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**Working Paper**

## The outlook for China's fossil fuel consumption under the energy transition and its geopolitical implications

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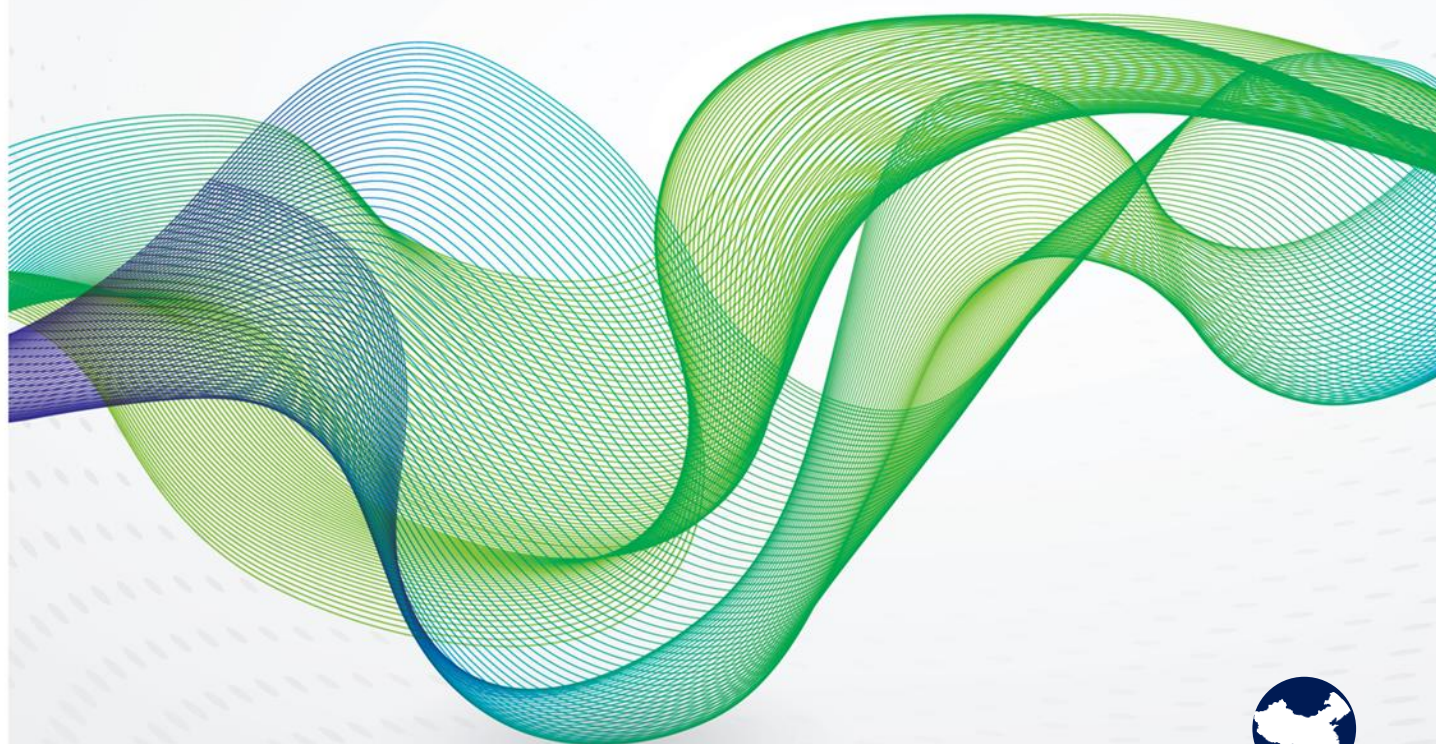
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June 2023

# **The outlook for China's fossil fuel consumption under the energy transition and its geopolitical implications**



CHINA



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## Executive summary

- China is currently the world's largest oil importer and is on track to becoming the biggest consumer of liquefied natural gas (LNG). In 2022 the country relied on imports for 75 per cent of its oil consumption, and 41 per cent of its gas supplies that year were also imported. This dependency is viewed by Beijing as a strategic vulnerability, especially as ties with the USA are worsening and Beijing has growing concerns about Washington's use of sanctions.
- There are different pathways to China reaching net zero, and much like for other countries, there is no single blueprint. The energy mix will depend on economic growth as well as a variety of policy choices. But China is committed to peaking carbon dioxide emissions by 2030 and reaching carbon neutrality by 2050 (known as the dual carbon targets).
- Coal consumption is set to fall and, given limited import dependence, coal will become increasingly immaterial from a geopolitical perspective. That said, the speed with which China will phase out coal is unclear, and with abundant local reserves, coal offers China flexibility in its energy supplies and a significant hedge against energy insecurity, even as its use undermines emission reduction targets.
- Despite rapid electrification trends, most scenarios suggest that China will remain the world's largest oil importing country for the next two decades and a significant gas importer, although import volumes vary considerably by scenario.
- Given the dominance of coal (and increasingly of renewables) in the country's energy mix, and Beijing's efforts to stockpile oil, the economic impact of oil and gas supply outages is limited and will decline further. But China's sense of energy insecurity will be informed as much by Beijing's perceptions as by market realities.
- The number of oil and gas suppliers to China is set to shrink, with imports coming predominantly from the USA, Russia, and the Middle East (and most notably Saudi Arabia for oil, and Qatar for LNG).
- Just as China will become increasingly dependent on a small number of exporters, their interdependence will deepen, leading producers to compete for market share in China. The dependence on a smaller number of suppliers could be seen as a vulnerability, but it also gives Beijing geopolitical leverage.
- Oil and gas have been central to relations with the Middle East, but other commercial interests have developed over time. Meanwhile, ties with Russia and the USA have been informed by numerous priorities, supplemented by oil and gas needs.
- China has incorporated its oil and gas security into its broader foreign policy objectives. But given the ongoing need for critical materials and other commodities (metals and grains, for instance), China will likely remain invested in countries and regions even after its oil and gas imports from them fall.
- China's energy security policies are increasingly being shaped by the prospect of sanctions. Beijing will want to deepen ties and build coalitions aimed at weakening the USA's ability to contain and suppress China. Beijing will also want to consolidate its relations with energy suppliers (as well as suppliers of other raw materials) so that, in the event of sanctions or a conflict, suppliers will struggle to pick between the USA and China, or will opt to align with China.
- Beijing will have a greater say in global security and trading architecture. However, the extent to which China will want to actively engage in securing trade flows for the benefit of other Asian consumers remains an open question.
- China will also want to shape global trading norms and dynamics through increased use of the renminbi (RMB).





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## Introduction

China is currently the world's largest oil importer and is on track to becoming the biggest consumer of liquefied natural gas (LNG). This dependency is viewed in Beijing as a strategic vulnerability, especially as China's ties with the USA are worsening and Beijing has growing concerns about Washington's use of sanctions. This paper assesses how China's pursuit of its low carbon energy transition will alter its oil and gas consumption and change its geopolitical relations with producer countries.

This paper aims to fill a gap in discussions on the geopolitics of the energy transition and how shifts in oil and gas consumption could impact international relations. Given China's importance in global oil and gas markets, unpacking future energy demand trends and the potential shifts in trade flows, combined with a brief overview of China's oil and gas security policies to date, is intended to inform rational conversations about future trends. It is also useful to assess how China thinks about resource security and foreign policy as a precursor to thinking about the geopolitical implications of China's quest for critical materials around the world.

This paper begins by looking at some of the different pathways to China reaching net zero. It then discusses China's oil consumption and imports to date, as well as different outlooks for oil demand. Section three then analyses gas demand by sector, import sources and future trends before looking at regional energy relations. Section four discusses China's energy relations with the Middle East, Russia and the US. Finally, the paper argues that China's energy security policies are increasingly being shaped by the prospect of sanctions. Beijing will want to deepen ties and build coalitions aimed at weakening the USA's ability to contain and suppress China. Beijing will also want to consolidate its relations with energy suppliers (as well as suppliers of other raw materials) so that, in the event of sanctions or a conflict, suppliers will struggle to pick between the USA and China, or will opt to align with China.

## 1. China's energy system is heavily dominated by coal—but this is not a geopolitical vulnerability

China's rapid economic growth has led to a surge in energy demand. Primary energy consumption increased from 1.5 billion tons of standard coal in 2000 to 5.4 billion tons standard coal in 2022, according to China's National Bureau of Statistics, accounting for 26.5 per cent of global primary energy consumption<sup>1</sup>. Since 2005, China has also been the biggest emitter of energy-related CO<sub>2</sub> emissions<sup>2</sup>. Moreover, despite impressive growth in renewables since 2000, fossil fuels still accounted for 83 per cent of China's primary energy mix in 2022, with coal accounting for 56 per cent and oil 18 per cent. Natural gas accounted for an additional 9 per cent (Figure 1)<sup>3</sup>. For comparison, in 2021 the UK relied on fossil fuels for 76 per cent of its primary energy consumption, but coal accounted for 3 per cent, with natural gas and oil each representing 38 and 35 per cent, respectively<sup>4</sup>. Fossil fuels are prevalent in many countries' energy supply structures, but China is heavily dependent on coal—a factor that contributes to the country's large emissions profile, but also enhances its energy independence.

<sup>1</sup> It is important to note that throughout the 1980s and 1990s, despite strong economic growth in China, the availability of energy-efficient technologies led to a dramatic improvement in the country's energy intensity (energy consumption per unit of GDP). Primary energy demand rose on average by more than 8 per cent a year between 2000 and 2010, slowing to 3.4 per cent in the five years to 2015, and just over 3 per cent over 2015–2020 (IEA, 2021).

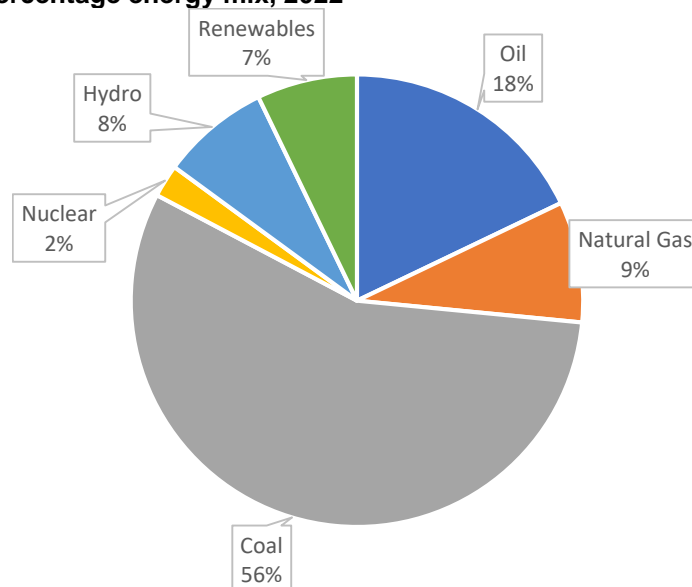
<sup>2</sup> IEA (2021).

