February 2023

China re-opens:

Implications for energy markets and policies

OIES ENERGY COMMENT

Michal Meidan, Anders Hove, Philip Andrews-Speed, OIES

Summary

- The Year of the Rabbit started on a buoyant note as the Chinese government lifted the COVID restrictions in place for the better part of three years. The government is also walking back the crackdown on the real estate and tech sectors, suggesting that a strong economic recovery lies ahead, once infections peak.
- But can the Chinese leadership instil confidence in its growth plans? Will private entrepreneurs buy into the government's narrative and will foreign investors flock back to China? The critical question for 2023 remains one of sentiment.
- Policy zigzags have meant that oil product stocks have drawn down while gas shortages have emerged in northern China. With oil demand likely to grow by 0.7 mb/d this year, and gas demand by close to 30 bcm y/y, there will be more volatility in the domestic market.
- A classification change for diesel could mean less product exports than initially expected while crackdowns on Shandong raise questions about the government's priorities: cracking the whip or spurring growth?
- In the power sector, China continues to add coal capacity due to the fear of repeat power outages, even though solar and wind had a strong year in 2022 and are expected to grow even more in 2023. The 2021 and 2022 power outages were driven by unique factors that are unlikely to be repeated this year, but supply security will depend on industrial demand growth this year.
- China's draft solar technology export ban would prevent export of technologies used to make silicon wafers. The rule could hit Chinese firms setting up capacity outside China as well as non-Chinese companies seeking to scale up production in a field now totally dominated by Chinese manufacturers.
- The move, if implemented, could push other countries to further accelerate efforts to localize production in solar, batteries, and EVs.

A sharp U-turn on zero-COVID

A seemingly mundane announcement on 7 December 2022[1] signalled **the end of China's strict zero-COVID policy** and paved the way for a radically different China in the Year of the Rabbit compared to that seen during the Year of the Tiger.

The abrupt U-turn came shortly after protests gripped Shanghai and a number of other Chinese cities on the weekend of 26-27 November 2022[2], and came against the backdrop of a weakening economy. China's leaders likely feared that hanging on to the zero-COVID policy—when facing a wave of the Omicron variant that would require strict and lengthy lockdowns—would generate additional social tensions when the economy is seeing its slowest growth in decades.

And so, with one fell swoop, Beijing shifted from three years of tight control to a lifting of most testing and isolation requirements. The policy reversal has come as a surprise to many and has led to a dramatic rise in infections across the country. China's top epidemiologist on 21 January 2023 suggested 80% of the country had already been infected.

While infections in large cities have gained the most attention, the situation in rural areas matters as many migrant workers rely on elderly parents in the countryside to look after their children. As infection rates rise in rural areas, migrant workers will struggle to go back to cities. The spread of COVID could remain an issue for several weeks, if not months suggesting a bumpy and uncertain recovery trajectory.

[1] National Health Commission, "Notice on Further Optimising and Implementing the Prevention and Control Measures of COVID-19", 7 December 2022, http://www.nhc.gov.cn/xcs/gzzcwj/202212/8278e7a7aee34e5bb378f0e0fc94e0f0.shtml
[2] Kathy Huang, Mengyu Han, "Did China's Street Protests End Harsh COVID Policies?", Council on Foreign Relations, 14 December 2022, https://www.cfr.org/blog/did-chinas-street-protests-end-harsh-covid-policies

But the zero-COVID policy is not the only thing Beijing is walking back. Government policy statements suggest the leadership is looking to fire up the economy at full speed. From pledges during the Central Economic Work Conference—the most important Party-led annual economic meeting[3]—to Vice Premier Liu He's speech at the World Economic Forum in Davos[4], the message is clear: China is open for business. Decision makers are signalling an end to the crackdown that squeezed the real estate sector and private entrepreneurs, a softer approach to foreign policy and an open door to foreign business.

A year of two sentiments

But can China engineer a strong recovery in 2023? 2022 GDP growth came in at 3%, compared to a staggering 8.4% in 2021 and Beijing's target of 5.5%. That said, Q4 22 GDP and macro data surprised to the upside, pointing to a quick recovery in large cities. Domestic travel during the Lunar New Year reportedly reached 226 million trips (by all means of transport) up by 74% compared to 2022, although this was still below pre-pandemic levels when 421 million trips were made[5].

