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Is President Xi Jinping's Green Dream still alive?

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▲ Renewable energy should account for about half of the growth of electricity consumption by the end of China's five-year plan, despite a mindset that can't shake off fossil fuels

Photo: Wikipedia Commons

China's President Xi Jinping has embarked on an unprecedented third term in office, but policymakers have set an economic growth target of just 5% for 2023 – the lowest in decades. What does this mean for infrastructure and energy investment now? Adrian Holliday, capital markets journalist, reports.

Does a 2023 5% growth target for China mean renewable energy investment in the world's second biggest economy is seeing a reset? Or even suggest a bout of new 'realism' after decades of out-performance?

The advantage of lowered expectations means disappointment risk can be better managed. Especially after a chronically bad hangover. Chinese growth in 2022 was just 3% as it crawled its way out of COVID-19 lockdowns. Even that figure is open to question, some think.

Dr Hongyi Lai, Associate Professor of Politics and International Relations at the University of Nottingham, says any close reading of China's economy must absorb contradictory signals. As far as hydro, wind and solar investment and production goes, the world's biggest CO₂ emitter is robustly lashed to its five-year plan.

Power mix: over-achieve or underwhelm?

Lai comments: 'Fulfilment is another matter. But much of the [five-year] plan remains ambitious. Renewable energy should account for half of the growth in electricity consumption by the end of the plan.'

Pressure for impressive data means 'sometimes GDP looks better than the reality', he continues. 'So some energy consumption data by analysts show that at the end of last year-this year, we went flat compared to the previous year.'

There's a second issue. Officials don't want economic growth to tank suddenly. 'So some infrastructure projects may be put into the pipeline which may also have an adverse effect on energy consumption,' adds Lai.

For Andrew Lane, CEO of Acuity Trading, the picture is still about balancing inputs. Natural gas is a big part of China's energy transition and China is still the world's largest gas importer, he notes.

'The markets were typically envisioning an uptick in LNG demand after China opened up post-COVID-19. But what we have seen in fact is more investment in local gas production and talks about extending piped supplies from Russia,' Lane says.

China, he adds, has established long-term contracts for the import of gas 'and these prices are typically lower than spot prices at the moment'. He continues: 'And they are certainly lower than the internal gas prices in China. So, China would in fact see a benefit of offloading gas into the spot market in Europe than consuming it itself. Add to that the price of coal and it makes sense that any marginal increases in demand are met as much as possible from coal.'

Coal control

- In 2022 total Chinese installed capacity of renewable energy overtook coal for the first time at 1,200 GW versus 1,100 GW, explains Micah Hostetter of Intralink. Total electricity generation from solar and wind

reached 13.8%, up 2% from 2021, while coal decreased from 60% to 58%.

- Coal versus gas? Gas requires more infrastructure and is harder to flex. ‘Think re-gasification, trucking of gas to inner cities, pipeline,s etc. These need a longer outlook and time to establish infrastructure,’ says Andrew Lane of Acuity Trading.
- ‘Conversely, coal can be trucked, and shipped in, within the current infrastructure. Coal is easier to meet short-term demands. China has plenty of coal that can be accessed, and they can also rely on getting their hands on imports relatively easily at a low cost,’ says Lane.
- Nuclear build-out will also continue but will play second fiddle to wind and solar. Nuclear will likely generate no more than 10% of China’s total electricity by 2035 (which is still double the 5% it delivers today) adds Hostetter.

Decoding two sessions

The Oxford Institute for Energy Studies (OIES) says nuance around China’s economic growth target and climate and energy policy did change in March when China’s ‘two sessions’ annual gathering laid out its major policy announcements and revisions framework – which reflect government thinking.

Jinping emphasised energy security, with refreshed language around coal as a mainstay. This was ‘a departure from previous policy documents that discussed coal’s gradual transition to a supplementary energy source’, according to OIES.

China’s 2030 and 2060 carbon peaking and neutrality targets remain in place but ‘the policy stance on coal’, the OIES adds, ‘will limit the space for raising China’s climate ambitions or accelerating the low-carbon transition in industry.’

Some natural caution is at play. The Chinese government is new. Any targets can err on the pragmatic side as incoming premier Li Qiang, a trusted Xi Jinping ally and ex-Shanghai Communist Party chief, eases into position. Much of China's economic recovery is linked to the housing market which remains a major structural anxiety. In the background, relations with the West continue to deteriorate.

***'The policy stance on coal will limit the space for raising China's climate ambitions or accelerating the low-carbon transition in industry.'* – Oxford Institute for Energy Studies**

New macro-economic normal?