<sup>3</sup> National Bureau of Statistics of China (2023).

<sup>4</sup> Based on BP (2022).



**Figure 1: China's percentage energy mix, 2022**



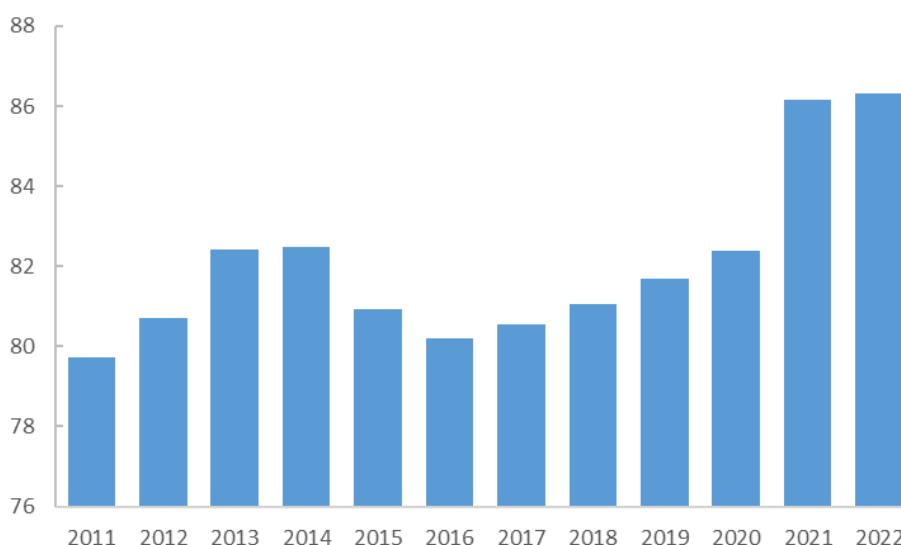
Source: National Bureau of Statistics of China (2023)

### 1.1 Coal is still king in China

China is the world's largest consumer and producer of coal. Coal is used in China predominantly for electricity and heat generation, accounting for 60 per cent of total coal use, and industry representing an additional 33 per cent in 2020<sup>5</sup>. With large domestic reserves, China has been able to limit its dependence on imported coal to around 10 per cent of total supplies.

With growing efforts to tackle local air pollution and rebalance the country's economic structure toward a more consumption-led development model, coal consumption declined in 2015 and 2016. But since 2017, Chinese coal consumption has been rising again as energy-intensive manufacturing sectors rebounded and heavy construction activity grew. In the wake of the COVID-19 pandemic, China's economic expansion and subtle shifts in government policy, given renewed concerns about energy security (both domestic and international aspects)<sup>6</sup>, have led to a surge in coal consumption (Figure 2).

**Figure 2: China's coal consumption, exajoules**



Source: BP 2023, OIES (2022 data is an estimate)

<sup>5</sup> Buildings, agriculture, and non-energy use account for the rest of coal demand, according to IEA (2021, 23).

<sup>6</sup> Andrews-Speed and Meidan (2022).



Over time, however, growing pressure to phase out coal, as articulated in China's dual carbon pledge to peak CO<sub>2</sub> emissions before 2030 and reach net zero by 2060, means that China will cap coal capacity additions and gradually phase down coal use. Structural changes to the economy and the rapid addition of renewable energy sources will help promote this shift. That said, even though China is committed to the energy transition, there are various pathways to net zero, and it remains to be seen how quickly China will reduce its coal consumption (and whether it will scale up carbon capture, utilization, and storage technologies quickly enough).

Notwithstanding its environmental commitments, China's abundant domestic coal reserves provide a significant hedge against energy insecurity. China's reliance on imported coal is likely to remain limited and even to fall considerably. As the share of coal imports is already limited and will gradually decline, this paper does not discuss the outlook for coal imports or their geopolitical implications, but rather focuses on oil and gas demand and imports. Coal is therefore not a geopolitical vulnerability for China. On the contrary, it offers China optionality and supply security, even though this comes at an environmental cost.

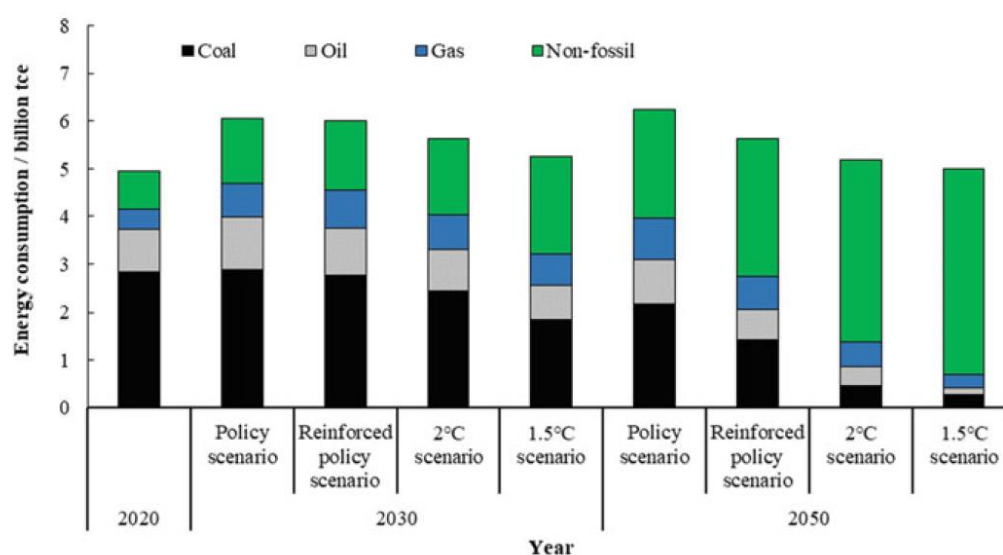
## 1.2 China's energy transition and the outlook for coal

In recognition of the rising environmental cost of coal, among other reasons, in September 2020 President Xi Jinping pledged that the country would peak CO<sub>2</sub> emissions before 2030 and reach carbon neutrality by 2060. There are various roadmaps and scenarios to China's carbon neutrality<sup>7</sup>; as for many other countries, there is no single blueprint on how to reach the net zero goal<sup>8</sup>.

The pathways developed by Tsinghua University's Institute of Climate Change and Sustainable Development (ICCSA) are interesting to consider in this context. They are credited with having informed president Xi's pledge<sup>9</sup>, and since they were published shortly after the announcement in September 2020, they have been influential in policy discussion in China. The Tsinghua scenarios (Figure 3) are by no means a blueprint for China but they are useful in providing a politically palatable range of scenarios.

Given that China's biggest challenge is phasing out coal, key issues in the Tsinghua scenarios and many other outlooks are how rapidly wind and solar can replace coal, and the role that nuclear, and to a lesser extent hydro, will play in that transition. According to the ICCSA Tsinghua study, in 2030 coal will account for anywhere between 48 and 35 per cent of the energy mix (depending on the scenario) and by 2050, between 35 and 5 per cent.

**Figure 3: China's energy mix under ICCSA Tsinghua's four policy scenarios**



Source: ICCSA Tsinghua (2022)

<sup>7</sup> See for instance IEA (2021); CET (2022); ICCSA Tsinghua (2022); IRENA (2022).

<sup>8</sup> Meidan (2020a).

<sup>9</sup> Bloomberg News (2020).

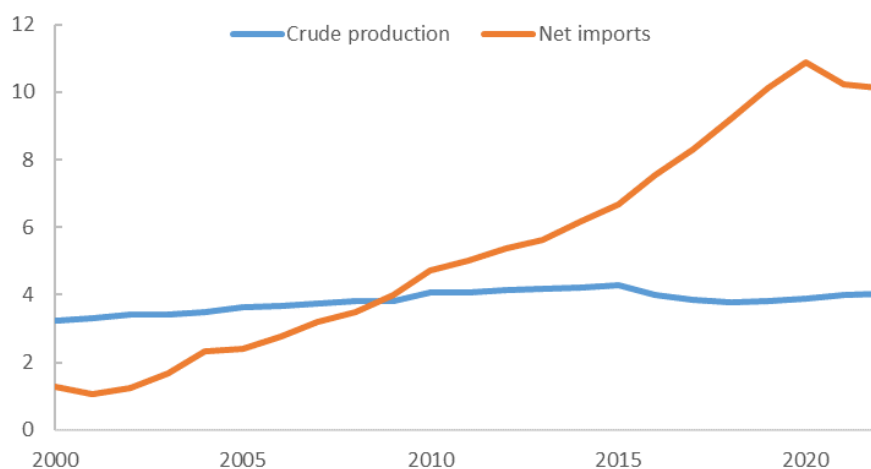


## 2. Oil as a source of vulnerability

China's oil demand has increased almost tenfold between 1980 and 2020, and has accounted for 40 per cent of global oil demand growth since 2000. Around 60 per cent of oil in China is consumed in transportation, followed by petrochemical feedstock and other industry with 16 per cent, while buildings account for 8 per cent of oil use. The share of oil used in electricity is minimal (at around 1 per cent). Globally, countries use on average 55 per cent of their oil in transport, with petrochemicals and other industry accounting for 18 per cent, and power for 6 per cent. The rapid increase in oil use in China is related to the country's economic development, its urbanization, and the increased demand for transport in cars, planes, and trucks. But the share of oil in China's energy mix, at 18 per cent, is low compared to the global average of 34 per cent. This is in part because there are fewer than 200 vehicles per 1000 people in China, compared to more than 800 vehicles in the USA, and 400–600 vehicles in Europe. At the same time, China's rail networks (which are electric) are used for freight, thereby limiting incremental oil demand. Similarly, even though oil is used to produce petrochemicals, in China methanol and coal are also used as a basic feedstock, which displaces some oil demand.

Despite this, China's oil use has grown rapidly, presenting the country with two main challenges. First, according to the International Energy Agency (IEA), in 2019 oil combustion contributed 15 per cent of the country's carbon dioxide emissions from energy, up from 13 per cent in 2010. Oil extraction also contributes to water pollution and water resource depletion<sup>10</sup>. Second, even though China's domestic production is roughly equivalent to Iraq's output, hovering currently at around 4 million barrels per day (mb/d), demand has vastly outpaced domestic supplies, leading to large imports and concerns about energy security. China's crude imports averaged over 10 mb/d since 2019, roughly equivalent to Russian or Saudi total crude production (Figure 4)

**Figure 4: China's oil imports and domestic production, mb/d**



Source: China Customs data, National Bureau of Statistics of China

Over the years, the Chinese government has sought to mitigate the vulnerabilities associated with imported oil: these include the impact of high oil prices on the Chinese economy; supply outages caused by political instability or infrastructure attacks in its major supplier states or in maritime chokepoints; and deliberate embargoes or sanctions by the USA (for example on Iran, Venezuela, and Russia)<sup>11</sup>.