Figure 1: China quarterly GDP growth rates, y/y

The Y/Y Growth Rate on GDP

	Q1	Q2	Q3	Q4
2017	7.0	7.0	6.9	6.8
2018	6.9	6.9	6.7	6.5
2019	6.3	6.0	5.9	5.8
2020	-6.9	3.1	4.8	6.4
2021	18.7	8.3	5.2	4.3
2022	4.8	0.4	3.9	2.9

Notes: The Y/Y growth rate is the growth rate over the same period last year.

Source: NBS

The Chinese government did not set a GDP growth target for 2023 at the CEWC (it might still issue one during the Parliamentary sessions in March). The IMF now expects China's GDP to grow by 5.2% y/y in 2023 (revising it up from 4.4% in December 2022)[6]. Yet there are concerns that structural macroeconomic factors could impede a return to the heyday of rapid growth, such as high levels of local debt and a long-term slowdown in housing demand which will hold back growth in infrastructure that had served as a main growth lever for over a decade. A recession in Europe and foreign investor concerns about the policy environment in China, combined with the fact that China's population is shrinking and labour productivity shows few signs of improvement, all add to the long-term concerns about the economy[7].

But with lots of government support and some pent-up demand, 2023 could still be a very strong year, even if the rebound does not last long after 2024, and more importantly, even though it may have negative implications for China's longer-term growth and development prospects. As the housing sector stabilises and as China's supply chains return to normal, business sentiment within China as well as international confidence in China as a manufacturing base could improve, leading not only in a catch-up in production, but potentially a further boost in demand for manufacturing. So the low growth forecasts may prove overly pessimistic, but equally, there are still headwinds to a very strong and a lasting economic expansion.

[3] EIU, "Three takeaways from China's policy-setting conference", 22 December 2022, https://www.eiu.com/n/three-takeaways-from-china-policy-setting-conference/
[4] Anne-Sylvaine Chassany Stephen Morris, "Beijing's top economic adviser tells Davos CEOs 'China is back'", Financial Times, 19 January 2023, https://www.ft.com/content/48586b89-bf99-42dc-8e81-c8cf5646760c
[5] Nectar Gan, "Lunar New Year holiday trips surge in China after lifting of Covid restrictions", CNN, 29 January 2023, https://edition.cnn.com/2023/01/29/china/china-lunar-new-year-travel-intl-hnk/index.html
[6] "IMF lifts 2023 growth forecast on China reopening, strength in U.S., Europe", Reuters, 31 January 2023, https://www.reuters.com/markets/imf-lifts-2023-growth-forecast-china-reopening-strength-us-europe-2023-01-31/
[7] Jason Douglas, Stella Yifan Xie, "Don't Count on China to Save the World Economy", Wall Street Journal, 13 February 2023, https://www.wsj.com/articles/china-economy-consumer-spending-11675980834

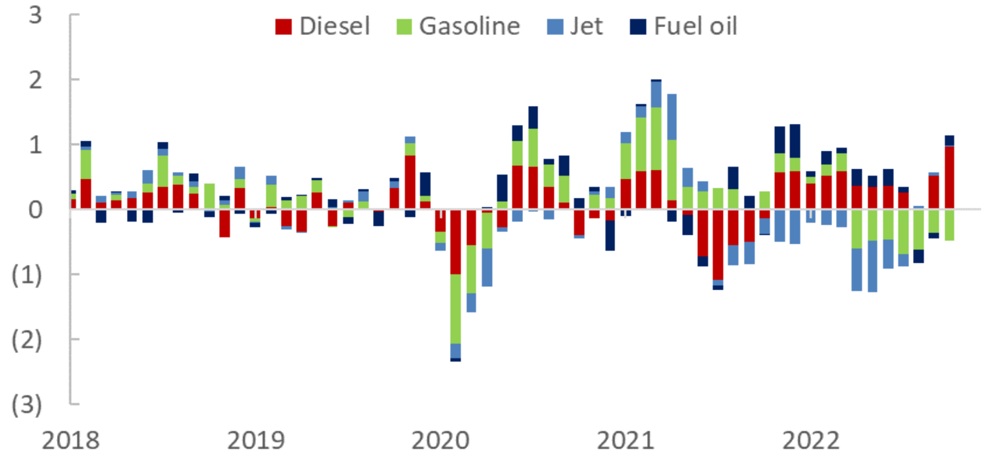
At the end of the day, much hinges also on sentiment and confidence in China's policies both within China and outside of it. Are foreign businesses confident enough in China's trajectory and their business prospects? Will the private sector buy into government messaging?

