

Thailand Energy & Utilities

Will 'planting a pig' on Russia work this time?

- Russia's president finally endorsed the independence of the two breakaway regions in Ukraine – Donetsk and Luhansk, and initiated an invasion of Ukraine.
- We think that the sanctions applied by the US and its allies could have a deep impact on the global energy market and drive up the prices of oil, gas, and coal
- Top picks: PTTEP, BANPU, IVL for 1H22; BGRIM and GPSC for 2H22

Putin's endorsement leads to the birth of Ukraine's pro-Russian 'twins'

On 22 February 2022, Russian President Vladimir Putin endorsed the independence of the two breakaway regions in Ukraine – Donetsk and Luhansk, two pro-Russia states on the eastern border between Ukraine and Russia. This is in line with our expectation, and the strategy that Russia deployed resembles the one used in the annexation of Crimea in 2014. Russia is likely to integrate the two eastern Ukrainian states of Donetsk and Luhansk, both of which have mostly pro-Russian populations, similar to Crimea. The strategic importance of Crimea as a naval base, and the Donetsk and Luhansk "twins" as two culturally similar neighbours that share a border with Russia, are seen as being highly critical for Russia's national security, given the actions of the US and its allies under NATO.

Energy price responses and the implications of the stalled NS2 pipeline

Immediately after Russia's endorsement, the Brent oil price temporarily hit USD100/bbl before dropping to USD97/bbl, the Newcastle coal price jumped by 12% within two days to hit USD224/t, and the ICE UK natural gas futures price rose 10% overnight to hit £191/10,000 mmbtu as the market continued to digest the potential impact of a Russia-Ukraine conflict. Germany finally decided to halt the certification of the NS2 pipeline in response to Mr. Putin's latest act of aggression against Ukraine, marking a significant setback for Russia's aspirations to exert more leverage over European energy markets, which could lead to financial damage for Russia, in our view.

Limited impact of sanctions on Russia, but bad news for Europe

We think that if further sanctions are applied, they would have a deeper impact on the global energy market, particularly for the LNG spot price, given the currently tight supply and the already high price of the one-year forward base load power price at €142/MWh, far above its average price of €40-50/MWh. Under potential sanctions against Russia to block the gas flow via NS2, we think the resultant spike in the gas price would lead to a sharp rise in the base load power price in Europe. Sanctions against Russia, led by the US, the EU, the UK, and Germany, include full-blocking sanctions on state-owned VEB and Promsvyazbank and its 42 subsidiaries. This freezes Russia's sovereign debt and any US assets belonging to Russian oligarchs associated with Putin and slaps new investment and import-export bans on the two breakaway regions for American businesses.

Top picks: PTTEP, BANPU, IVL for 1H22; BGRIM and GPSC for 2H22

Among Thai energy and utilities companies, PTTEP, BANPU, and IVL are our top picks for the expected oil, gas, and coal price uptrends in 1H22. We recommend BUY for BGRIM and GPSC based on their strong earnings outlooks thanks to the oil & gas price downtrend that we expect in 2H22.



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Implications of the Russia-Ukraine conflict on the energy sector

On 22 February 2022, Russian President Vladimir Putin finally endorsed the independence of the two breakaway regions in Ukraine – Donetsk and Luhansk, two pro-Russia states on the eastern border between Ukraine and Russia. This is in line with our expectation, and the strategy that Russia deployed resembles the one used in the annexation of Crimea in 2014.

Exhibit 1: Possible routes for Russia to invade Ukraine, according to US Intelligence



Source: [News Sky](#)

Exhibit 2: Russia's invasion of Ukraine on 24 February 2022



Source: [New York Times](#)

Invasion underway. On 24 February 2022, after its endorsement of the independence of the two separatist states of Donetsk and Luhansk from Ukraine, Russia invaded Ukraine after President Vladimir Putin authorised a military operation in the Eastern European country.

The invasion follows months of Moscow amassing troops near Ukraine as Russia's requests to the US and its allies to guarantee that NATO would not accept Ukraine and other former Soviet nations as NATO members, halt weapon deployments there and roll back its forces from Eastern Europe, were rejected by the US and NATO.

What are the main reasons that led to Russia's invasion of Ukraine?

We believe there are three reasons that led Russia to eventually invade Ukraine's eastern states.

First, the Nord Stream 2 (NS2) gas pipeline with a capacity of 55,000m cubic metres, completed since 3Q21, has been in limbo pending approval from Germany, the end point of NS2, as a result of US effort to thwart Russia from sending more gas supplies to Germany.