Responses to these concerns have been multifaceted. On the demand side, Beijing has looked to increase energy efficiency as well as vehicle efficiency, introduced and encouraged the use of public transport, and promoted electrification of the vehicle fleet. On the supply side, it has aimed to support domestic production, diversify import sources, and build strategic reserves, in line with the IEA's guidance for countries to hold 90 days of forward cover<sup>12</sup>.

<sup>10</sup> NRDC (2019).

<sup>11</sup> Meierding (2022); Meidan (2019).

<sup>12</sup> NRDC (2019, 36); IEA (2000); Downs (2004).

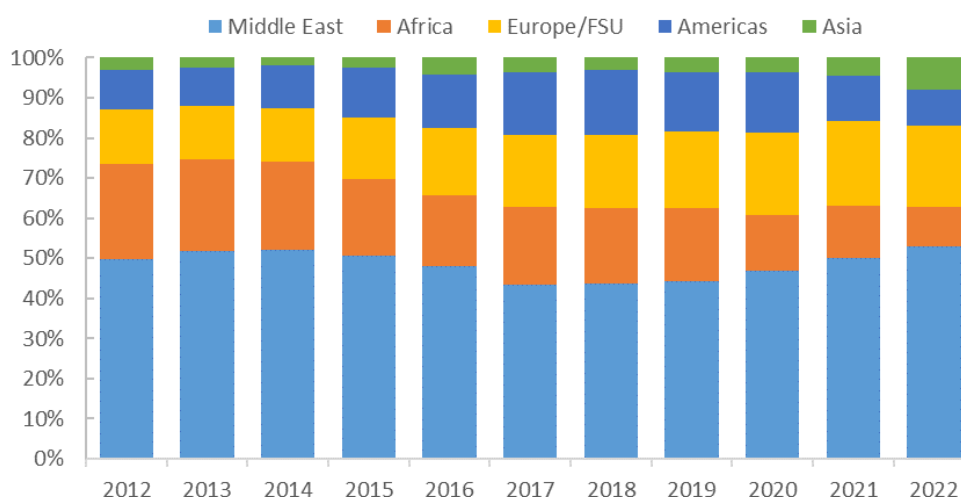


As part of China's quest for energy security, Chinese companies have invested overseas in upstream assets, while the Chinese government has offered producer countries loans that they have repaid with oil. China's traders have become more active in international markets, optimizing flows and minimizing price risk. And in an effort to enhance China's global pricing power, the government has launched a crude benchmark in the Chinese currency, the renminbi (RMB). More recently, Chinese companies have sought to use the Chinese currency in trading<sup>13</sup>. Finally, Beijing has looked to nationalize its supply chains by relying increasingly on Chinese traders, merchant fleets, and insurance companies<sup>14</sup>.

Oil consumption has continued growing at a rapid pace despite demand-side measures. Imports accounted for 75 per cent of the country's total oil supplies in 2022. China sources its crude from over 40 countries and has managed to cap the share of Middle Eastern supplies at around 50 per cent or less of its total imports (Figure 5). Yet even though no single supplier accounts for more than 20 per cent of China's oil imports, its top five suppliers—Russia, Saudi Arabia, Iraq, Oman, and the United Arab Emirates (UAE)—account for close to two-thirds of China's imports. Four of these five are located in the Middle East (Figure 6).

That said, when looking at China's oil supplies, official statistics tell only part of the story. Chinese refiners have access to sanctioned crudes (from Iran, Venezuela, and Russia) which are usually offered at a discount as producers compete to supply China. China has therefore created (with the help of sellers at times) the infrastructure to continue to import from sanctioned countries.

**Figure 5: China's oil imports by region, % of total**



Source: China Customs

China has also secured overland oil supplies through pipelines from Russia and Central Asia (Kazakhstan) in a bid to limit its reliance on seaborne flows and the chokepoints in both the Hormuz and Malacca Straits. But pipelines account for under 10 per cent of imports, leaving China's oil flows overwhelmingly seaborne.

China is also diversifying its maritime energy transit routes through the Northern Sea Route along Russia's Arctic coast. By using this route, tankers can travel from export terminals in Murmansk and the Yamal Peninsula to China's Pacific ports without passing through maritime chokepoints, including the Suez Canal, Bab al-Mandab, and Strait of Malacca. The route also cuts shipping times nearly in half<sup>15</sup>. The Northern Sea Route is an appealing prospect for LNG exports from Russia to China, but its use is still constrained by icy conditions and high delivery costs. Oil flows via the Northern Sea Route are also still limited<sup>16</sup>.

<sup>13</sup> Gnana (2022).

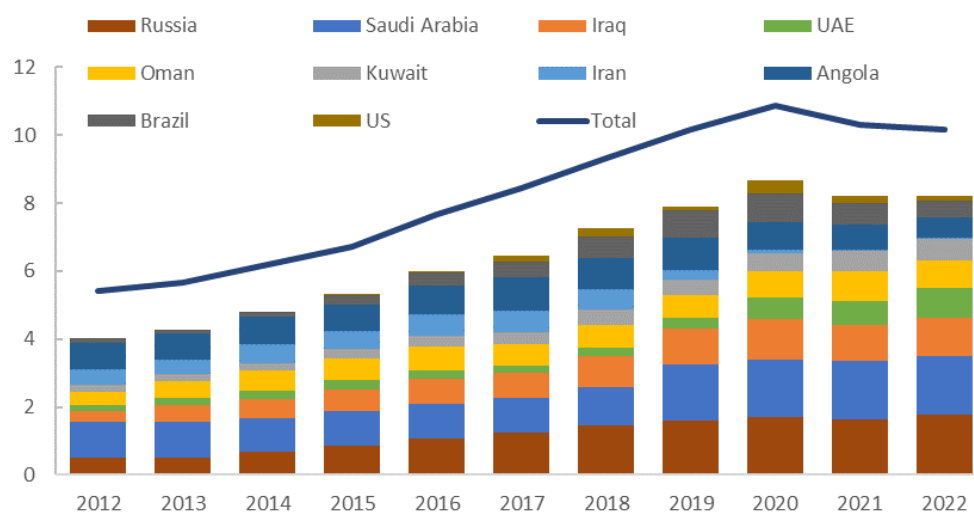
<sup>14</sup> Erickson and Collins (2007).

<sup>15</sup> Meierding (2022).

<sup>16</sup> Yermakov and Yermakova (2021).



**Figure 6: China's oil imports by ten main countries, mb/d**



Note: Customs data likely understate flows from Iran and Venezuela since 2020, and likely understate Russian imports since 2022, as sanctions have led to the misreporting of certain crudes.

Source: China Customs

## 2.1 Wide variation in oil demand outlook, but China remains the largest consuming and importing country

The different trajectories for oil demand depend both on macroeconomic factors—the broader economic structure that determines demand for industrial fuels and income growth, impacting ability to travel and purchase consumer goods<sup>17</sup>—and on sector-specific policies. The penetration of electric vehicles is particularly significant, given that it will determine how quickly internal combustion engines (which consume gasoline, accounting for around one-fifth of China's oil demand<sup>18</sup>) will be phased out. Equally, the extent to which government policies support a move away from road freight to rail (which is electric) or water-based transport<sup>19</sup>, as well as innovation in fuel cell vehicles or electrification of heavy duty trucking, will impact diesel demand. Similarly, different feedstocks for petrochemicals and increases in material recycling will also determine the volume at which oil demand peaks and how quickly its use declines<sup>20</sup>. For instance, China's largest state-owned oil and gas company, the China National Petroleum Corporation (CNPC), expects transport demand to peak in 2026–2027, but chemicals use and aviation demand to continue growing into the 2030s. These issues are already the subject of research and merit further analysis, but this is beyond the scope of this paper.

Notwithstanding these policy choices, different scenarios developed by Tsinghua's ICCSD, CNPC, and IEA mostly predict that China's oil demand will keep growing over the next decade, with consumption ranging between 14 and 17 mb/d (some see a decline from the current 15 mb/d in 2021). The more ambitious emissions reduction pathways then lead to demand falling to around 10 mb/d in 2040 and 6 mb/d by 2050 (Figure 7). By then, the range of outcomes is wider, with the higher demand estimates still expecting around 12 mb/d of oil use in China.

In short, while most estimates agree that China's oil demand remains flat or rises marginally over the coming decade, between 2030 and 2050 it could decline by as little as 2 mb/d or as much as 10 mb/d.

<sup>17</sup> For further discussion on this see Meidan et al. (2015); Meidan (2020b).

<sup>18</sup> Sen et al. (2017); Guo et al. (2023).

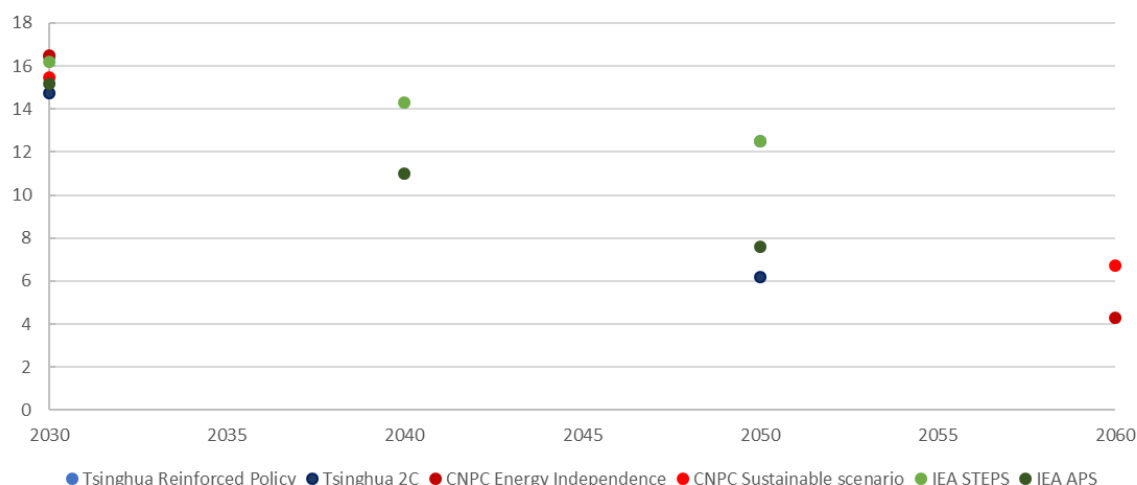
<sup>19</sup> Zhenying Shao et al. (2022); Khanna et al. (2021).

<sup>20</sup> See also IEA (2022a, 7).





**Figure 7: China's oil demand scenarios**



Note: Two ICCSD Tsinghua scenarios; two scenarios from CNPC, China's largest oil and gas company; and the IEA's stated policies scenario (STEPS) and announced pledges scenario (APS).