2023 is therefore shaping up to be a year of two halves and of policy volatility[8] [9], but perhaps also a year of two sentiments: bullish exuberance that China and supply chains are back, and bearish dismay about the vulnerabilities in China's economic and socio-political system, which do seem to be at their deepest in at least a decade. Energy markets will swing between the two.

Caught off guard?

The sharp change in policy has caught China's energy companies off guard with localised tightness in both oil and gas emerging. While Chinese refiners had been looking to Q2 23 for growth, a surge in transport demand may lead them to focus on re-supplying the domestic market sooner than anticipated. Crude buying activity suggests a rush to source barrels for April-May delivery. Gasoline demand has grown strongly[10], with travel during the Lunar New Year surprising refiners and leading to stock draws. Gasoline margins suggest molecules will stay in China for now, with exports resuming only once storage has been refilled. Diesel exports, meanwhile, have risen to meet a tight European market ahead of the Russian product ban, but even though domestic diesel use is unlikely to pick up before March, exporters may be looking to ensure domestic supplies first.

Figure 2: China oil demand by select production, y/y change, mb/d



Source: NBS, China Customs, OIES

What is more, an inspection of independent refiners could disrupt diesel supplies (as the Shandong independents' yields are diesel heavy) and lead to slightly reduced run rates[11], likely prompting the majors to slow their export programmes for now. In addition to tax inspections, the diesel market is tightening following the reclassification of diesel as a "hazardous material" as of 1 January 2023[12]. The new standards mean that all diesel is now treated as a hazardous material whereas previously only diesel with a flash point below 60°C was considered hazardous.

Companies involved in production, storage and trading will need to obtain new permits to handle diesel, but the added costs and more stringent operating requirements could force some out of the market.

[8] OIES, "Key Themes for the Global Energy Economy in 2023", January 2023, https://www.oxfordenergy.org/publications/key-themes-for-the-global-energy-economy-in-2023/

[9] China Energy Outlook 2023 - https://www.oxfordenergy.org/publications/oies-podcast-china-energy-outlook-2023/

[10] Trixie Sher Li Yap, Muyu Xu, "China gasoline exports may hit 8-year low in Feb on domestic demand recovery", 10 February 2023, https://www.reuters.com/markets/commodities/china-gasoline-exports-may-hit-8-year-low-feb-domestic-demand-recovery-2023-02-10/

[11] "China to conduct nationwide inspections on oil sector", Argus, 1 February 2023, https://direct.argusmedia.com/newsandanalysis/article/2415081

[12] Trixie Sher Li Yap, "China's diesel exports may fall on new 2023 transport mandate – traders", Reuters, 14 November 2022, https://www.reuters.com/article/asia-diesel-idUSL4N3270Q6

Blenders could also be squeezed out of the market while buyers in the mining and infrastructure sectors that used to buy off spec diesel, will struggle to do so or need to pay a premium for it. Over time, diesel production will likely be concentrated within larger refiners, further squeezing smaller Shandong independents and blenders and improving diesel output data, but to begin with, there will likely be a fall in diesel production although some molecules could be reclassified.

Overall, the tax changes and this round of inspections will allow the state-owned majors to raise runs and regain market share, stocking up ahead of their planned maintenance.

