July 2019

US-China: The Great Decoupling

Introduction

Markets have been watching with bated breath the ups and downs in bilateral negotiations between the US and China as the two sides seek to resolve a tariff tit-for-tat that has escalated into a trade war. But many observers may have failed to notice that the negotiating process has also laid bare a deepening gulf between the two countries, on issues that go well beyond trade. Indeed, the trade dispute has highlighted a more fundamental change in each government's perception of the other, with US government officials now referring to China as an adversary, which seeks to undermine and displace US power and global leadership.[1] China's public statements have been limited to criticising US 'bullying', but within the system, many have concluded that the US is seeking to contain China's rise.[2] As a result, while both sides continue to seek a negotiated solution to resolve the trade war, talk of the US 'decoupling' from China is gaining prominence in the US, while Beijing is looking to hedge its reliance on the US. The working assumption is now that US-China relations are likely to become increasingly fraught,[3] well beyond the Trump era.

As the trade dispute has also escalated the technological rivalry between the two, governments, businesses and markets globally are grappling with what a US-China decoupling, or an 'economic Iron Curtain'[4] could look like. The implications for energy are therefore manifold, and this brief Energy Insight aims to unpack some of the short-term dynamics, including the impact on China's oil and gas demand growth, but also to consider the longer-term outcomes for China's energy policies, given the re-emergence of China's supply security concerns.

The drums of (a trade) war

The trade war, now formally one-year-old, began when US President Donald Trump imposed 25 per cent tariffs on $50 billion-worth of Chinese goods early in July 2018. China retaliated proportionately, followed by the US deciding in September 2018 to impose 10 per cent tariffs on a further $200 billion worth of Chinese imports, and threatening to raise the rate to 25 per cent effective 1 January 2019. A

[1] Paul D. Gewirtz, 'Can the US-China crisis be stabilized?', *Brookings institute Order from Chaos*, 26 June, https://www.brookings.edu/blog/order-from-chaos/2019/06/26/can-the-u-s-china-crisis-be-stabilized/

[2] Paul D. Gewirtz, 'Can the US-China crisis be stabilized?', *Brookings institute Order from Chaos*, 26 June, https://www.brookings.edu/blog/order-from-chaos/2019/06/26/can-the-u-s-china-crisis-be-stabilized/. These views are by no means new, but they have become more commonplace under the Trump administration.

[3] Remarks by Henry M. Paulson, Jr., on the United States and China at a Crossroads', 6 November 2018, http://www.paulsoninstitute.org/news/2018/11/06/statement-by-henry-m-paulson-jr-on-the-united-states-and-china-at-a-crossroads/

[4] Remarks by Henry M. Paulson, Jr., on the United States and China at a Crossroads', 6 November 2018, http://www.paulsoninstitute.org/news/2018/11/06/statement-by-henry-m-paulson-jr-on-the-united-states-and-china-at-a-crossroads/

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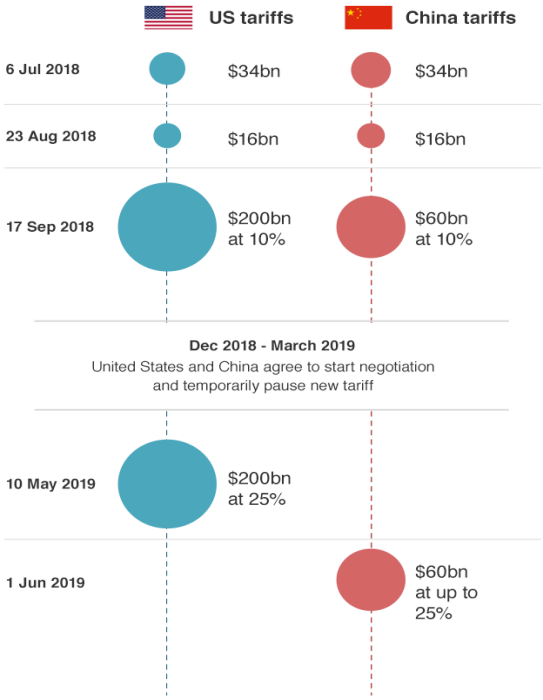
truce, agreed between Presidents Trump and Xi Jinping at the G-20 meeting in Buenos Aires in December 2018, averted the tariff increase by giving negotiators 90 days to reach a deal. That deadline was extended as talks progressed, but in May 2019, after a deal was reportedly extremely close, talks collapsed. The reasons for the breakdown remain unclear, [5] but the immediate result was another increase in duties, effective June 2019, with tariffs on the $200 billion-worth of Chinese goods that had previously been delayed, now rising from 10 to 25 per cent. China duly followed suit, raising tariffs on $60 billion-worth of US goods with Trump then threatening to tax a further $300 billion worth of Chinese items. Beijing subsequently vowed to retaliate, without specifying how it would do so. While China does not import enough from the US to be able to match tariffs dollar for dollar, it could resort to various other measures including currency devaluation, dumping US treasuries, restricting exports of rare earths, [6] complicating licensing procedures for US companies in China or even boycotting US goods, although all these measures carry significant downsides for the Chinese economy too.

