (NEA) released the long-expected Basic Rules for spot power market designs.²¹ The policy contains few surprises—focusing on high-level principles, monitoring, and compliance, rather than addressing bottlenecks in inter-provincial or regional electricity trading. The Basic Rules also provide provincial officials with a long list of reasons for suspending or limiting spot trading, seeking to limit price volatility above all.

The focus on stability and reliability has led to coal capacity growth at a frenetic pace. Since the beginning of 2022, authorities have permitted 152 GW of coal power and started construction on 92 GW. This was ten times the capacity permitted in the rest of the world in the same period. At this point, China is essentially the last country building coal power at major scale. (Major coal plant projects are underway in India, but the government plans to scale back further investment in the sector.²²)

At the national level, the coal buildout is driven by energy security following the coal supply crisis in 2021 and physical power outages in 2022. Even after the summer passed uneventfully, officials continued to spur investment in coal production and power. Top climate negotiator Xie Zhenhua said in September that phasing out coal was 'unrealistic', and China's State Council in October indicated that coal would continue to be encouraged in 2024.²³

Major coal players and provinces have rushed to take advantage. Shenhua told investors it is aggressively expanding coal power during this window of opportunity—presumably before China begins to wind down new coal projects after 2025. Major provinces investing in coal are located in the East, especially Jiangsu, Hebei, Anhui and Hunan.²⁴ Of the top 10 provinces building coal, according to CEC only Guangdong is at risk of power shortages. In some cases, coal plant approvals have been justified by local officials as an economic stimulus measure. If a policy shift is in the offing and the latest air quality plan is implemented, boom time for coal might be drawing to a close.

But for now, it still has a fighting chance. In November the central government unveiled a major new coal power capacity payment policy to support the sector ²⁵ given that it will need these payments to

¹⁷ <https://www.nbd.com.cn/articles/2023-10-16/3055477.html>

¹⁸ <https://m.in-en.com/article/html/energy-2328277.shtml>

¹⁹ <https://mp.weixin.qq.com/s/MJccN-i7OgzgwFk7TeoXog>

²⁰ <https://mp.weixin.qq.com/s/Mo59slaJg6Pcak3Vsta4KA>

²¹ https://www.ndrc.gov.cn/xxgk/zcfb/gxwj/202309/t20230915_1360625.html

²² <https://www.reuters.com/business/energy/india-amends-power-policy-draft-halt-new-coal-fired-capacity-sources-2023-05-04/>

²³ <https://www.reuters.com/sustainability/climate-energy/china-climate-envoy-says-phasing-out-fossil-fuels-unrealistic-2023-09-22/>

²⁴ https://energyandcleanair.org/wp/wp-content/uploads/2023/08/CREA_GEM_China-coal-power-briefing-2023H1_08.2023.pdf

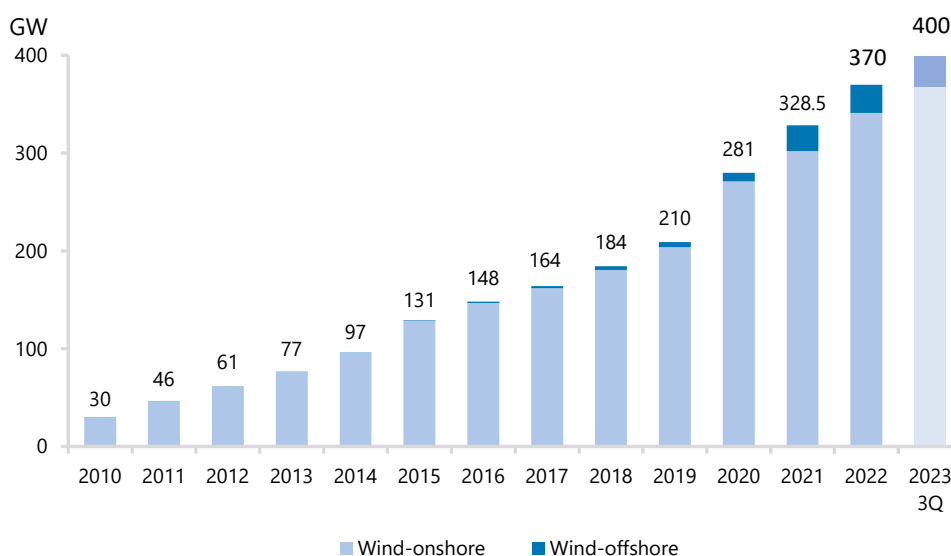
²⁵ https://www.ndrc.gov.cn/xxgk/zcfb/tz/202311/t20231110_1361897_ext.html

transition from producing steady, baseload power to providing backup and peaking capacity²⁶. At the same time, officials indicated that power prices will not rise so the cost will be borne by ‘other generators’. Unsurprisingly, coal generators’ stocks surged on the news, while major renewable producers slumped. The policy raises the risk that the coal boom could continue for longer, ultimately leading to overcapacity and higher emissions, as subsidized coal squeezes the demand for investment in other technologies that could better meet peak demand or back up renewables.