Source: ICCSD Tsinghua (2022), CNPC ETRI World Energy Outlook 2060, 2022 edition; IEA (2022b)

These different demand scenarios also impact China's import profile but, assuming that China's domestic oil production falls over the period to 2050 as well, even at the lower end of its demand needs, China will remain an oil importer. According to the IEA *World Energy Outlook 2022*<sup>21</sup>, in all scenarios China will be the world's largest consuming and importing country (Table 1).

**Table 1: Oil trade by region in IEA scenarios**

Net importer in 2021	STEPS						APS			
	Net imports (mb/d)			Share of demand			Net imports (mb/d)		Share of demand	
	2021	2030	2050	2021	2030	2050	2030	2050	2030	2050
China	12.3	13.0	10.6	78%	75%	76%	12.2	6.9	75%	82%
European Union	9.7	8.9	5.7	93%	95%	92%	7.6	2.0	95%	93%
Other Asia Pacific	6.4	10.0	13.5	70%	82%	87%	9.3	7.9	83%	87%
Japan and Korea	5.8	5.5	4.1	96%	98%	98%	5.0	2.3	98%	97%
India	4.1	6.2	8.0	87%	89%	92%	5.4	3.8	90%	90%
Other Europe	0.3	0.9	2.2	7%	25%	67%	0.7	0.9	21%	60%

Source: IEA (2022b)

Shell's Sky 2050, which works back from a goal of reaching net zero by 2050 and global warming limited to 1.5°C by the end of the century, sees China becoming a net crude oil exporter in 2050<sup>22</sup> (Figure 8). But even then, for another two decades or so China is still a critical consumer and importer of oil.

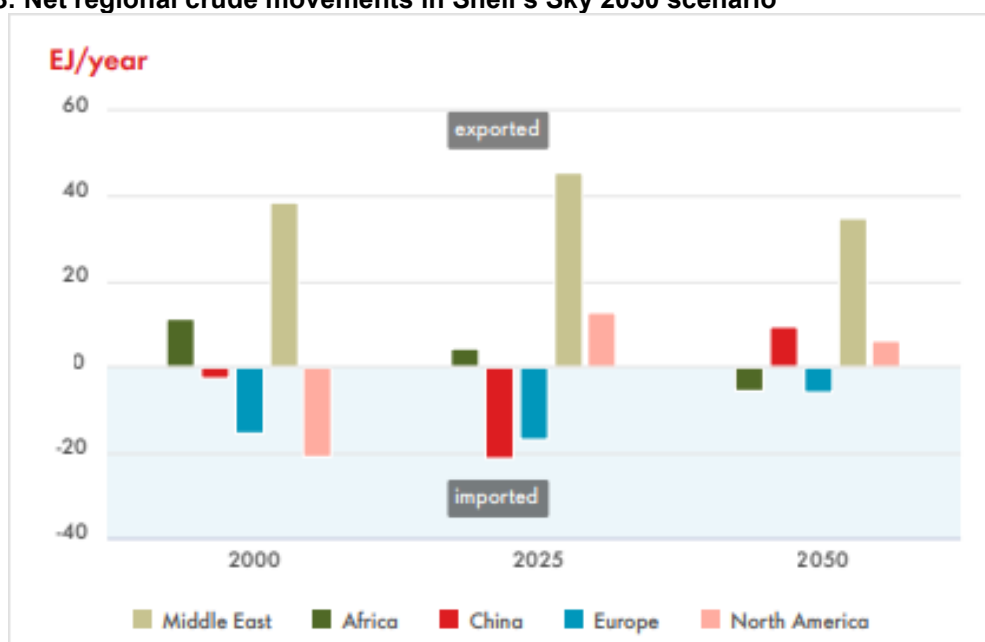
<sup>21</sup> IEA (2022b, 341).

<sup>22</sup> Shell (2023, 38).





**Figure 8: Net regional crude movements in Shell's Sky 2050 scenario**



Source: Shell (2023)<sup>23</sup>

## 2.2 A smaller list of suppliers—vulnerability or leverage?

In terms of suppliers, many scenarios<sup>24</sup> expect the Middle East's and USA's share of global exports to rise. Outflows from Brazil could grow, while other Central and South American suppliers see their exports diminish. Exports from Africa are projected to fall as producer countries consume their output domestically. Russian production and exports are also widely expected to stagnate and then fall.

In short, while China's future oil needs vary widely under different scenarios, it remains the largest oil-consuming and -importing country through 2050. The way it views and chooses to manage the vulnerabilities associated with that dependency is discussed below, given that this will be informed by a number of domestic and international factors. Notwithstanding the size of China's import needs, its oil imports will be closely linked to the Middle East and the USA, suggesting that the maritime chokepoints of Hormuz and Malacca will remain significant (Figure 9).

China is already developing naval capabilities and a presence in global ports. It is also building a merchant fleet<sup>25</sup> to mitigate vulnerabilities associated with US financial sanctions. At the same time, as China's clout in global governance and energy trading grows, and given the importance of trade from the Middle East to Asia, it remains to be seen whether China will want to act as a security provider for global shipping routes. This will also be true for other commodities, not just oil and gas, as China will likely remain dependent on critical materials from a variety of countries. Moreover, if China does opt to take a more active stance in securing maritime flows, will it choose to do so within the context of existing multilateral institutions, bilaterally with other naval powers, or unilaterally?

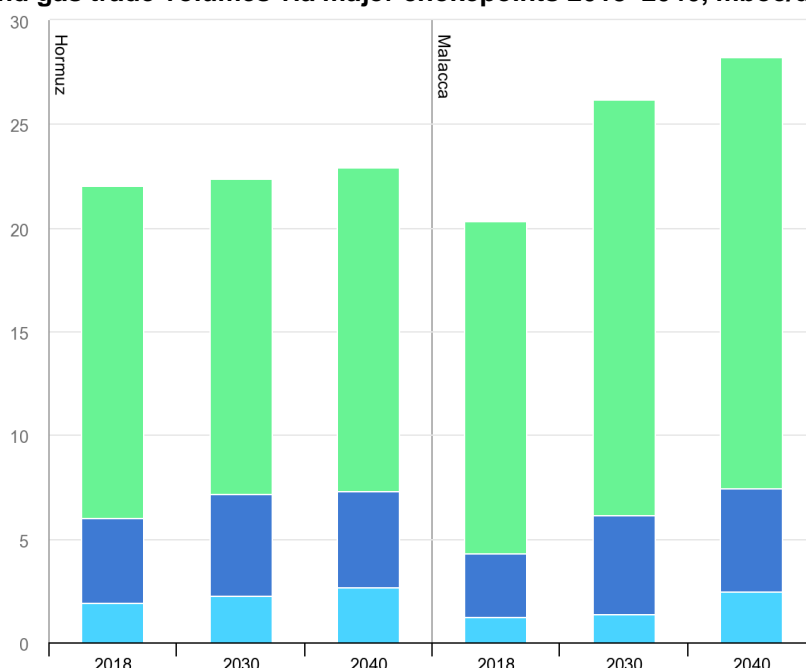
<sup>23</sup> Shell (2023).

<sup>24</sup> This is also the view in BP (2023, 45) and Shell (2023, 38).

<sup>25</sup> Erickson and Collins (2007); also see Collins et al. (eds) 2008.



**Figure 9: Oil and gas trade volumes via major chokepoints 2018–2040, mboe/d**



Source: IEA (2022c)

### 2.3 A significant actor in oil product markets

While China remains vulnerable to crude oil supply shocks, it has built up a large downstream capacity, rendering it virtually self-sufficient for oil products. While China does import some oil products, it mainly requires imported petrochemical feedstocks (naphtha, LPG, ethane). Its domestic refining capacity today is second only to that of the USA, and as the country continues to add new refineries, it is facing a surplus of oil products and potentially petrochemicals. As a result, China will remain an important player in refined oil product markets. Most scenarios forecast that China will remain the world's second largest refiner.

Beijing's current policies include efforts to limit new refining additions and gradually reduce product exports, focusing instead on chemical and petrochemical production to meet domestic needs. But if China reverses current policies and continues, or even increases, its exports of oil products and/or chemicals, it will enter into direct competition with Saudi Arabia, which is growing its global exports of products and chemicals, as well as with India, another large regional refiner. And as African countries are expected to consume more oil products, Chinese exports could be shipped further afield than their current export markets, which consist mainly of Asian buyers. If China does emerge as a crude oil or product and chemicals exporter, it will be both a large importer of crude oil and an exporter of products and petrochemicals to new markets. The direction in which oil and oil products will flow could therefore change, as will its exposure to global oil and product markets.

Even as oil trade routes change, however, China's need for critical materials and food and grain imports mean that it will still rely on maritime trade routes<sup>26</sup>, and concerns about maritime security are unlikely to fade away.

As its power and global presence grows, China's perception of its vulnerability will evolve. Following the Russian invasion of Ukraine and the ensuing sanctions—and after having had to respond to financial sections on trade with Iran and Venezuela—Beijing is looking to mitigate the potential impact of sanctions through a variety of market and diplomatic measures. Yet it is unclear how effective China's efforts to sanction-proof its economy will be, and whether they will mitigate its sense of vulnerability.

<sup>26</sup> This assumes that current policies and trajectories are maintained. This paper does not consider the implications of a sharp deceleration in economic activity in China, or a political/economic disaster. Nor does it consider the implications of China becoming self-sufficient for energy and grains.

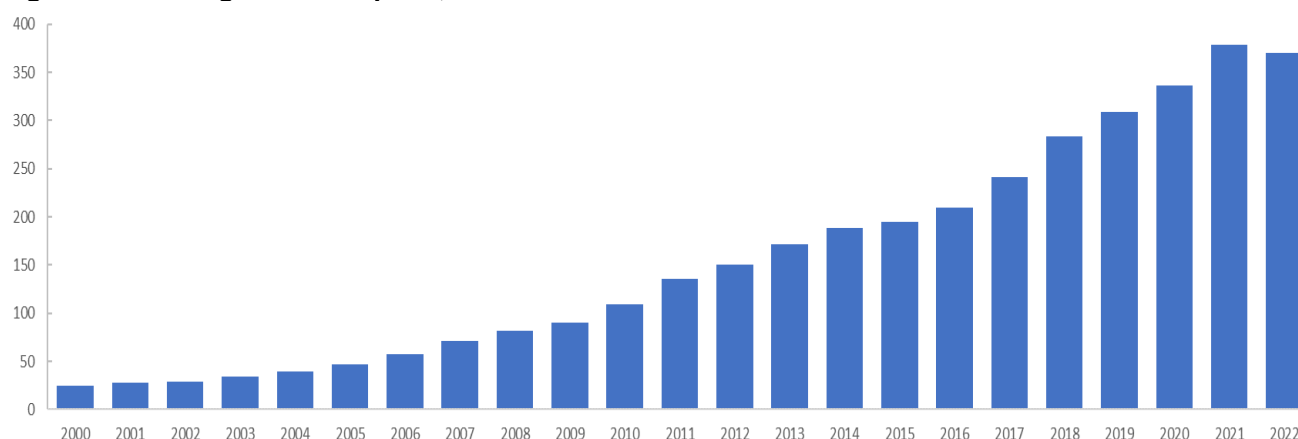


Beijing's assessment of its strategic vulnerabilities will depend as much on perceptions in Beijing as it will on market realities. China has already built up considerable forward cover for crude<sup>27</sup>: it has the ability to ration supplies domestically in the event of an outage and to substitute fuels, suggesting that in the event of a supply outage (or even a sharp price spike), Beijing has tools to blunt the economic impact<sup>28</sup>. A protracted oil supply outage would negatively impact the Chinese economy, but it would be unlikely to cripple it.