Figure 1: A timeline of US-China tariffs



Source: Peterson Institute for International Economics, BBC

That final tariff increase on $300 billion-worth of Chinese goods, which would effectively lead to duties on all Chinese exports to the US, was averted by another meeting between Trump and Xi, at the Osaka G-20 meeting in late June 2019. This time around, however, there is no deadline for talks and the path forward remains unclear given that the issues that plagued talks in May are unlikely to have been addressed at Osaka. Indeed, the readout from the Osaka meeting is vague, with Washington agreeing not to slap new tariffs on Chinese exports 'for at least the time being,' while China will buy

[5] The most often cited causes include the fact that Beijing cut out of the text commitments to enshrine in laws some of its reform pledges—rather than in administrative edicts—arguing that this would violate its national sovereignty and disagreement about how and when to lift tariffs; see Alan Rappeport, Ana Swanson, '*Trump Renews Trade War as China Talks End Without a Deal'*, The New York Times, 10 May 2019; Jun Mai, 'China says US 'solely to blame' for collapse of trade talks, but door remains open for negotiation', *South China Morning Post*, 2 June 2019

[6] David J Lynch, China hints it will choke off U.S. 'rare earths' access. But it's not that easy, 10 June 2019, https://www.washingtonpost.com/business/economy/2019/06/07/80a06794-8649-11e9-a491-25df61c78dc4_story.html?utm_term=.68f3ce645aba

'tremendous amounts' of US agricultural products, albeit at an unspecified timeframe. And while Trump declared that US technology companies could again sell to China's Huawei,[7] seemingly reversing a ban imposed in May by the US commerce department, subsequent reports suggested US government officials were still told to view Huawei as blacklisted.[8]

So while negotiations are set to resume in the coming weeks, a protracted freeze seems the most likely short-term outcome, whereby existing tariffs remain but additional duties are not imposed. To be sure, both sides are keen to strike a broader deal and with enough political will (be it through electoral necessity in the US or a severe slowdown in the Chinese economy) a deal is possible, even though it is unlikely to resolve the lengthening lists of grievances. For now, however, both sides may still feel that time is on their side, with China seeking to avoid further escalation but potentially holding out with more substantial concessions for the post-Trump era,[9] and Trump still buoyed by the strength of the domestic economy.

A weaker global economy

With $250 billion in Chinese exports to the US and $110 billion of US goods to China now taxed, markets fret about the health of the global economy. The trade war has coincided with a waning global economic recovery and while financial institutions agree the US-China trade war will take a further toll on the global economy, estimates of the impact vary widely. Indeed, with every new category of tariffs, additional economic sectors are drawn into the conflict,[10] raising costs for those industries and requiring companies to rethink their global supply chains. This latest freeze will allow manufacturers and exporters to put in orders of goods for the Christmas shopping season, but beyond that time frame, investment decisions will remain on hold given the uncertainty around which industries will come next, how high tariffs could go (as they currently range between 5 per cent and 25 per cent)—and given President Donald Trump's general enthusiasm for tariffs, the lack of clarity on which countries could be taxed next.

Moreover, a year's worth of duties offers only limited insight into their actual impact given that any announced plans to increase tariffs have led to a front-loading of investments, manufacturing and trade activities, thereby distorting the net impact.[11] Earlier this year, however, IMF chief Christine Lagarde warned that the trade war would shave 0.5 per cent off global growth in 2020, equating to a loss of $455 billion, roughly the size of the South African economy while Ma Jun, an advisor to China's central bank, noted in June that the tariffs could cut China's growth by 0.3 percentage points this year.[12] The OECD estimated in May 2019 that tariffs would reduce economic output in the US and China by 0.2-0.3 percentage points (ppt) each by 2021 (compared to a no-tariff scenario) while the additional tariffs imposed in June 2019 will hit each country by another 0.2-0.3 ppts. In a worst-case, hypothetical scenario in which the US and China impose 25 per cent tariffs on all remaining bilateral trade, then global GDP would be about 0.7 per cent lower by 2021 than it otherwise would have. The impact on the US and China would be larger, by an estimated 0.9 per cent and 1.1 per cent lower, respectively.