Even though the oil outlook is closely linked to macroeconomic policies, it also depends on the dynamics between the independents and state-owned refiners, which in turn, is informed by licences, quotas and inspections. And the mixed signals are already impacting the sector. In early January, the government issued 109 Million tons (Mt) of crude import licences and 19 Mt of product exports (almost half the total 2022 allowance), likely in an effort to spur growth. This flies in the face of many of the 14th Five Year Plan goals that seek to limit refining capacity growth, shift to chemicals and limit product exports while shuttering older and inefficient capacity. In 2023, if the government sticks to pro-growth policies, new refineries will be built without being offset by shutdowns, mainly in Shandong. The newly minted officials in Shandong seem to have ambitious projects for the oil sector, and hope to see the Yulong mega-refinery start up this year.

While the Yulong start up would in theory require other independents in the province to shut down, the large batch of crude import licences to the Shandong independents point to an effort to generate economic activity, rather than moves to shutter them. Even though— for now—this is a positive signal for the non-state sector, it is also a complication for the 14th FYP emissions peaking efforts. The extent to which import and export quotas are a tactical support measure or a fundamental shift in China's policies remains to be seen. Additional allowances throughout the year that allow product exports to rise significantly will be an important sign to watch, but this round of inspections suggest that there are still parts of the central and local governments that are pursuing efforts to clean up the sector. A debate seems to be underway between the Ministry of Commerce, that is favouring higher export quotas to bolster growth, and the National Development and Reform Commission (NDRC) which is overseeing the carbon peaking plans.

Mixed signals continue to catch the sector off guard and seem set to be a hallmark of 2023. This requires frequent adjustments from the majors in terms of crude buying and product export strategies, but also suggests that the market could go from feast to famine in very short succession.

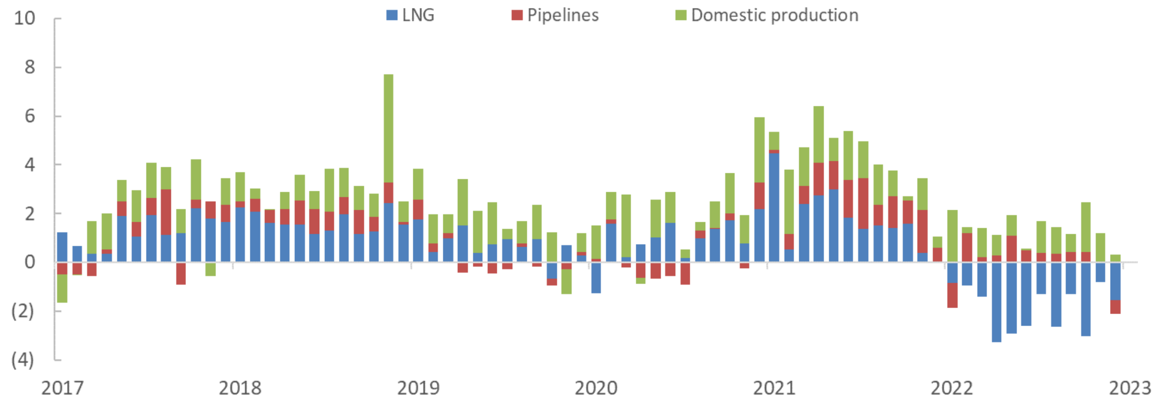
Foot off the gas

A somewhat similar situation is unfolding in the gas market. Demand in the North from residential users and the transport sector has recovered strongly with suppliers struggling to catch up. Partial privatization alongside price controls are once again limiting supplies. Local distribution companies, some of which have been privatized, failed to secure competitively-priced gas from upstream suppliers (in part because they had not anticipated strong demand growth but partly because smaller distributors have little bargaining power with large state-owned suppliers). With wholesale prices rising amid a cold snap, distributors sought to limit supplies to residential users as their sales prices are capped. Instead of making losses on sales to residential consumers, distributors are prioritizing industrial and commercial buyers for which prices are tiered. Local governments have also been cash strapped given the cost of COVID testing and are therefore also struggling to support to households[13].

Localized shortages could persist and worsen in the South ahead of the summer months, especially as the economic recovery will lead to stronger gas demand growth. With industry shaking off its 2022 doldrums, gas use is set to rise. Gas in power fell in 2022, according to data from the China Electricity Council but strong electricity demand this year could offer some support for gas. The CEC expects power demand in 2023 to rise by 6% from 2022 levels, compared to a 3.6% y/y increase in 2022 pointing to some upside for gas use.