The new policy also seemed to reinforce a turn away from market-based approaches in the power sector. Whereas the National Development and Reform Commission (NDRC) had initially called for a capacity mechanism that would include capacity markets, and made no mention of capacity payments going solely to coal plants, this new policy is set at a nice round number. It seems to disregard market forces and will presumably last into the future, no matter the actual physical need for the capacity. While it is possible the capacity payment could evolve to include market-based elements or incorporate other technologies such as gas or storage, and it could in effect help coal fired power plants transition to becoming peaking plants, in the near-term it suggests that market advocates are in a weak position—at least as regards the power sector.

While coal has boomed, so has clean energy. Through September, China had already added more PV capacity than the total solar capacity of the entire US. At the beginning of the year, planners had suggested total wind and solar additions might reach 160 GW—already an impressive number compared to prior years. The actual figure could come in closer to 230 GW. By the end of October, China had added 143 GW of solar PV, reaching a total of 540 GW of capacity.²⁷ Whereas early-2023 industry leaders had dialled back forecasts for over 100 GW of installations, the actual full-year installation number for PV could reach 200 GW. Analysts now expect China could top 1000 GW of solar PV by the end of 2026.²⁸ Wind capacity is rising at impressive rates as well, adding 37 GW through October, roughly equivalent to that added in the full year of 2022. Assuming the last two months see similar additions, full-year capacity should rise by well over 50 GW. This puts China well on track to meeting its 2030 pledge of 1200 GW of combined wind and solar capacity far ahead of time, and on track to delivering on its recent pledge, made jointly with the US, to triple global capacity by 2030.

Figure 4: China wind installed capacity through 3Q 2023



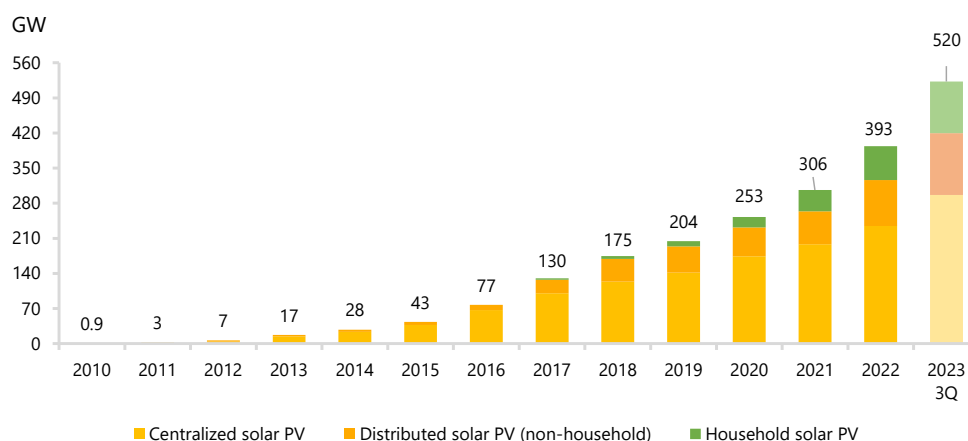
Source: author, based on various data from the National Energy Administration

²⁶ <https://www.oxfordenergy.org/publications/new-moves-in-chinas-power-market-reform-chess-game/>

²⁷ <https://www.pv-magazine.com/2023/11/21/chinese-pv-industry-brief-january-october-pv-installations-hit-142-5-gw/>

²⁸ <https://www.reuters.com/world/china/chinas-solar-capacity-expected-hit-1000-gw-by-2026-rystad-energy-2023-09-12/>

Figure 5: China solar photovoltaic (PV) installed capacity through 3Q 2023



Source: author, based on various data from the National Energy Administration

Surging capacity also means surging output. According to statistics from the NEA released in time for COP28, renewable energy provided 31.8% of China's total electricity production in the first ten months of 2023. Notably, wind accounted for 9.5% and solar PV 6.6% of the total, for a combined wind and solar share of over 16%.²⁹ Hence, while coal was needed to supplement weak hydro during the 1H, wind and solar continue to grow their share by over 2 percentage points per year, consistent with 2021 and 2022, and above what would be needed to achieve carbon neutrality by mid-century.