[7] Remarks by President Trump in Press Conference, Osaka, Japan, 29 June 2019, https://www.whitehouse.gov/briefings-statements/remarks-president-trump-press-conference-osaka-japan/

[8] 'US government staff told to treat Huawei as blacklisted', Reuters, 3 July 2019, https://www.reuters.com/article/us-china-usa-huawei/us-government-staff-told-to-treat-huawei-as-blacklisted-idUSKCN1TY07N

[9] Catherine Wong, 'Forget about waiting out the Donald Trump era for a more cordial US president, former top American diplomat warns China, *South China Morning Post*, 9 July 2019, https://www.scmp.com/news/china/diplomacy/article/3017788/forget-about-waiting-out-donald-trump-era-more-cordial-us

[10] For a good overview of the tariffs and sectoral implications, see Chad P. Bown, Eva (Yiwen) Zhang, 'Will a US-China Trade Deal Remove or Just Restructure the Massive 2018 Tariffs?', PIIE Blog, 24 April 2019, Available at https://www.piie.com/blogs/trade-investment-policy-watch/will-us-china-trade-deal-remove-or-just-restructure-massive-2018

[11] See Eugenio Cerutti, Gita Gopinath, and Adil Mohommad, 'The Impact of US-China trade tensions', IMF blog, 23 May 2019, https://blogs.imf.org/2019/05/23/the-impact-of-us-china-trade-tensions/

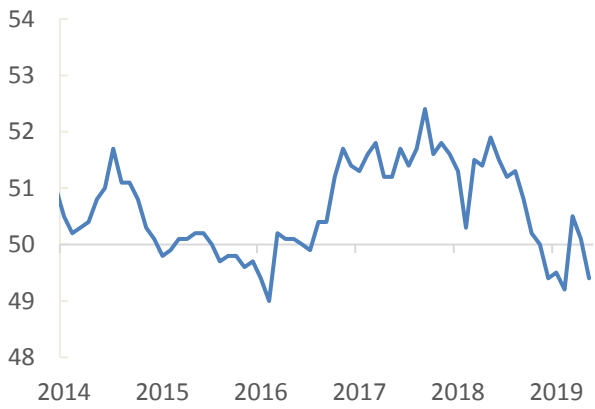
[12] 'China's central bank adviser says U.S. tariffs could cut GDP growth by 0.3 percentage points', *Reuters*, 10 May 2019, https://www.reuters.com/article/us-usa-trade-china-pboc/chinas-central-bank-adviser-says-u-s-tariffs-could-cut-gdp-growth-by-0-3-percentage-points-idUSKCN1SG014

Slowing China, limited stimulus

In China, decision makers are also contending with the economic consequences of the trade war. The Chinese economy slowed in May as the weakening external environment compounded the government's own efforts to de-risk the financial industry and curb overcapacity in heavy industry. Growth in industrial output hit a 17-year low, slowing to 5 per cent from 5.4 per cent in April, according to China's National Bureau of Statistics (NBS). Fixed-asset investment posted a 5.6 per cent growth rate for the five-month period, down from 6.1 per cent between January and April and the official purchasing managers' index (PMI) for the manufacturing sector showed a dismal reading of 49.4 in May, dragging it below the 50-point mark between expansion and contraction, and a 0.7-point dip from April. Accordingly, total power consumption grew by 4.9 per cent, half the level seen over the same period in 2018 (9.7 per cent[13]).

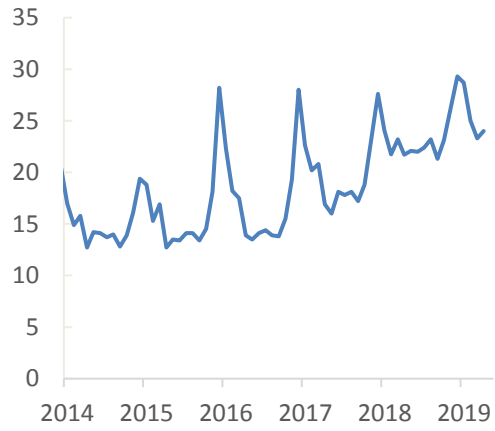
The deceleration has also been felt in oil and gas: according to the National Development and Reform Commission (NDRC), between January and May 2019, implied oil product demand grew by 1.4 per cent y/y,[14] a strong deceleration compared to 6.6 per cent y/y in 2018.[15] Similarly, implied gas demand (domestic production and net imports) rose to 127 bcm between January and May, a chunky 12 bcm y/y growth (10 per cent), but softer than the 15 bcm y/y increase seen in the first five months of 2018.

Figure 2: China official PMI



Source: NBS

Figure 3: China gas demand, bcm



Source: NDRC

Yet even though the Chinese government remains concerned about the decelerating economy, the policy response has been targeted. Beijing has opted for consumer tax breaks and other measures to support private companies and household incomes, while also easing credit restrictions on local governments, offering a small lifeline for new infrastructure investments. But the government has held off on broader monetary easing as it is aiming to cushion the slowdown rather than open the credit taps in an effort to generate a big cyclical upswing, suggesting that the economy will likely continue slowing this year, weighing also on energy demand growth.