[13] 河北为何难以告别气荒, 6 February 2023, https://www.sohu.com/a/637745781_120814277

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



Source: NBS, China Customs, OIES

That said, with new coal and renewable power additions planned for the year, most of the increase in gas consumption is set to come from the industrial sector, and we expect growth to reach close to 30 bcm in 2023. But even with stronger gas use, LNG demand is likely to rise more modestly, by 6-8 bcm because incremental supplies from domestic production and through Power of Siberia will meet most of the demand. Tier-two buyers will also be looking for a return to the market, as activity picks up.

Powering up

Part of the concern among energy policy makers is that another year of robust growth will lead to power outages again. But the memory of the 2021-2022 outages has reverberated strongly through the Chinese system in the last few months, and led to a sustained increase in coal supplies, even though the share of coal-fired power in the national energy mix fell 1.7% y/y to 58.4%, replaced entirely by renewables and nuclear[14]. The continued emphasis on energy security has boosted the supply and consumption of coal. In 2022, coal mine output rose 11.4% to 4.48 billion tonnes which in turn reduced the need for imported coal by 9.2%. 300 Mt of new coal mine capacity was added in 2022 and up to 250 Mt of further increase is touted for 2023. This new mine capacity is needed to fuel coal-fired power stations, the capacity of which increased by 40 GW in 2022. Thermal power capacity (coal and gas) may grow by an additional 70 GW in 2023. Moreover, the use of coal to produce gas and chemicals has been increasing. So, whilst the share of coal in the primary energy mix and power generation is declining, the absolute quantity of coal consumption continues to rise.

At the same time, in 2022, according to the National Energy Administration (NEA), China added 87 GW of new solar capacity, exceeding its 55 GW record in 2021, and 38 GW of wind installations, a sharp drop from 2021 and 2020 levels. Combined, China added 125 GW of new wind and solar capacity, which accounted for 55% of new power generation in 2022[15].

Together, the 125 GW of new wind and solar capacity accounted for 78% of all newly added power generation capacity – and even more importantly, 55% of new power output in 2022. The NEA aims to add 160 GW of wind and solar in 2023[16] but more of everything is likely in the cards. On power markets, the government continues to emphasize market reforms in principle, while in practice limiting the potential for any volatility by setting a new standard of locking in 90% of industrial power demand via monthly and annual contracts, limiting the role of any spot markets[17].

[14] CEC, https://cec.org.cn/detail/index.html?3-317477&mc_cid=b4822883e5&mc_eid=1f5ebaac4b
[15] NEA, http://www.nea.gov.cn/2023-01/18/c_1310691509.htm?mc_cid=b4822883e5&mc_eid=1f5ebaac4b
[16] 风光新增装机规模将达 1.6 亿千瓦！明年能源工作划重点, https://news.cnstock.com/news,bwkx-202212-5000072.htm
[17] NDRC, 国家发展改革委 国家能源局关于做好 2023 年电力中长期合同签订履约工作的通知, https://www.ndrc.gov.cn/xxgk/zcfb/tz/202212/t20221222_1343756.html

Figure 4: Total installed wind capacity (GW)

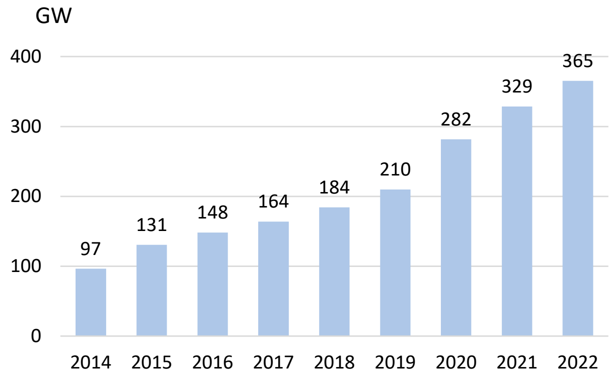
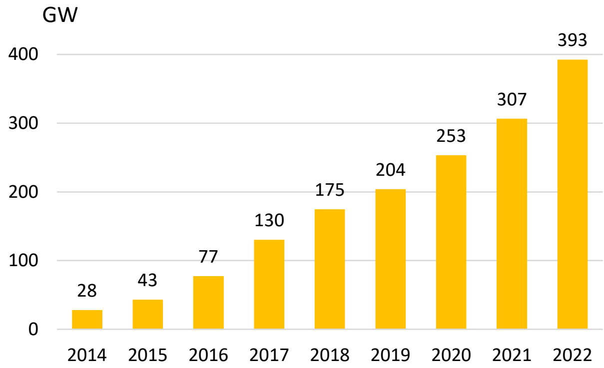