### 3. Natural gas—an uncertain bridge fuel for China

Gas is the fastest-growing fossil fuel in China, as it is considered a clean fuel and very much part of the country's energy transition away from coal (Figure 10). In many member countries of the Organisation for Economic Co-operation and Development (OECD), gas accounts for roughly one quarter of the energy mix and is used predominantly in power and industry. In China, gas accounted for 9 per cent of the mix in 2022 and is used predominantly in the industrial and commercial sectors. According to the National Energy Administration, in 2020 industrial demand accounted for 37 per cent of total gas use, while power generation consumed an additional 16 per cent and the chemical industry 9 per cent<sup>29</sup>.

**Figure 10: China gas consumption, bcm**



Source: National Bureau of Statistics, China Customs, NDRC, OIES

While China is also the world's fourth largest gas producer, domestic supply growth has failed to keep up with increased demand, leading to rising imports. In 2022, imports accounted for 41 per cent of China's total gas use. The Chinese government has sought to maintain and expand domestic upstream production in a bid to limit the country's import dependency<sup>30</sup>, and has made efforts to develop overland pipeline supply routes as well as to attract flows of LNG. Up until 2017, LNG and pipeline gas flows into China were roughly even (Figure 11). The coal-to-gas switch in 2017–2018 led to a rapid increase in LNG imports to satisfy the short-term demand spike. Moreover, the government's efforts to open the gas sector to non-state actors<sup>31</sup> have also led to a rise in LNG imports from new buyers, tilting the balance in favour of LNG. But the Power of Siberia gas pipeline from Russia that started up in 2019 and is set to supply China with 38 Bcma in 2025–2026, is gradually rebalancing the share of pipelines in total inflows.

<sup>27</sup> Meidan (2021).

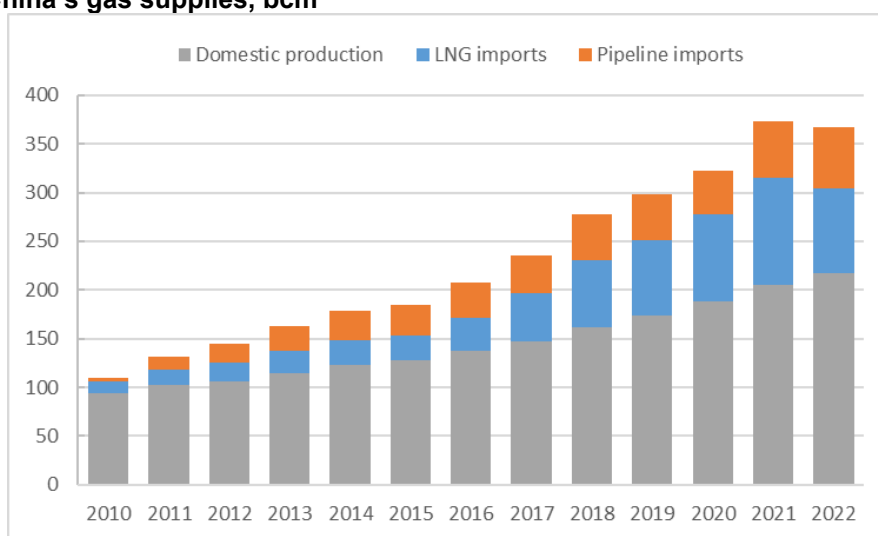
<sup>28</sup> Collins (2018).

<sup>29</sup> National Energy Administration (2021).

<sup>30</sup> See Zhe Ruan (2020).

<sup>31</sup> Boute and Fang (2022); Downs and Yan (2020).

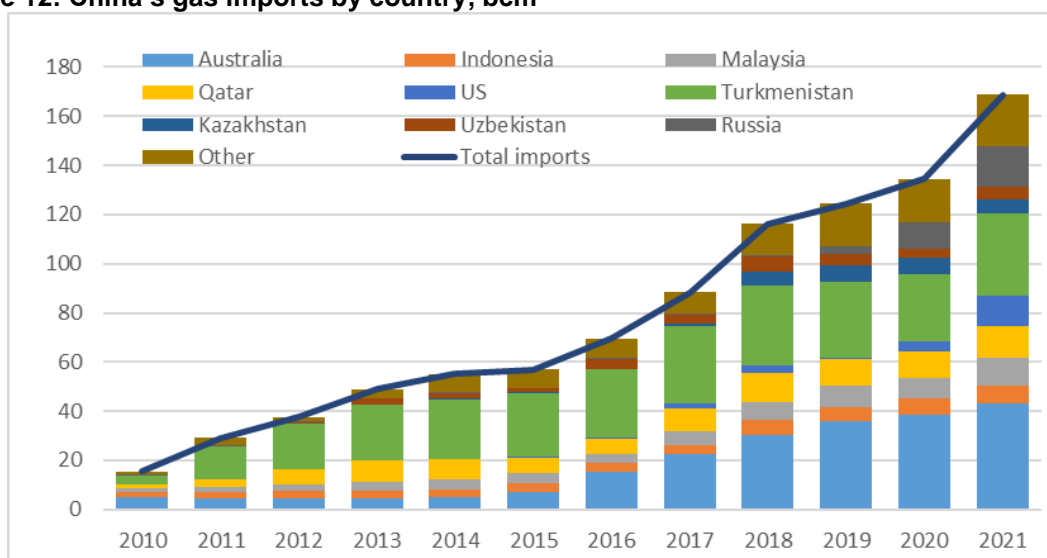
**Figure 11: China's gas supplies, bcm**



Source: China Customs, NBS, OIES

Gas supplies to China are concentrated from a small number of suppliers (Figure 12), predominantly in Asia (for LNG supplies) and Central Asia, from which most of China's pipeline flows are sourced.

**Figure 12: China's gas imports by country, bcm**



Note: Includes both pipeline and LNG imports; data for 2022 are missing as China Customs stopped reporting pipeline flows by country.

Source: China Customs

As Beijing looks to phase out coal use, the need for gas in China will increase. But the size and speed of fuel switching to gas is extremely uncertain, and will depend on a number of factors: first, the extent to which coal remains part of the energy mix with carbon capture, use, and storage (CCUS) technologies that would offset emissions<sup>32</sup>; second, the speed with which renewables are deployed, mainly in the power sector; and third, the availability and cost-competitiveness of gas.

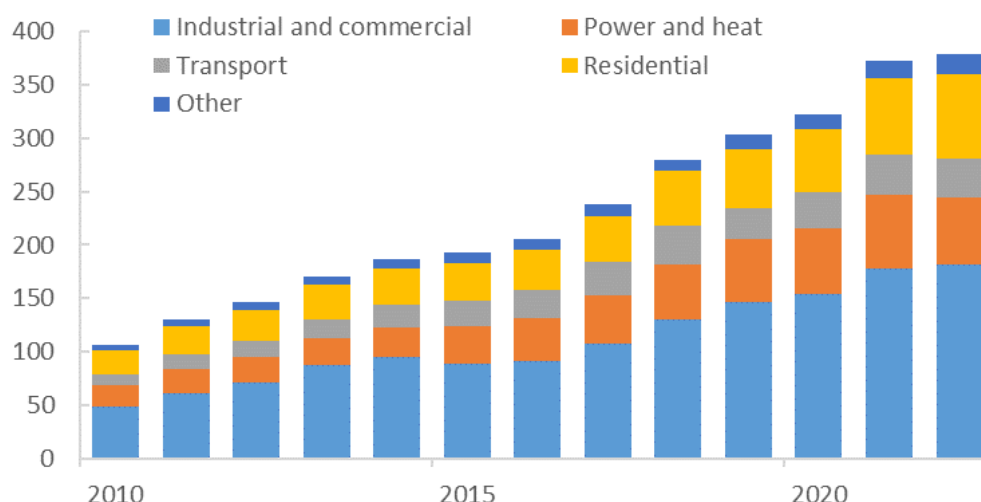
In its 13th Five-Year Plan (2016–2020), China's government promoted coal-to-gas switching in industrial and residential use as a means of phasing out dispersed coal. This led to a sharp increase in gas use. If fuel switching is encouraged, residential and industrial gas demand is expected to continue

<sup>32</sup> CCUS can be used in conjunction with natural gas too, allowing it to play a greater role in net zero pathways, but since coal-based solutions are likely to remain cheaper than natural gas, the deployment of CCUS is expected to be more significant for coal.



growing in the future as more coal is phased out (see Figure 13 for current use by sector). Gas is likely to play a larger role as a balancing fuel to help deal with the intermittency of renewables<sup>33</sup>, but the extent of the demand increase will depend on the use of coal to back up intermittent renewables, which the Chinese government is now favouring, as well as provincial policies to use gas for system flexibility. Going forward, natural gas could also be used in cement production, and as an input to hydrogen production (mostly with CCUS)<sup>34</sup>. The speed of the switch to gas also depends on supplies and cost: the government's 2023 Work Report, for instance, called to 'strictly control' coal-to-gas switching due to concerns about supply security, but it is unclear whether fuel switching will be encouraged again if/when gas prices fall or supplies are deemed more secure<sup>35</sup>.

**Figure 13: Gas consumption by sector, bcm**



Source: National Bureau of Statistics of China, OIES

Notwithstanding these uncertainties, in many different scenarios<sup>36</sup> China's gas demand rises over the next decade, from 366 Bcm in 2022 to between 550 and 620 Bcm in 2030 (Figure 14) and peaking in 2040, albeit at different levels. By 2050, however, the difference between various scenarios is roughly 300 Bcm. In all of these scenarios, the share of gas in China's energy mix is unlikely to exceed 15 per cent.

The IEA's latest *World Energy Outlook* is exceptionally conservative regarding China's future gas demand, estimating that it peaks at around 440 Bcm in 2030<sup>37</sup>. At the same time, since domestic production in China is expected to peak at around 300 Bcm in the mid-2030s, China will become increasingly dependent on imports between now and 2050.