Unipec—Sinopec's trading arm—for example, is expecting product demand growth of just over 0.30 mb/d[16] this year, half the growth level seen in 2018. And if gas demand growth continues at current

[13] China Electricity Council, 2019 January-May 2019 power sector statistics data list (Chinese), http://www.cec.org.cn/guihuayutongji/tongjixinxi/yuedushuju/2019-06-19/191905.html.
[14] NDRC, 2019, May 2019 oil product situation (Chinese), http://www.ndrc.gov.cn/fzgggz/jjyx/mtzhgl/201906/t20190628_940476.html
[15] http://yxj.ndrc.gov.cn/mtzhgl/201806/t20180629_891327.html
[16] 'Sinopec to substitute Iran crude with Saudi grades: exec', Platts, 13 June 2019, https://www.spglobal.com/platts/en/market-insights/latest-news/oil/061319-sinopec-to-substitute-iran-crude-with-saudi-grades-exec

levels, it would slow to 10 per cent this year, or 30 bcm,[17] falling from the 40 bcm increment seen in 2018. So the trade war will likely continue to weigh on short term demand growth, and has already led to a rerouting of energy trade flows.

Taxing commodities

As part of the tit-for-tat on tariffs, China imposed a 25 per cent tariff on US exports of oil products (diesel, gasoline, fuel oil, petcoke, asphalt), naphtha, LPG and ethylene in July 2018, as well as a 10 per cent tariff on LNG in late 2018, raising it to 25 per cent in June 2019. US crude oil is still exempt from duties.

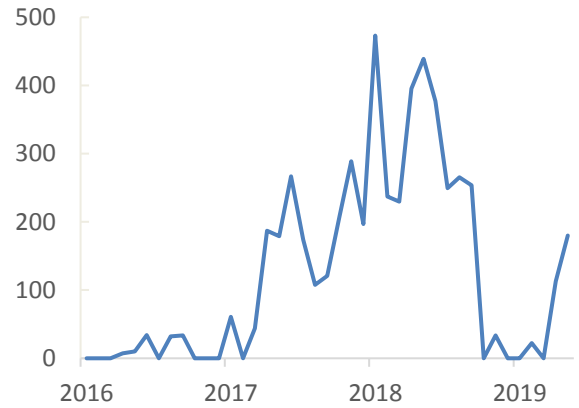
Tariffs on most oil products have had little impact on trade flows as China imports little to no oil products from the US. LPG flows from the US, however, have dried up significantly, with no arrivals recorded in 2019. After duties were imposed in 2018, China imported 50 thousand b/d of US LPG, half its 2017 volume (out of total LPG imports of 0.56 mb/d in 2018) and is now turning increasingly to Middle Eastern suppliers—even Iran reportedly[18]—to fill the gap. Chinese buyers have also been sourcing LPG further afield, from Argentina, Australia[19] and even rare cargoes from Canada[20] while Indian buyers, who have relied traditionally on Middle Eastern LPG, are turning to the US as China's demand for Middle Eastern cargoes is pushing up their prices.

Meanwhile, crude imports from the US have also fallen, amid concerns that oil would also get caught up in the trade war. In 2018, when talks between the US and China began, Chinese traders viewed US crude as an opportunity to help balance the trade deficit and a promising supply source, prompting them to source 0.25 mb/d of US crude that year, up from 0.15 mb/d in 2017 and a meagre 10 thousand b/d in 2016, according to Chinese customs. In January 2018, arrivals reached an all-time high of 0.44 mb/d, but as trade talks faltered and buyers feared that a tax would be imposed on US-origin crude, imports fell, averaging 44 thousand b/d in the year-to-May. While crude flows from the US to China have not stopped completely, Chinese buyers remain conscious of the changing political wind and, barring a trade deal, will only continue to source US oil as long as the US crudes are competitively priced compared to Chinese refiners' traditional feedstock of Brent- and Dubai-linked crudes.

Moreover, Chinese refiners are configured for a diet of predominantly medium-sour crudes and will therefore need to adjust to the lighter US grades. Indeed, at their peak in early 2018, arrivals from the US included medium grades (such as Mars and SGC) rather than light shale oil so refiners will be reluctant to invest in adjustments to their units without clarity on trade relations, and therefore the availability of US crude. That said, if and when the two sides reach a trade deal, US crude exports to China will undoubtedly rise, albeit gradually for both geopolitical concerns (see below) and the technical challenges of integrating them into refiners' crude slates, suggesting that while reaching 0.50 mb/d of US exports to China is possible, doubling those volumes could take several years.

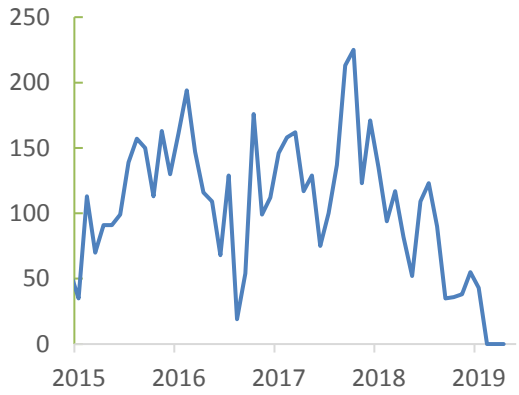
[17] Authors' estimates
[18] Saket Sundria, Dan Murtaugh, 'China Is Buying Iranian LPG Despite Sanctions, Ship-Tracking Shows', *Bloomberg*, 18 June 2019, https://www.bloomberg.com/news/articles/2019-06-18/china-buying-iranian-lpg-despite-sanctions-ship-tracking-shows
[19] Sarah Raslan, Wanda Wang, 'Analysis: US LPG cargoes sail to India amid altered trade flow', Platts, 5 April 2019, https://www.spglobal.com/platts/en/market-insights/latest-news/oil/040519-analysis-us-lpg-cargoes-sail-to-india-amid-altered-trade-flow
[20] Wanda Wang, Ramthan Hussain, 'China Gas taking delivery of Canada-origin LPG from US West Coast', Platts, 22 January 2019, https://www.spglobal.com/platts/en/market-insights/latest-news/oil/012219-china-gas-taking-delivery-of-canada-origin-lpg-from-us-west-coast