According to one calculation, the wind and solar additions in 2023 alone would produce 380 TWh,³⁰ enough energy to supply 5% of the country's present electricity demand. Further, the annual increase in output from renewables is larger than the country's total electricity demand growth, so renewables will be able to begin replacing fossil fuels in the energy mix. This assumes the capacity expansion continues and policies to enforce consumption of their output remain effective. There is also a risk that provincial and energy sector officials argue, as they have in the past, that renewable output cannot be fully absorbed, and press to weaken quotas for renewable consumption.

However, given the emerging economic heft of the renewable sector, annual capacity additions are unlikely to fall off a cliff. At the same time, with annual solar manufacturing capacity potentially reaching nearly 1,000 GW by the end of 2023, more than twice as much as the world can consume, the days of 50+% growth rates for renewables can't go on for long.

The Chinese wind and solar industries have undergone several boom-and-bust cycles, emerging stronger each time. China's immense scale and integrated domestic supply chain continue to drive down costs in wind, solar and batteries. PV module prices are down by as much as 40% from the start of the year, and are currently at least 20% below prices in Europe.³¹ Meanwhile, China is making inroads into offshore wind just as Western firms are running into quality issues and project delays or cancellations.

3. Greenshoots of ambition at Sunnylands and caution at COP 28

The discrepancy between China's coal comeback and its large renewable deployment has also been feeding through to its climate diplomacy. The Sunnylands Declaration was heralded as a positive (and defeated more pessimistic expectations) while China's stance at COP 28 seemed slightly more conservative.

²⁹ https://mp.weixin.qq.com/s/6gl_3lnU2ZXHi5zwUe61jw

³⁰ <https://www.carbonbrief.org/analysis-chinas-emissions-set-to-fall-in-2024-after-record-growth-in-clean-energy/#5>

³¹ <https://www.pv-magazine.com/2023/10/27/solar-module-prices-dive-to-record-low/>; <https://www.caixinglobal.com/2023-11-01/chinese-solar-firms-feel-squeeze-on-profits-as-overcapacity-hits-102122754.html>

The Sunnylands Declaration³² contained, among other things, two important agreements: First, China and the US agreed to “pursue efforts to triple renewable energy capacity globally by 2030 [...] so as to accelerate the substitution for coal, oil and gas generation”. Also related to the power sector, China and the US will work together on carbon capture, utilization and storage (CCUS) technology. However, at COP28, China didn't sign up to the official statement on tripling renewable energy and doubling energy efficiency. There are a few reasons for this: First, Beijing is often reluctant to sign side declaration initiatives at COP and is sceptical of other countries' ability to meet them. Second, China can likely triple its renewable capacity, but definitions matter: it can do so for wind and solar, but the potential for hydro and geothermal increases is likely more limited. Finally, the baseline year is unclear so depending on the starting year, the pledge looks very different. Based on 2022 data, tripling capacity by 2030 is easier than based on 2023 data³³ (as seen above). At the same time, it is unclear if China can double energy efficiency. Others, meanwhile, suggested that China didn't sign on because it included a line on “phasing out” unabated fossil fuels³⁴. This reluctance, mainly on coal, dovetails with China's reversion to any foreign pressure on its coal build out.

At Sunnylands, China also stated its willingness to make meaningful power sector emissions cuts post-peak. While that commitment is vague and the statement's wording defies translation into any quantitative target or timeline, it does appear to signal something new—namely, that the power sector might begin to see lower emissions this decade. Previously, China had only committed to peaking carbon emissions before 2030 so a willingness to discuss “post-peak” suggests early peaking is possible. That said, China's Climate Envoy Xie Zhenhua advised during a COP side event that China will communicate new targets and policy measures for its 2030 and 2035 nationally determined contributions (NDCs) in 2025. This could be seen as resisting any change to the 2030 peak emissions target but combined with the Sunnylands Declaration, it could suggest greater ambition in China's 2030 targets.