Most of the increase in LNG imports is expected to come from the USA and Qatar. Meanwhile, Australian LNG outflows are also expected to decline post-2030. Russian LNG exports until 2030 are expected to be constrained by restrictions on Russia's access to Western technology and funding<sup>38</sup>. While limits on new LNG projects in Russia will also impact the volumes available to China, China still stands to benefit from Russia's growing isolation. Chinese companies could gain new contracts in the Russian energy sector and will continue importing available Russian LNG (Figure 15).

<sup>33</sup> See Yan Qin (2020).

<sup>34</sup> IEA (2022a).

<sup>35</sup> NDRC (2023, 66).

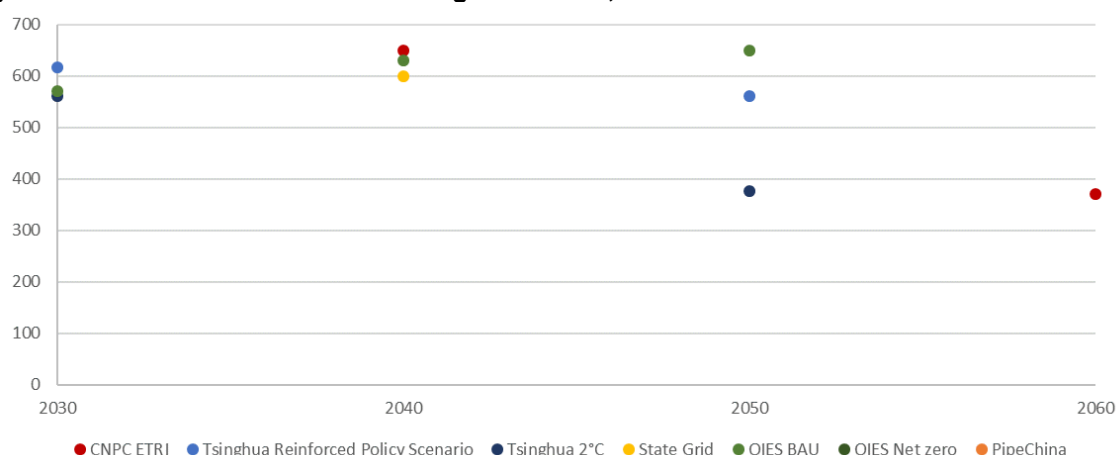
<sup>36</sup> Including CNPC and ETRI (2022); ICCSD Tsinghua (2022); IEA (2022a); Fulwood (2021).

<sup>37</sup> IEA (2022b, 372).

<sup>38</sup> BP (2023, 53).

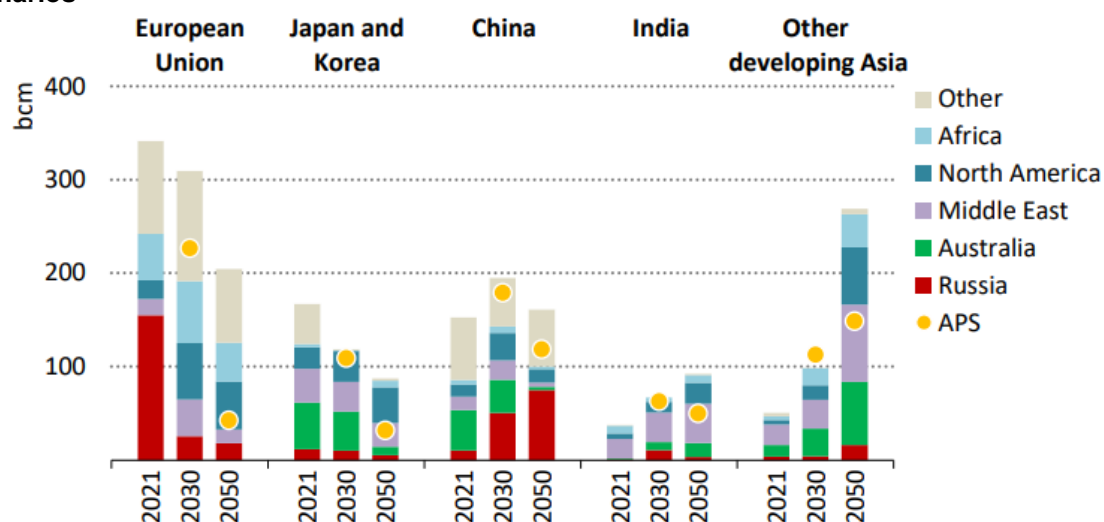


**Figure 14: Estimates of China's future gas demand, Bcm**



Source: CNPC ETRI (2022); ICCSD Tsinghua (2022); State Grid Energy Research Institute; OIES research

**Figure 15: Change in natural gas net trade in selected regions in the IEA STEPS and APS scenarios**



IEA. CC BY 4.0.

Source: IEA (2022b)

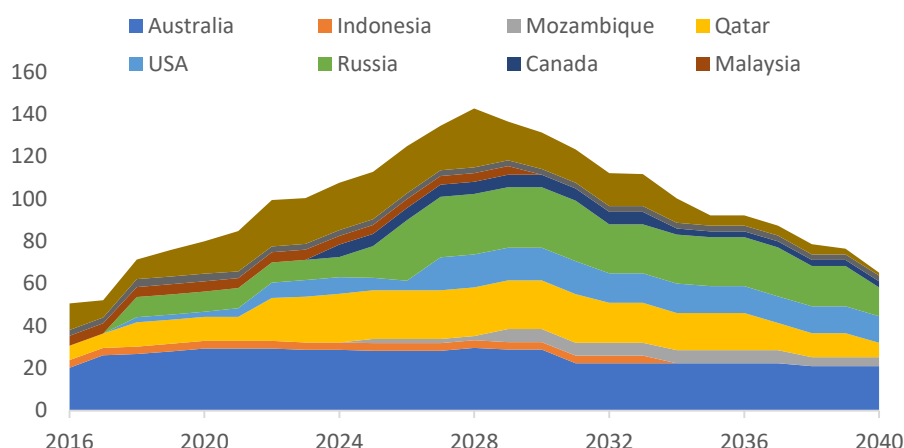
Despite China's desire to diversify import sources, based on the outlook for future global output and China's current contractual engagements, it will rely on a small number of gas exporters: its LNG supplies will come predominantly from Australia, Qatar, the USA, and Russia (Figure 16). China and Russia are also negotiating an additional pipeline deal (Power of Siberia 2) which, if concluded, will mean that pipeline flows will be dominated by Russia alongside Turkmenistan.

If the Power of Siberia 2 deal is agreed between China and Russia, pipeline imports alone from Russia will exceed 100 Bcm in the 2030s. Depending on the demand outlook—and the volume of LNG flowing from Russia to China—Russia would account for roughly one-third of China's total imports. At the same time, failure to reach a pipeline supply deal would likely mean higher dependence on LNG, which, given the exporting countries, may not be ideal for China from a geopolitical perspective.

That said, geopolitics is not the sole factor determining Chinese companies' supply deals. Even though they are clearly aware and mindful of government goals and strategies—and of the risk of sanctions—their contracts are informed by commercial considerations. For instance, over the course of 2021 and 2022, Chinese buyers signed over 20 mt of new LNG supply contracts with US sellers. Since many of these contracts are reportedly Henry Hub linked, they are commercially very attractive.



**Figure 16: China LNG import contracts by country, Bcm**



Source: Nexant WGM, OIES

The outlook for China's gas demand is therefore highly uncertain. While its use is set to grow, the speed and scope will depend on policies and prices. But all scenarios suggest that China will remain a large global importer. At the same time, gas will still account for a small share of China's primary energy use. Put simply, China's importance for the global gas market may eclipse the strategic significance of gas in the country's domestic energy use. Any gas outage will impact the Chinese economy, mainly industrial users, but the availability of coal could offset some of that impact and limit any crippling damage to China's economic activity. At the same time, China's domestic gas production is still set to account for roughly half of its supplies, with the balance made up (roughly) of pipeline flows and seaborne LNG. But despite efforts at diversification of land-based and seaborne flows, as well as efforts to increase gas stocks, much like with oil, China's views of its gas security (or insecurity) will be informed by perceptions as much as by market dynamics. This will also have implications for the geopolitics of oil and gas. In this next section, we discuss some of the drivers that have informed China's relations with its key energy suppliers, and the factors that will determine how they evolve in the future.

## 4. Geopolitical implications

While oil and gas outages may not cripple the Chinese economy, the prospect of sanctions still looms large for China's decision makers. And even though the share of oil and gas in China's energy mix remains smaller than in many OECD countries, most scenarios and forecasts estimate that for the next two decades, China will remain the largest oil and gas importing country. As discussed above, this entails real and perceived risks for China. At the same time, the changing supply outlook suggests that China will increasingly rely on a small number of exporters: the majority of China's oil is expected to come predominantly from Saudi Arabia, Russia, Iraq, and the USA, as well as Brazil and potentially Iran, while LNG will be imported mainly from the USA, Australia, Qatar, and Russia. The latter will also be a key exporter of pipeline gas to China, alongside Turkmenistan. The interdependence between buyers and sellers will therefore increase considerably. This section considers China's relations with the Middle East, Russia, and the USA.

### 4.1 In the Middle East, energy security is the core, but other interests are still significant

Energy cooperation has been at the heart of China's engagement with the Gulf countries, but over the years, Beijing has sought to balance its trade deficit with the major oil producers by exporting goods and investing in the region. Beyond the traditional arms and defence relations that Beijing has maintained since the 1980s, China has broadened its trade relations to additional sectors including clean-tech, healthcare, infrastructure, and technology<sup>39</sup>. Relations with Iran, for instance, which include

<sup>39</sup> Bin Huwaidin (2002); Loft, et al. (2022); Gering (2023).



upstream investments and oil trade<sup>40</sup>, have extended to banking, telecommunications, and healthcare. Similarly, Sino–Saudi relations have developed in large part because of China's large oil dependence, but these developed from arms sales in the 1980s and have deepened as Riyadh looked to secure its market share in China by diversifying its relations to include both state-owned and private refiners, and by investing in the Chinese downstream. At the same time, the Kingdom has sought to attract investments from China in the oil downstream and in new energy, even as security ties have remained limited<sup>41</sup>.

The scope and depth of engagement has varied by country, but in 2016 China articulated its '1+2+3' regional policy framework<sup>42</sup>, with '1' being the 'core' of energy trade as well as investments in the upstream (mainly in Iraq but also in Iran and the UAE) and in the downstream (in Saudi Arabia). To complement this, relations include 'two wings' of 'infrastructure construction and trade and investment facilitation'; and 'three breakthroughs' which include nuclear energy, space satellites, and new energy. By 2016, China became the largest source of foreign investment in the Middle East<sup>43</sup>.