Figure 5: Total installed PV capacity (GW)



Source: NEA

Volatility and uncertainty now look increasingly likely beyond the power sector too, even though the government is emphasising supplies and looking to mitigate against any shortfalls. Xi Jinping highlighted energy security during a visit to CNPC's Tarim oil field in January[18], a subtle nod that was picked up by CNOOC that pledged higher Capex spending on the domestic upstream. CNPC and Sinopec will likely follow suit as CNPC's think tank, ETRI (Economics, Technology and Research Institute), now expects oil production in China to stabilise and 4 mb/d and remain at these levels through 2040. Whether or not that is achievable while also maintaining gas output growth is an open question. But the message is clear and was delivered also by outgoing premier Li Keqiang at a visit to State Grid on 17 January[19].

Sun king

China continues to dominate worldwide battery and solar production, and is closely following efforts in North America and Europe to join the clean energy race, while also seeking to ensure China can become self-sufficient in its own supply chain. Regarding increasing domestic self-sufficiency, China's Nonferrous Metals Industry Association announced that in 2022 the country's lithium carbonate production rose by 32.5% y/y[20]. What's more, production of lithium hydroxide – the other most important lithium product – rose 29.5% y/y. Increasing local lithium supplies will help sate the country's booming demand for EV batteries: the country manufactured nearly 7 million EVs in 2022, up 97% from the prior year, and Chinese EV exports have started to make a dent in markets outside of China.

Meanwhile, to protect the country's leading position in solar, China's Ministry of Commerce and the Ministry of Science and Technology are seeking comments on an export ban on solar wafer technology[21]. China accounts for 97% of global output of solar wafers, key components of solar panels. With rising concerns about the US, the EU and India's efforts to develop home-grown solar manufacturing industries, the ban could seek to slow down such attempts. The move could also affect Chinese firms that have scaled up solar manufacturing in Southeast Asia and elsewhere to get around tariffs on Chinese-made solar products.

The rule is still in draft form, and a lot will depend on how it is implemented. While the government may intend the move as a symbolic retaliation to the US semiconductor ban, silicon wafers are a far less complex technology than advanced microchips. That said, China has clear advantages in technical knowhow and intellectual property related to the latest wafer technologies, especially for large-format wafers. Perhaps the symbolic aspects will matter most if both Chinese firms and Western countries

---

[18] Xi stresses stable energy supply, price ahead of Spring Festival, People's Daily, 19 January 2023, http://en.people.cn/n3/2023/0119/c90000-10198193.html

[19] "Chinese premier stresses stable energy supply for livelihoods, development", Xinhua, 18 January 2023, https://english.news.cn/20230118/25e4df2bcf1f4616a24eb69ce5bb05d8/c.html

[20] "China 2022 lithium carbonate output up 32.5% y/y at 395,000 tonnes", Reuters, 30 January 2023, https://www.tradingview.com/news/reuters.com,2023:newsml_K7N32P011:0/

[21] Dan Murtaugh, "China Mulls Protecting Solar Tech Dominance With Export Ban", 26 January 2023, https://www.bloomberg.com/news/articles/2023-01-26/china-mulls-protecting-solar-tech-dominance-with-export-ban

come to expect China to place such restrictions throughout the clean energy supply chain. This could accelerate clean energy decoupling, both raising near-term costs for the energy transition and compelling countries to go further down the road of industrial policy for localized (or at least “friend-shored”) production.