The Sunnylands Declaration includes a statement on methane, which had been discussed in COP 26 when China pledged to issue a domestic action plan before the end of the year (2021) but failed to do so. Ahead of Sunnylands, China issued its long awaited methane action plan³⁵ so the Sunnylands Declaration also stated that “[t]he two countries will implement their respective national methane action plans and intend to elaborate further measures, as appropriate”. Yet China's methane action plan³⁶ was somewhat non-committal. The plan contains some quantitative targets for reducing emissions from various sectors, including the most important, coal mine methane. The inclusion of methane in China's overall climate commitment (which had previously only mentioned CO₂), among other areas of bilateral US-China cooperation on methane, marks another positive aspect of the Sunnylands Declaration. It will bear watching whether methane is included prominently (and in detail) in work plans for next year—or if it is merely listed together with other topics in a boilerplate paragraph or two.

4. China's electric vehicle boom is good...and bad...

In the EV space, despite large increases in sales, demand growth is slowing. NEV production reached 7.74 million in the year to November, on track to beat the industry's 8-8.5 million full-year forecast, while NEV passenger sales reached 6.8 million.³⁷ Moreover, EV exports are rising. But while this is a boon for China's own electrification efforts and the availability of more affordable EV models globally, it is also a growing threat for the global auto industry. China is likely to hit 10 million NEV sales in 2024 suggesting that these issues will remain central, especially since the EU will determine whether or not to impose duties on Chinese EVs. Domestically, China's EV sector is likely heading toward consolidation due to more cut-throat competition, globally, the concern will be about tackling its dominance. For many countries around the world, there will be stark trade-offs to address between

³² Readout in English: <https://www.state.gov/sunnylands-statement-on-enhancing-cooperation-to-address-the-climate-crisis/> and in Chinese: http://www.news.cn/2023-11/15/c_1129976165.htm

³³ <https://asiasociety.org/policy-institute/three-observations-china-cop28>

³⁴ Carbon Brief, China Briefing 14 December

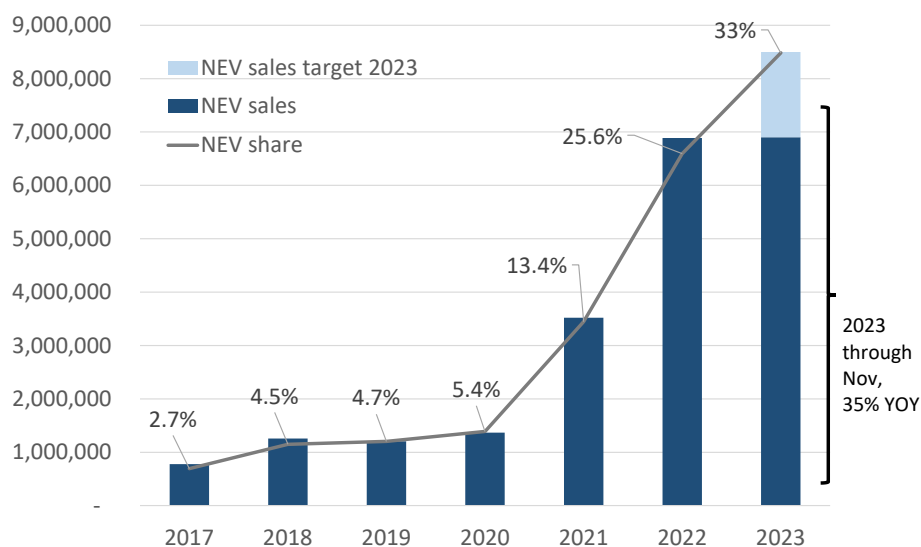
³⁵ <https://www.mee.gov.cn/xxgk2018/xxgk/xxgk03/202311/W020231107750707766959.pdf>

³⁶ <https://www.mee.gov.cn/xxgk2018/xxgk/xxgk03/202311/W020231107750707766959.pdf>

³⁷ https://mp.weixin.qq.com/s/8WVrt_TlraSdfdbdNJHyJ8g

green industrial policies and the desire to protect home grown industries and the realisation that China is key to a lower-cost electrification.