Figure 4: Chinese crude imports from the US, kb/d



Source: China Customs

Figure 5: US LPG exports to China, kb/d



Source: EIA

The lighter end of the shale boom

In other energy products, the trade war injects uncertainty into the medium-term outlook. Chinese purchases of US-origin naphtha and ethylene have been limited to date, but the potential for US export growth and Chinese demand growth have informed many investment decisions both in the US and globally. Yet until the trade war is resolved, the Chinese market will effectively be shut for US exporters. Taking naphtha for example: according to China customs data, the US supplied 7,529 b/d of naphtha to China in 2017, accounting for just 4.5 per cent of China's total naphtha imports. But as US refiners reconfigure their plants to be able to process domestic light sweet crudes, their naphtha yield is rising, leading to a higher surplus and a rising export potential. According to the EIA, US naphtha exports reached 0.2 mb/d in 2017, compared to 0.1 mb/d in 2013.[21] Meanwhile, China's oil demand growth is widely expected to be driven by both transport fuels and petrochemical feedstock, suggesting a strong increase in naphtha demand. Similarly, US ethylene accounted for roughly 3 per cent of China's 2.1 mt of imports in 2017, but given that China's ethylene demand is set to double through 2030, US suppliers—if and when the trade dispute is resolved—could find a ready home in China.

Finally, perhaps the biggest concern in the oil and gas space is LNG, given the strong export potential from the US and China's strong import demand. To be sure, out of the 70 bcm of LNG China imported in 2018, only 3 bcm came from the US. But as China's gas demand continues to rise, the call on LNG could as much as double by 2025, reaching 150 bcm,[22] just as US export capacity will more than triple from 30 bcm at the end of 2018 to 130 bcm by 2025.[23] LNG is therefore still widely seen as an integral part of any long-term trade deal between the US and China, but concerns about the US's willingness to use energy as a geopolitical tool are also rising in China,[24] increasing buyers' efforts to look for hedging mechanisms and leading to a broader rethink of energy security.[25]

Conscious decoupling in the technology space

Indeed, the trade war has also highlighted a paradigm shift in US-China relations. The US Department of Defense's latest Indo-Pacific Strategy paper, for example, highlights the 'geopolitical

[21] https://www.eia.gov/dnav/pet/hist/LeafHandler.ashx?n=PET&s=M_EPOUN_EEX_NUS-Z00_MBBLD&f=A
[22] According to OIES and Nexant WGM, assuming demand in 2025 reaches close to 500 bcm
[23] According to OIES and Nexant WGM forecasts.
[24] Fu Suixin, 'Analysis and evaluation of the Trump administration's energy policy', *China Institute for International Studies*, January 2018 (Chinese), http://www.ciis.org.cn/chinese/2018-01/19/content_40194364.htm
[25] 'Fu Chengyu: China must prepare for short term oil supply disruptions, achieve basic energy self-sufficiency in the next 15 years, ifeng.com. 29 May 2019 (Chinese), https://finance.ifeng.com/c/7n4oeqsSTtw

rivalry between free and repressive world order visions,'[26] and a senior State Department official reportedly stated the US was preparing for a 'clash of civilizations'[27] with China. This has vindicated those in China that have argued that the US is aiming to contain China's rise, and while the 'decoupling' narrative is not endorsed by Chinese officials, advisers and strategist[28] are contemplating what a commercial Cold War could look like.

Thus far, closer US-China relations have led to an integration of goods, capital, technology, and people, with a view that this economic integration would mitigate security competition. But the trade war, and the recent US ban on Chinese telecom giant Huawei are threatening to break supply chains, especially those that use sensitive technology. Indeed, even if the Huawei ban is lifted, the US' ability to cut off tech companies from their supply chains has been made abundantly clear. And given this precedent, governments and businesses will have to think hard about the risk of working with a company that could be sanctioned by the US government, heralding a potential de-globalisation of technology.[29] Similarly, the takeaway in China has been that it must indigenise as much technology as possible. So, even if the 'Iron curtain' on technology[30] will not materialise, it is no longer a mere fantasy and companies investing in energy technologies in China must contemplate a world in which they could find themselves caught between two competing technological ecosystems.