At the same time, China has developed economic and commercial interests throughout the region, not just in the Persian Gulf. It has 'comprehensive strategic partnerships' with Algeria, Egypt, Iran, Saudi Arabia, and the UAE; and 'strategic partnerships' with Iraq, Jordan, Kuwait, Morocco, Oman, Qatar, and Turkey<sup>44</sup>. China has also developed significant trade and investment ties with Israel<sup>45</sup>.

In this vein, as ties with the key oil suppliers such as Saudi Arabia, Iraq, and Iran, as well as with Qatar for LNG, are set to deepen, Beijing will likely want to balance its rising trade deficit and expand the mutual dependency through additional trade ties and investments. It remains to be seen, though, if China seeks and is able to obtain participation in the Gulf's energy upstream beyond Sinopec's 5 per cent stake in Qatar's North Field East LNG train<sup>46</sup>.

## 4.2 Rethinking non-interference?

To date, China has been reluctant to become embroiled in the region's long-running conflicts, recognizing and benefitting from the fact that the USA remains the dominant military power in the region<sup>47</sup>. China has seemed wary of disrupting a delicate and volatile order. Beijing has worked with most regional capitals while seeking to keep them at arms' length, conscious of the fact that deeper ties could alienate key regional players and threaten commercial gains. At the same time, its inclusiveness has kept the doors to regional capitals open. Yet increasingly, even though Beijing seems unlikely to compete for military supremacy in the region, China seems to estimate that it can compete with the USA through rule- and norm-setting, in a competition for 'discourse power'<sup>48</sup>. As China looks to advance a new multipolar architecture, where it has greater power to set global agendas that reflect its interests and values, the Middle East could be a testing ground. Moreover, China's Belt and Road Initiative has presented a positive vision of the Middle East in the broader Eurasian context which stands in stark contrast to Western capitals that see the region as a problem<sup>49</sup>.

Gulf states have therefore welcomed China's increasing engagement in the region, both for the economic opportunities it offers and as a hedge against declining US engagement. Moreover, Gulf countries can leverage the competition between the USA and China to extract advantageous deals or security guarantees (to date mostly from the USA). Indeed, to date, the US security architecture has been dominant in the region, but China has increased military and defence engagements (mainly through joint training). Beijing established its first overseas base in Djibouti in 2017 but has kept its naval presence there limited. But as China's naval power and global economic interests continue to grow, there is likely a growing appreciation in Beijing of the value of basing forces in friendly, geo-strategically important states. With US forces gradually redirected to Asia, and as energy and other

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<sup>40</sup> Harold and Nader (2012).

<sup>41</sup> Reidel (2020).

<sup>42</sup> People's Republic of China (2016).

<sup>43</sup> Meierding (2022).

<sup>44</sup> Fulton (2019).

<sup>45</sup> Eilam (2022).

<sup>46</sup> El Dahan and Mills (2023).

<sup>47</sup> Gering (2023).

<sup>48</sup> Anon. (2019).

<sup>49</sup> Fulton (2019).



trade with the Middle East will remain significant, China's navy could focus on expanding overseas. Many governments in the Middle East have been deepening their ties with China's markets and buying defence equipment, especially as they have become concerned that US commitment to the region is wavering.<sup>50</sup> This could set an expectation in the region that China will be more than a 'free rider' on the US security umbrella in the region. To the extent that the USA is less engaged in the region, and as China's international clout grows, China will likely become more active politically and diplomatically in the region. Moreover, if it considers that its relations with the USA are on a downward spiral, there will be fewer incentives for China to yield to US pressure if the two countries' interests diverge<sup>51</sup>.

China's role in brokering a deal to end seven years of estrangement between Saudi Arabia and Iran in March 2023 is hugely significant in this context. This is the first time China has taken an active and leading role in Middle Eastern politics, capitalizing on the strength of its relations with both sides. But since the deal was already in the making since 2021 with Iraqi and Omani mediation (and tacit US backing), China may have had little to lose<sup>52</sup>. At the same time, it would have much to gain from its position as trusted go-between. And in the context of increasingly zero-sum competition between the USA and China, this win for China is seen as a loss for the USA<sup>53</sup>. China has also announced new energy deals with both Saudi Arabia and Iran shortly after the deal was announced.

But this does not necessarily mean that China will want to pursue its mediator role any further in thornier regional issues, especially if there is a risk that it would need to step in with security guarantees or risk its own interests. The extent to which China will be able to advance its values without getting involved in regional conflicts, or having to offer security guarantees, is an open question. Much will depend on the US position and its involvement in the region, and on producer countries' willingness to rely heavily on China for economic and military stability. Moreover, some countries in the region will likely be less successful than others in managing their energy transition, and with declining revenues from oil and gas resources could suffer from political instability. The extent to which China will use its influence to mediate conflicts, and how far regional powers will welcome that involvement, are open questions.

#### 4.3 China and Russia—is energy a means or an end?

Unlike with the Middle East, China's relations with Russia are not underpinned by energy. While the energy potential was clear since China's demand for oil began to skyrocket in the early 1990s, energy cooperation was constrained by mutual distrust as well as different commercial and strategic priorities. During the 1990s, when oil prices were low, Russia sought to expand its energy cooperation with China, but Beijing was reluctant to commit to expensive cross-border pipelines. As China's imports soared in the mid-1990s and concerns about dependency on seaborne flows rose in Beijing, Russia was loath to commit to deeper integration with China. China's economic rise was in stark contrast with Russia's economic turmoil, leading to concerns in Moscow about Beijing's growing influence, especially as China began looking to secure oil and gas pipelines from Central Asia, offering Central Asian states vital non-Russian export routes<sup>54</sup>.

The global financial crisis and the fall in oil prices facilitated a breakthrough, with China lending Russian energy companies US\$25 billion in exchange for the completion of an oil pipeline to China—the Eastern Siberia–Pacific Ocean (ESPO) pipeline—and a 20-year oil supply contract<sup>55</sup>. Oil from the pipeline started flowing in 2011, but as a sign of Russia's reluctance to rely solely on the Chinese market, the

<sup>50</sup> Herzinger and Lefkowitz (2023).

<sup>51</sup> It should be noted that while both countries would favour stability in the Middle East, they differ on how to achieve stability.

<sup>52</sup> It is interesting to note that China did ruffle some diplomatic feathers in the Middle East in late 2022: During Xi Jinping's trip to Saudi in December 2022, a joint statement issued during the first China–Gulf Cooperation Council (GCC) summit irked Tehran when it emphasized the need to address Iran's 'destabilising regional activities' and 'support for terrorist and sectarian groups and illegal armed organisations'. The statement further called for a peaceful resolution to the issue of the three islands in the Persian Gulf where Iran and the United Arab Emirates have territorial disputes—a sensitive topic in Iran which reportedly led to a stern conversation with China's ambassador to Iran and the expression of Tehran's strong dissatisfaction. Whether this was related to this deal is an open question, but it does suggest that Beijing had started taking positions on regional political issues.

<sup>53</sup> Although arguably a resolution is also in the USA's interest, see Atlantic Council (2023).

<sup>54</sup> Blank (2006); Burles (1999).

<sup>55</sup> Downs (2010).





pipeline was further extended to the Pacific Coast in 2013. ESPO was a boon for China and Asia as it provided an alternative to Middle Eastern flows.

At the same time, China and Russia were negotiating an economically challenging gas pipeline project. The Power of Siberia contract was signed in Shanghai in May 2014 following ten years of negotiation and was concluded partly due to Russia's isolation following the imposition of Western sanctions over its annexation of Crimea<sup>56</sup>. The Power of Siberia pipeline started up ahead of schedule in 2019, with flows ramping up gradually to reach the full 38 Bcma capacity in 2025. China and Russia also agreed in 2022 an additional 10 Bcma<sup>57</sup>. Discussions about an additional 50 Bcma gas pipeline (Power of Siberia 2) are ongoing, with Gazprom announcing feasibility projects even though Beijing is largely silent on this prospect.

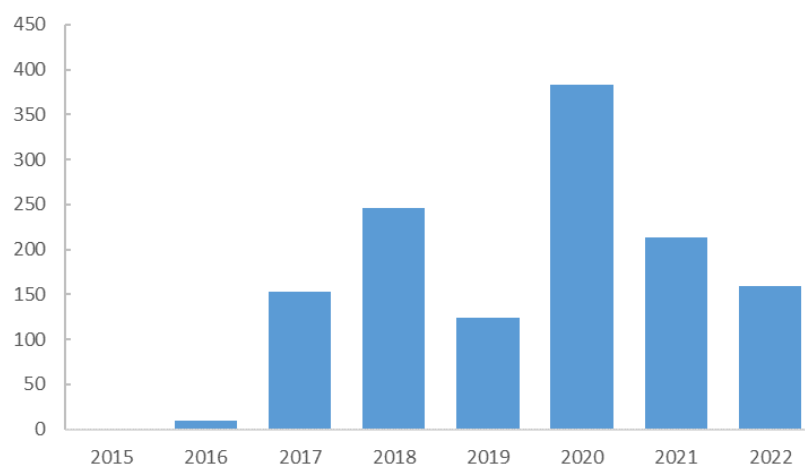
Just as political animosity limited Sino–Russian energy relations in the 1990s, China and Russia's shared antipathy toward the USA has allowed energy ties to grow, bolstering bilateral ties. The Russian invasion of Ukraine in 2022 further accelerated Russia's need to pivot East, giving China considerable leverage over its neighbour<sup>58</sup>, especially in the negotiation phase. But if China and Russia did sign the deal for Power of Siberia 2—which would only start flowing in the late 2020s or early 2030s—China would become highly dependent on Russia. As long as Russia remains isolated internationally, this dependence is unlikely to pose a security threat to China. On the contrary, it will give Beijing considerable leverage, especially if gas demand errs on the lower side of future forecasts and Chinese traders will be able to re-export gas and be in a strong bargaining position with other suppliers. But if Russia's relations with China worsen, its penchant for using energy as a weapon could become a vulnerability for China.

#### 4.4 China and the USA — the elephant in the room

China's oil and gas imports from the USA began timidly in 2015, rising in 2017–2018 and reaching record levels in 2020 (Figure 17 and Figure 18). Some flows of US crude to China emerged when the USA lifted its export ban on crude, allowing refiners in China to experiment with a new supply source. Similarly, US exports of LNG to China began in 2016, when Cheniere's Sabine Pass terminal came online, although sales to China were mostly spot rather than through long-term contracts. Much like with Russia, the USA's rise as a large energy exporter was a potential match for China's energy appetite, especially as it allowed Chinese buyers to diversify their oil and gas imports.

Then, as part of an escalating trade war with the USA, China imposed tariffs on US LNG in September 2018, which it further raised in June 2019, followed by tariffs on US crude in September 2019, leading US exports to China to plummet.