Micah Hostetter from Intralink, a consultancy helping Western firms expand in the Asian energy sector, thinks low-carbon energy investment will be resilient, even if growth remains under pressure and the Chinese policy language twists. Xi has given renewables priority to an unusually personal degree. Think legacy.

Most wind farm developments are state-owned enterprises, notes Hostetter, so market forces aren't a consideration. 'But nearly two thirds of solar capacity in 2022 was distributed. It was on rooftops. This caused a frenzy of installation in Shandong Province in Eastern China.'

Thousands of private companies sprouted up to take advantage of China's Whole Country Rooftop Solar programme. When so much solar comes online it can lead to overcapacity issues, putting greater stress on the grid. Other frailties keep anxiety alive. 'In summer 2021 China had huge blackouts. In response to that I think the government were spooked,' Hostetter reflects.

‘China also has a massive electric vehicle (EV) programme. There could be concerns in the short-term about whether it can still produce electricity for this influx of cars. But that’s not going to dampen renewable investment. It just means more [emphasis on] coal, short-term,’ he adds.

Sun and wind

Non-fossil fuel power capacity accounted for 49.6% of China’s total capacity by end of 2022, improving from 47.8% by the end of September 2022, says Avishek Suman, Director of Investment Research at Beijing-based Acuity Knowledge Partners. ‘China expects this to increase to 52.5% by 2023, driven mainly by its investment in solar and wind power.’

Slower-than-expected economic activity means ‘lower energy usage in the industrial and transportation sectors, among others. This will alleviate the risk of power outages for industries and households,’ he adds. ‘Therefore, we could see China cutting back on heavy investment in coal in this scenario, especially as this move does not fit with China’s carbon neutrality target.’

China’s power usage rose 3.6% in 1Q2023, including 5.9% year-on-year in March. ‘In 2023, electricity consumption is expected to increase 6% year-on-year, likely driving investment,’ Suman forecasts.

Subsidy suspicion lingers

While China’s National Development and Reform Commission (NDRC) has indicated most coal, wind and solar projects will participate in the wholesale power market, capacity relies on a quota system driven by longer term infrastructure planning as well as inter-provincial politics.

Power prices remain mostly controlled by longer-term contracts. Price fluctuations are managed by regulators inside a tight band to reflect break-even costs for coal power generators linked to coal prices.

Sydney-based Sophie Lu from research firm Rhodium Group, which focuses on climate-based trade and industrial policy, says China's energy infrastructure planning typically lags on-the-ground economics by two to three years. Beijing hasn't accepted that a longer-term growth trajectory beyond 2023 may be lower, but more mature green tech is being weaned off support.

'I think there's a misconception China has subsidies for everything. To a certain degree it can be true and it's also what your definition of what a subsidy is, official or 'unofficial', central or local. Official feed-in-tariffs for wind and solar projects were discontinued in 2021. But wind and solar projects in China are economical and power generators do make back their money. Investors in China aren't just chasing subsidies,' she says.

Grid fixing

Less mature green technology projects look more vulnerable given the infrastructure spending pressure on decarbonisation. Local debt restructuring plus austerity measures add to the economic pressure. Consumer demand remains weak; imports fell 8% in April, according to Bloomberg NEF.

Meanwhile, the massive growth of renewable installations has not seen upgrades to existing transmission grids. Curtailment and transmission bottlenecks remain, and inter-province connection challenges loom. Dr Chunping Xie, Senior Policy Fellow at the Grantham Research Institute on Climate Change, says grid management plus market and storage issues still grind on the gears.

'It's how the grid system works. It's not efficient, in particular the electricity market design.' But is it changing? Xie points to a new 15 May NDRC [document](#) on power transmission and distribution (T&D) tariffs, effective 1

June, aiming to improve price transparency and more reasonable cost recovery.

Where things remain frustratingly slow is storage. ‘If the value of flexibility got recognised in the electricity pricing mechanism, there would be more providers of energy storage – which can support the integration of renewables into the grid. So we don’t need to rely on fossil fuels for that security. The current market doesn’t provide enough economic incentives to energy storage, he says.

Xie considers that caution remains overshadowed by the Ukraine war, Europe’s energy crisis and an internal energy security mindset that can’t shake off fossil fuels.


Meaningful structural change would mean less inter-province pressure as supply flexibility gets worked in – buying in power when needed. But the scale of the challenge is never far off. ‘The whole of UK’s electricity demand is, like, one province in China!’ notes Xie.



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A photograph of several white wind turbines on a coastal or offshore site, with a blue sky and sea in the background. The turbines are arranged in a line, receding into the distance.

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