No quick fixes for supply security

As China's decision makers contemplate various disengagement scenarios, energy supply security is once again rising on the policy agenda. Already in August 2018, Xi Jinping highlighted the issue of supply security, calling on the state owned majors to ramp up domestic production of both oil and gas.[31] The call to arms led the state owned majors to pledge higher upstream Capex for 2019 and as a result, in the first five months of the 2019, domestic oil output reached 3.8 mb/d, rising y/y by a small 30 thousand b/d (0.8 per cent) but reversing a steep decline seen in the first five months of 2018, when output fell by 0.1 mb/d y/y (-3 per cent).

Still, the recovery in domestic oil production, even if output reaches the government's target of 4 mb/d by 2020, is by no means enough to mitigate the rising import requirement, which was close to 10 mb/d in the year-to-May. And Beijing's efforts to diversify supplies are also stymied by US sanctions on Iran and Venezuela, from which China imported a combined 0.90 mb/d in 2018. Even as arrivals from the North Sea, Brazil, West Africa and Russia have increased this year, the biggest uptick has come from the Middle East, mainly from Saudi Arabia and the UAE, threatening to increase China's reliance on the region from which it has long sought to limit its dependence.[32] To be sure, the share of Middle Eastern supplies in China's total imports have remained below 45 per cent since 2017 but with the new mega refineries (the 0.40 mb/d Hengli and 0.40 mb/d Zhejiang petrochemical) starting this

[26] US Department of Defense, 'Indo-Pacific Strategy Report Preparedness, Partnerships, and Promoting a Networked Region', 1 June 2019, https://media.defense.gov/2019/Jul/01/2002152311/-1/-1/1/DEPARTMENT-OF-DEFENSE-INDO-PACIFIC-STRATEGY-REPORT-2019.PDF, p. 4

[27] Steven Ward, 'Because China isn't 'Caucasian,' the U.S. is planning for a 'clash of civilizations.' That could be dangerous', *Washington Post*, 4 May 2019, https://www.washingtonpost.com/politics/2019/05/04/because-china-isnt-caucasian-us-is-planning-clash-civilizations-that-could-be-dangerous/?utm_term=.d5b0d24cb3f7

[28] Orange Wang, 'Chinese economists warn Beijing to prepare for decoupling from US, *South China Morning Post,* 7 July 2019, https://www.scmp.com/news/china/article/3017550/chinese-economists-warn-beijing-prepare-decoupling-us

[29] Charles Rosset, 'Huawei Ban Means the End of Global Tech', *Foreign Policy,* 17 May 2019, https://foreignpolicy.com/2019/05/17/huawei-ban-means-the-end-of-global-tech/

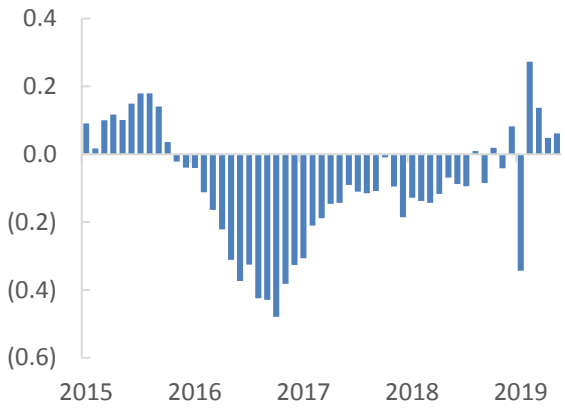
[30] Remarks by Henry M. Paulson, Jr., on the United States and China at a Crossroads', 6 November 2018, http://www.paulsoninstitute.org/news/2018/11/06/statement-by-henry-m-paulson-jr-on-the-united-states-and-china-at-a-crossroads/

[31] Chen Aizhu, Meng Meng, 'Drill, China, drill: State majors step on the gas after Xi calls for energy security', *Reuters*, 1 February 2019, https://www.reuters.com/article/us-china-oil-exploration-analysis/drill-china-drill-state-majors-step-on-the-gas-after-xi-calls-for-energy-security-idUSKCN1PQ3PO

[32] See Zha Daojiong, Michal Meidan, 'China and the Middle East in a New Energy Landscape', Chatham House research paper, October 2015, https://www.chathamhouse.org/sites/default/files/publications/research/20151021ChinaMiddleEastEnergyDaojiongMeidan.pdf

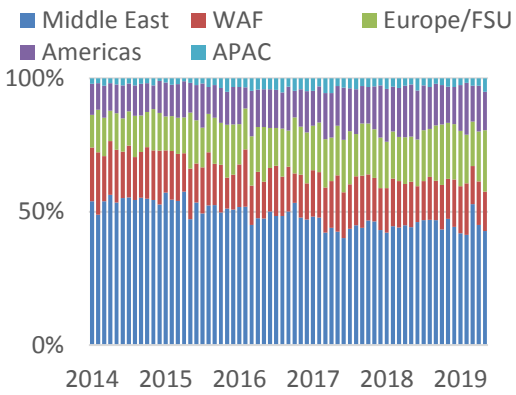
year and designed to process Saudi crude as baseload, China's dependence on the Middle East, and therefore on the strategically vulnerable Straits of Malacca,[33] could rise further. Indeed, Chinese naval strategists fear that the US could choke off vital oil supplies, leaving the country's economy extremely vulnerable and while China has increased its imports by pipelines, these alone cannot offset waterborne supplies.