Figure 6: China NEV sales through November 2023



Source: CPCA; November data reflects passenger car sales only

Even at the slower growth rate, in our view China is likely to hit 10 million NEV sales in 2024 and a 50% market possibly as soon as 2025. (The China Passenger Car Association predicts a 40% NEV share for 2024.³⁸) NEV sales growth has slowed in particular due to the saturation of markets for small city cars and high-end luxury cars. As a result, monthly sales growth for battery electric vehicles has flattened, and almost all NEV sales growth is concentrated in the plug-in hybrid segment, which can serve the robust market for mid-priced and larger vehicles, including crossovers and SUVs. Going forward, if the incremental growth is through PHEVs more than BEVs, then the impact on gasoline demand and carbon would be lower.

The slower pace of growth has led to changes within the industry: price cuts at Tesla, the bankruptcy filing of Chinese EV startup WM and reports of cutbacks at NIO and other startups made headlines worldwide.³⁹ Leading players like BYD and SAIC or emerging leaders like Xpeng continued to post solid growth figures, however. The monthly NEV share of total vehicle sales has remained above 35% throughout H2 23, amid stagnant or falling domestic demand for vehicles overall.

Meanwhile, NEV exports continued to grow strongly, rising 94% year-on-year through October,⁴⁰ and on track to cross the 1 million mark by year-end. Only a year after surpassing Germany to become the world's second-largest auto exporting country, in 2023 China passed Japan, becoming the world's top exporting country—and sending shockwaves through the global car industry. Second, integration of China's EV markets with those of the rest of the world gained steam. Stellantis announced a major investment in Leap Motor, VW announced a new cooperation with Xpeng, while VW's Audi is partnering with heavyweight SAIC to electrify its vehicle lineup. Volkswagen opened its first wholly-owned battery manufacturing facility in Anhui to feed batteries to new entry-level vehicles using its MEB platform.⁴¹ Also on the battery front, CATL and Stellantis now plan new battery manufacturing facilities in Europe.⁴² However, in the US things are not so rosy for Chinese players: in November, Ford downgraded the

³⁸ https://mp.weixin.qq.com/s/8WRt_TlraSdfdbdNJHyJ8g

³⁹ <https://www.just-auto.com/features/chinas-bev-industry-restructures-as-sales-growth-slows/?cf-view>

⁴⁰ <https://mp.weixin.qq.com/s/FVv5soa8zTACJip451DoTQ>

⁴¹ <https://www.reuters.com/business/autos-transportation/volkswagen-begins-operating-first-wholly-owned-battery-pack-plant-china-local-2023-11-21/>

⁴² <https://www.reuters.com/markets/deals/stellantis-catl-sign-preliminary-deal-lfp-battery-supply-europe-consider-jv-2023-11-21/>



capacity plans for its controversial Michigan plant using CATL technology, citing sluggish EV demand.⁴³ Political concerns have continued to dog the project.

For the Chinese economy, the rise of EV exports has undoubtedly been a bright spot, but elsewhere in the world it is a cause for concern. So much so that the EU has launched an anti-subsidy investigation into Chinese EVs in early October⁴⁴. By moving to impose countervailing duties, the EU is trying to protect and bolster European competitiveness. Memories of the late 2000s are still fresh: back then, thanks to strong state financial support and foreign technology, Chinese companies' share of global PV cell production surged from 14% in 2006 to 60% in 2013. The EU and the US imposed anti-dumping and countervailing duties on solar panels, cells, and wafers from China but these failed to restore the EU or US's lead in these industries. While currently many of China's EV exports are dominated by foreign brands and JVs, Chinese groups such as BYD and SAIC could capture growing market share, predominantly in the lower cost categories.

These concerns have prompted the Commission's inquiry. The EU will now need to document state support in China. This could be easier said than done, and the process could take as much as a year, but duties are likely to be imposed. In the interim, Beijing is unlikely to announce formal countermeasures, but could take a number of actions. First, it could file its own anti-subsidy investigations in the WTO against European sectors. Second, it could try to leverage ties with member states such as Germany to head off or weaken tariffs given the importance of the Chinese market to German automakers. And while it could try offering carrots to European companies, Beijing could use sticks too and impose targeted bans or consumer boycotts on various European goods.

Export controls are also a possible tool, one that is already in Beijing's arsenal. Earlier this year it introduced an export quota mechanism to regulate flows of germanium and gallium, followed by graphite. In an extreme scenario, China could restrict exports of other critical materials and EV-related inputs and technologies like neodymium magnets, all under the guise of consolidation of its domestic industry. Other measures could include restrictions on outbound licensing of battery technologies, but ultimately, these only reinforce the urgency in many capitals around the world to de-risk.