**Figure 17: China's crude imports from the US, thousand b/d**



Source: China Customs

<sup>56</sup> Chow (2021).

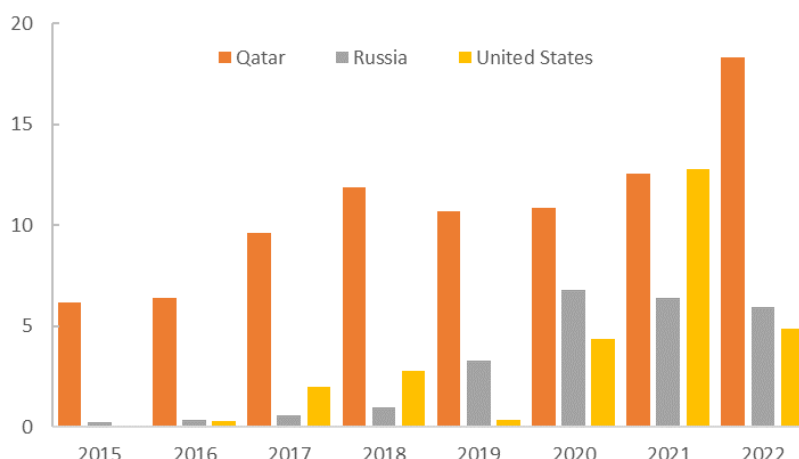
<sup>57</sup> Yermakov and Meidan (2022).

<sup>58</sup> Yermakov (2023).





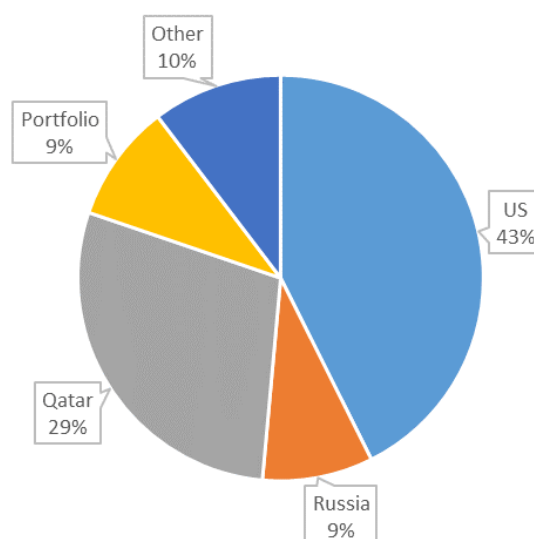
**Figure 18: China's LNG imports from the USA, Qatar, and Russia, Bcm**



Source: China Customs

Despite the escalation in tensions there were a number of initiatives to strengthen ties, and in February 2018 the first long-term contract was signed between CNPC and Cheniere Energy<sup>59</sup>. A more decisive turning point came in February 2020 when the Chinese government issued tariff waivers for a number of products, including LNG, as part of an agreement with the Trump administration to de-escalate the trade war. The phase one trade agreement that was subsequently signed called for China to buy \$52 billion worth of US energy above the 2017 baseline in 2020–2021. These targets have not been met<sup>60</sup>. But US LNG flows to China have increased since, and are set to rise given that Chinese companies have, between 2021 and 2022, signed an estimated 22 mtpa of LNG supply contracts with US companies (Figure 19). The appeal of US LNG contracts has been the attractive pricing arrangements from them, as many are linked to Henry Hub.

**Figure 19: Chinese LNG Sales and Purchase Agreements (SPAs) signed in 2021–2022 by country (per cent)**



Source: OIES

Going forward, the USA and China will be increasingly interdependent for oil and gas. While this creates opportunities, it also creates vulnerabilities for both sides: the USA could restrict oil and gas flows to China, thereby impacting the availability and cost of these resources, but that would hurt US commercial interests. More importantly, oil and gas trade is unlikely to alter the trajectory of US–China relations,

<sup>59</sup> Cheniere Energy (2018).

<sup>60</sup> Brown (2022).



although they can become a deliverable in efforts to improve ties. Both the USA and China will have to manage the growing oil and gas interdependence with efforts to de-risk broader supply chains, including supply chains for new materials needed for the energy transition.

Overall, oil and gas will account for a smaller share of China's energy mix while large reserves of oil and gas would mitigate against short-term outages<sup>61</sup>. But China will depend on a smaller number of suppliers, and with global consumption patterns also changing, this growing reliance will be mutual. Producers will compete to secure their market share in China just as China will remain preoccupied with its energy security. These linkages will also create new commercial opportunities and realities, especially as China looks to de-risk and sanction-proof its economy. Already, China has developed mechanisms (with the help of producer countries) to keep receiving sanctioned crudes, thereby facilitating sanction evasion and a fragmentation of global markets. Yet unless China becomes economically self-sufficient more broadly (for example in food and technology), it will still rely on global trade. China's efforts to protect against supply cut-offs have already led to the development of a growing naval presence (both civil and military) and alongside the country's growing global economic footprint, Beijing is looking to shape international institutions and trading norms in a bid to hedge against potential sanctions.

## 5. Beyond oil and gas trade

China's perceptions of its energy insecurity and sense of vulnerability extend beyond the market realities or the availability of energy supplies. Given rising tensions with the USA, Beijing is increasingly looking to sanction-proof its economy. Its energy policies and energy diplomacy will increasingly seek to deter the USA and Western governments from imposing sanctions on China; or, given the perceived inevitability of decoupling, will make sanctions difficult to impose. China's views on the geopolitics of energy will depend on several factors, including the following.

- **Progress toward China's energy independence:** Progress toward the energy transition and greater reliance on domestic fuels will increase Beijing's energy security and resilience. Put simply, if China's oil and gas imports account for a smaller share of the energy mix, and as long as China holds significant stocks, any sharp price increases or threats of curtailment will have a limited impact on economic activity. But market realities will still be only one part of China's policy-making process. Perceptions of its insecurity will also be significant.
- In this context, **the state of the USA, US–China relations, and China's relations with the West** will be critical for China's energy security policies. China's sense of vulnerability is set to remain significant as long as the USA remains the world's largest economic and military power and Beijing assesses that Washington is looking to contain it. China will seek to hedge and ensure its energy security (and broader economic security) in the event of a conflict with the USA. If current policies and attitudes continue, China will want to build coalitions aimed at weakening the USA's ability to 'contain and suppress' China. Beijing will continue to deepen its relations with energy suppliers (as well as suppliers of other raw materials) so that, in the event of deeper decoupling or a conflict, they will struggle to pick between the USA and China, or will opt to align with China.
- **China's role in the global financial system and the use of RMB in global trade:** The RMB seems set to become a more significant international currency<sup>62</sup>. Even though the RMB may not become the global currency of choice for commodity trading any time soon—and China's RMB-denominated crude oil benchmark is far from becoming a global benchmark<sup>63</sup>—Beijing is looking to increase its international importance, just as other countries (and companies) are looking to move away from the US dollar. Corporates and governments are also looking to use currencies other than the US dollar as a means of minimizing foreign exchange- as well as sanctions risk. The use of alternative payment and settlement mechanisms such as China's

<sup>61</sup> In the event of a protracted war between China and the USA, the negative impact on both the Chinese and US economies would likely far outweigh the oil and gas dimension, with far-reaching implications for both economies and, by extension, for the global economy.

<sup>62</sup> Prasad (2017).

<sup>63</sup> Meidan and Imsirovic (2020).



Cross-Border Interbank Payment System (CIPS) could gradually reduce China's exposure to the dollar-based global financial system and support the use of the RMB. Such moves, although they are very nascent, have already facilitated sanctions evasion<sup>64</sup>. That said, China's largest oil suppliers in the Middle East have been reluctant to trade in RMB<sup>65</sup> to date, but the push away from the US dollar could be just as powerful as the pull toward the RMB, especially if financial reforms in China give greater confidence about the RMB's convertibility and liquidity. More non-dollar-based trading would lead to the creation of financial products in other currencies and alter the current financial trading architecture, in turn also reducing the US/West's ability to impose financial sanctions on China and its trading partners.

## Conclusions

China's oil and gas insecurity is as much about geopolitical perceptions as it about the reality of the country's import dependence. Today, oil and gas account for 27 per cent of China's primary energy mix. Despite its large import dependence, mainly for oil, China currently holds large petroleum reserves that will help mitigate the economic impact of any short-term supply shortage. Going forward, as China electrifies end uses, its oil demand will peak and decline as early as the 2030s. Gas demand is set to rise for another decade before starting to peak, but the availability of domestically produced coal, and increasingly of renewables, offers China considerable flexibility and supply security. However, the perception of risk remains high. And even if China pursues an aggressive pathway to net zero, it is expected to remain the world's largest oil and gas importing country for another two decades. As relations with the USA seem set to continue deteriorating, China's sense of insecurity about its energy (and wider resource) dependency will likely remain high.

Beijing will therefore continue to deepen ties with its suppliers, focusing in particular on a number of exporters, notably the Middle East (Saudi Arabia, Qatar, Iraq, and Iran) and Russia, especially where they could complicate the USA's efforts to contain China. And as long as the USA remains the dominant naval power, China will likely continue to develop its naval presence and military capabilities. At the same time, Beijing will pursue its efforts to diversify supplies as much as possible, relying on both land-based pipelines and seaborne flows, while continuing to develop access through the Northern Sea Route.

But access to oil and gas are not the sole drivers of China's diplomatic or security strategies. China's diplomatic and strategic calculus will be informed by a broader desire to sanction-proof its economy and expand its global influence. China's dependence on other imported commodities (grains, critical materials, and others) all point to a large global footprint and continued concerns about physical as well as financial chokepoints. Beijing will also want a broad support base to counter the USA and promote its own views of global governance, suggesting that it will still need to balance economic, commercial, and strategic interests. Its concerns about US efforts to suppress its growth are not limited to oil and gas, and therefore its diplomatic relations will seek to create broader market as well as geopolitical opportunities. Unless Beijing manages to become self-sufficient for food and energy and establish an RMB-denominated financial system, or the USA's power weakens, Beijing will need to manage and hedge its external vulnerabilities.

At the same time, its energy suppliers will also have leverage over China as both buyers and sellers will be locked into closer interdependence. But producers will likely seek to mitigate against over-reliance on China by leveraging relations with other regional and global powers.

Maritime chokepoints will remain a source of vulnerability, as will the dollar-based financial system. Similarly, a multipolar world—in which various powers including the USA, the European Union, India, China, and perhaps others (Iran/Saudi Arabia) project economic, financial, and military power—could be a source of vulnerability or of security, depending on how China chooses to define and assert its growing power.

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<sup>64</sup> Zongyuan Zou Liu (2022).

<sup>65</sup> Blas (2023).



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