Figure 6: China oil production, y/y change, mb/d



Source: NBS

Figure 7: Crude imports by region, %



Source: China customs

China has also developed a large Strategic Petroleum Reserve (SPR) programme which is estimated to hold slightly over 300 mb of crude. The first phase of the SPR programme contains four sites, namely Zhenhai and Zhoushan in Zhejiang province, Dalian in Liaoning province, and Huangdao in Shandong province, with a total capacity of 103 mb. Their construction was completed in 2008 and likely filled by 2009. Construction of the nine tanks in phase two, comprising of 210 mb of capacity, started in 2010 with much of the filling in 2015-2016 when global oil prices plummeted, and continuing to this day. According to official government statements, by mid-2017, China had stored 37.32 mt (or 275 mb) in nine SPR tanks,[34] including the four from the first phase and an additional five. Roughly 100 mb of new SPR caverns (including Jinzhou, Huizhou, and Zhanjiang) have started operations since this last announcement, but they have not all reportedly filled, suggesting that the SPR currently holds an estimated 320-340 mb. That said, the country also has as much as 500-600 mb[35] of crude stored in commercial storage tanks (some of which are leased to the government for the SPR) at the refinery gate, tank farms and at various ports, but it remains unclear how much of this crude is available for an SPR release. Indeed, as refiners are required to hold 15 days of forward cover, as much as 240-300 mb is operational stocks, suggesting that calls for an accelerated SPR fill[36] are likely to grow louder in the coming months. As a result, even as China's oil product demand growth slows, crude buying will remain strong.

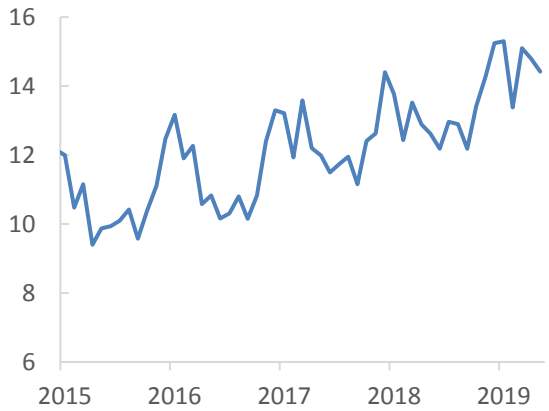
In gas too, domestic production has picked up following Xi's call for self-reliance: in the year-to-May, domestic gas production reached 72 bcm, higher y/y by 7 bcm, compared to a 3 bcm increment over the same period in 2018. In addition, the government is increasing its support for domestic production, revising its unconventional gas subsidy scheme and making tight gas (in addition to shale gas and CBM) eligible for subsidies for the first time. The new scheme creates a subsidy pool to be shared by

[33] China has long been concerned about its dependence on waterborne flows of oil and gas through the Straits of Malacca with President Hu Jintao in 2003 identifying the need to mitigate what he termed China's 'Malacca Dilemma.' See Ian Storey, China's "Malacca Dilemma", *China Brief Volume: 6 Issue: 8,* April 2006.
[34] Construction of China's SPR has achieved significant progress, China National Bureau of Statistics (Chinese), 29 December 2018, http://www.stats.gov.cn/tjsj/zxfb/201712/t20171229_1568313.html
[35] Author's estimates based on company reports and Argus.
[36] Lin Boqiang: High energy dependency does not equal energy insecurity, *Global Times,* 6 June 2019 (Chinese) http://opinion.huanqiu.com/hqpl/2019-06/14969090.html?agt=15422

all unconventional gas producers based on their subsidy-eligible volumes, rewarding producers that boost output and penalising underperformers.[37] And while Chinese producers are unlikely to meet the 13th Five Year Plan target of producing 30 bcm of shale in 2020—having produced under 10 bcm in 2018—the policy direction is clearly in support of spurring domestic supplies.

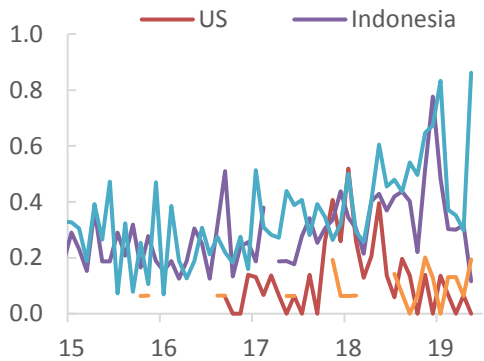
Alongside domestic supplies, China is turning to pipelines in a bid to limit the increase in its seaborne dependence with the 38 bcm Power of Siberia (PoS) from Russia set to start up at the end of the year.[38] Flows on the PoS will likely be limited to 3-5 bcm in 2020 and will only gradually increase to the full 38 bcm. At the same time, China will struggle to import more gas from Central Asia, after importing 48 bcm in 2018, as the pipeline network is close to hitting its 55 bcm nameplate capacity. An additional 30 bcm trunk line is reportedly under construction,[39] but there are no firm start up times. In the near term then, China has no choice but to rely more heavily on imported LNG.