The US Inflation Reduction Act (IRA) has been one of the most visible efforts to de-risk from China. But implementation has been held back by the lack of clarity around restrictions applied to "foreign entities of concern (FEOC)". The new clean vehicle credits within IRA set various parameters aimed at supporting US manufacturing and ensuring that the benefits are incurred in the US and by trusted trading partners. Put simply, EV subsidies are contingent on a percentage of all material inputs being sourced either domestically or from a Free Trade Agreement (FTA) partner. The percentage threshold rises from 30% in 2023 to 80% in 2027. The aim is clearly to incentivise the build-out of a domestic mine-to-battery supply chain and simultaneously wean US automakers off their dependence on China. At the same time, the IRA disqualifies EVs that use battery components manufactured or assembled by a FEOC after 2023 and EVs that use batteries containing critical minerals that were extracted, processed, or recycled by a FEOC after 2024.

Yet the definition of a FEOC has only just been clarified. What was known, until early December, was that a foreign entity "owned by, controlled by, or subject to the jurisdiction or direction of a government of a foreign country that is a covered nation" would not be eligible for the tax credit, with covered nations including North Korea, China, Russia and Iran. Yet the interpretation of this had been unclear: What are the quantitative limitations of ownership or control? Is it voting rights or ownership structures? And what amounts to "the jurisdiction or direction" of a covered nation? Considering the complex ownership and incorporation structures of Chinese entities, both state-owned and private, the FEOC designation left many scratching their heads. The clarification issued in early December confirms that for EVs to qualify for the full IRA tax credit they cannot include minerals or materials produced by companies with more than 25 percent ownership by foreign entities of concern⁴⁵—measured in terms of number of

⁴³ <https://www.theverge.com/2023/11/22/23972680/ford-michigan-ev-battery-plant-reduction-plans>

⁴⁴ https://ec.europa.eu/commission/presscorner/detail/en/ip_23_4752

⁴⁵ <https://home.treasury.gov/news/press-releases/jy1939>

board seats, voting rights, or equity interest. This reduces the list of eligible EVs to around 20, from over 100 models sold in the US.

These new proposed regulations offer the market some clarity as to the extent and limitations of incentives to produce EVs in the US. They leave the door open for some Chinese inputs (both technological and financial) while also looking to develop supply chains in a host of countries outside of China, from mining through to processing.

Countries and companies will now have to think through corporate and trading structures given China's presence throughout these supply chains⁴⁶. Indonesia, for instance, is the world's largest nickel producer, but it does not have an FTA with the US and its nickel sector is dominated by Chinese players, who are ubiquitous in processing Indonesia's relatively low-grade nickel deposits into high-purity battery inputs such as nickel sulphate. Even many companies operating in an FTA partner country such as Australia are unlikely to qualify for the IRA tax credits given their joint ventures with Chinese companies. Many companies, both Chinese and Western, will likely start looking for loopholes and workarounds now.

Conclusion and outlook: progress and stability

Chinese officials seem to be gearing up for a steadying of the Chinese economy in 2024, at least in terms of top-line GDP growth numbers. At the same time, they seem focused on tackling some of the structural constraints (local government debt and trying to stabilise the real estate sector) even if younger workers and those in certain distressed sectors continue to experience misery. But while the traditional drivers of growth are slowing, there are new sectors of growth offsetting some of that weakness. For the energy economy as well, the shifts in sectoral growth seem to presage ongoing demand growth for oil, gas and electricity, even as the economy slows and decarbonisation continues. In 2024, oil demand growth is likely to slow from 2023 levels while gas use could benefit from the newly issued air quality plans. In the power sector, coal continues to find favour, but so do renewables. The coal build-up complicates China's 2060 goals, but renewable additions are on track to meet the country's mid- and long-term climate goals even if capacity additions slow from the torrid pace of 2023. But the policy choices announced in early 2024 will be indicative of government priorities going forward and the extent to which new sectors are viable contributors to economic activity and how they shape energy use. It will also indicate whether economic expansion and environmental protection can go hand in hand. Indeed, the next couple of years (2024-2025) will be important bellwethers: Is China's economic structure shifting in earnest? Can the renewed momentum around air quality, (modest) moves on market reforms and a more engaged international position on climate become prominent features of the 15th Five Year Plan, riding out short term turbulences?

⁴⁶ <https://rusi.org/explore-our-research/publications/occasional-papers/new-energy-supply-chains-uk-risk-chinese-dominance>