Fig 8: China gas production, bcm



Source: NBS

Fig 9: Chinese LNG imports, Selected Countries Mt



Source: China customs

Demand side measures: is old King coal back?

China has various supply side options, that it will likely pursue, but just as its ambitious environmental policies led to a surge in gas demand growth, it can also tweak its policy priorities in order to moderate demand growth. For one, Beijing can slow the coal to gas switch programme given that the latest iteration of its clean air plan spans 2018 to 2021, so even if coal conversions slow in 2019, local governments could make up their targets in 2020. Already in the winter of 2018-2019 the government reportedly instructed local officials to proceed with coal conversions only after they had secured sufficient gas supplies, seeking to avoid a repeat of the previous winter when a surge in demand and insufficient supplies led to shortages and price spikes. In early July, the National Energy Administration (NEA) circulated a draft document discussing the challenges associated with the coal to gas switch,[40] suggesting greater emphasis on clean coal-fired heating and biomass. While this does not mean the government is back tracking on its coal switching targets, it highlights the challenges associated with the rapid uptick in gas use, especially in rural areas. Still, the combination

[37] Ministry of Finance notice: Interim Measures for the Administration of Special Funds for Renewable Energy Development, 20 June 2019 (Chinese), http://www.gov.cn/xinwen/2019-06/20/content_5401801.htm

[38] See Stephen O'Sullivan, 'China: Growing import volumes of LNG highlight China's energy import dependency', OIES, 11 June 2019, https://www.oxfordenergy.org/publications/china-growing-import-volumes-of-lng-highlight-chinas-energy-import-dependency/?v=79cba1185463

[39] 'CNPC Chairman: Russia will become the largest source of incremental gas supplies to China', *Observer,* 6 June 2019, (Chinese), http://www.guancha.cn/internation/2019_06_06_504678.shtml

[40] The NEA General department consultation paper on: notice regarding solving the problems arising during the promotion of clean heating such as 'coal to gas' and 'coal to electricity', 3 July 2019 (Chinese), http://www.nea.gov.cn/2019-07/03/c_138195454.htm

of slower economic growth and a scaling down of the ambitious coal-to-gas switch could slow China's gas demand growth and the call on LNG could be lower than our projected 150 bcm in 2025. Over time, the government could also moderate its gas demand target as a share of the energy mix (currently set at 15 per cent in 2030) in favour of renewables, and even of clean coal, in the power sector.

For oil, given that demand growth will likely be dominated by transport demand (alongside petrochemicals), the government could introduce more aggressive EV targets that will cap gasoline demand growth earlier and promote alternative fuels for heavy duty trucks, thereby displacing diesel demand at a faster pace. The government currently aims for EVs to account for 25 per cent of vehicle sales by 2025 and for 70 per cent of sales by 2030, compared to 3 per cent of total sales currently, but small changes to these targets (assuming effective implementation) could lead gasoline demand to peak sooner than currently expected. For heavy duty trucks, China could opt for LNG—although barring a shale revolution, which seems unlikely currently, greater reliance on LNG in transport could also be perceived as a vulnerability—or for hydrogen fuel cell vehicles. Hydrogen fuel cell vehicles are currently not commercially viable, but as China seeks to develop technologies to promote energy independence, it could focus on decarbonising transport and offer policy and financial support. Finally, in chemicals, China could promote coal-to-olefins more aggressively, as a means of reducing its dependence on naphtha-based ethylene. To be sure, none of these solutions offer immediate relief, nor are they cheap or easy, but to the extent that they rely on indigenous resources and technology, Beijing will explore the options as it contemplates a decoupled world.

Deepening Mistrust

As US-China trade negotiations continue in the coming weeks, markets will lurch again from optimism at the hint of a deal, to despair about the fragile state of the global economy when talks seem to be hitting a dead end. But beyond the headlines and negotiating deadlines, energy trade is changing to accommodate the potential geopolitical incompatibility between the US's energy supply potential and China's strong demand growth, while also grappling with the impact of a slowing global economy on energy demand. Indeed, even if a deal is reached, the tumultuous negotiating process has laid bare the deepening mistrust between the US and China and raised the prospect of a commercial 'Iron Curtain'. Beijing will therefore increasingly look to hedge against energy supply insecurity and limit its technological dependence on the US. Its policy choices will continue to shape energy markets and trade flows, and will remain the subject of ongoing research in the China Energy Programme.