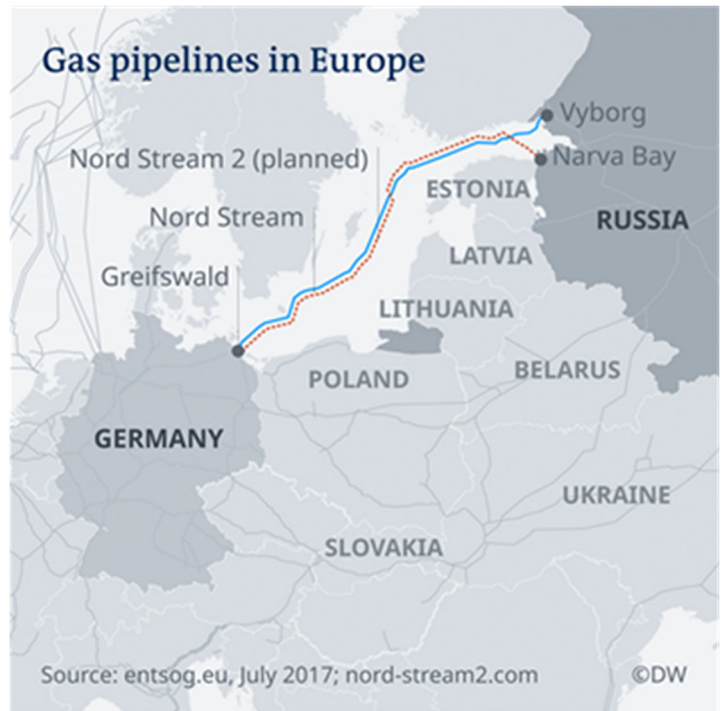
Germany is the largest buyer of Russia's gas imports to the EU, and if the additional gas supply via NS2 proceeds as planned, Russia could effectively tighten its ties with the EU via the gas supply from NS2 to the EU's largest country, Germany. On the other hand, Germany would increase its energy dependency on Russia, which could potentially lead to Russia having more leverage over the EU at the expense of the US and UK's current dominance.

Exhibit 3: Nord Stream 2 pipeline



Source: [Arab News](#)

Exhibit 4: Nord Stream 1 & 2 pipelines connecting northern Russia and northern Germany's seashore



Source: Wikipedia

Second, the US has already benefited from the higher exports of LNG to the EU, the world's most lucrative LNG market. The US, as one of the largest producers of both oil and gas, including LNG, would greatly benefit from the high export prices of oil & gas.

Third, the US and UK are now facing the collapsing monetary system of the USD and UK pound, as the central banks of the US Federal Reserve and Bank of England are technically "bankrupted" since their equity has already turned negative.

Coupled with the actions of Russia and China, including the divestments of USD assets, reductions in USD reserves, and trading via non-USD currencies like Euros and RMB, the increasing power of the Russia-China faction poses a clear threat to the power of the US-UK faction, both politically and financially.

If Russia successfully ties the knot with EU countries, particularly Germany, the Russia-China faction could compete with the US-UK faction, gaining advantages over the EU and Germany's energy consumption and potentially alleviate the pressure on China from the US-UK faction's ongoing encirclement.

Exhibit 5: US and allies encircling China

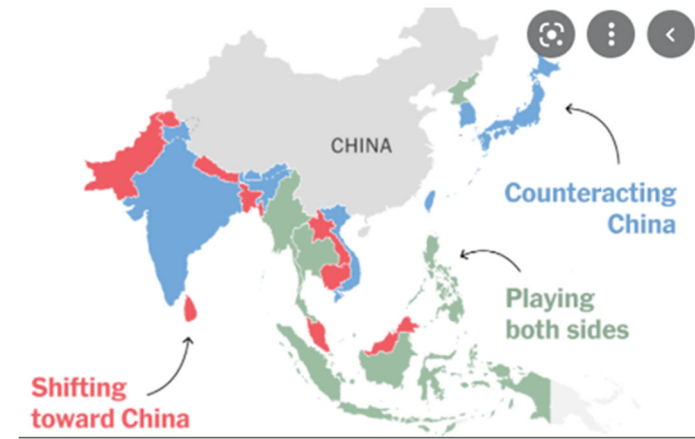
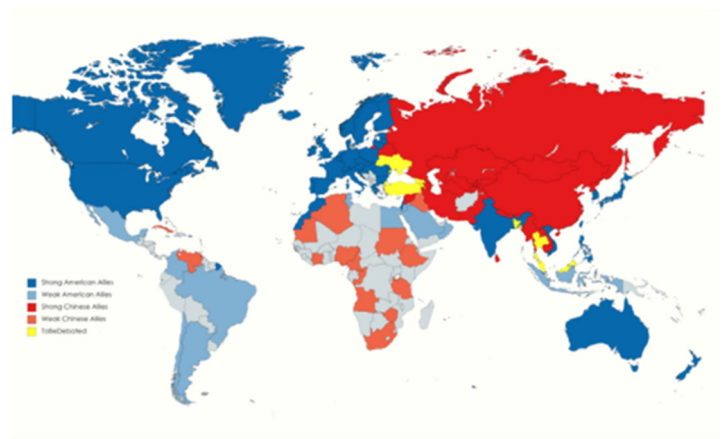
Source: [Quora](#)

Exhibit 6: Allies: China (red) vs US (blue)

Source: [Reddit](#)

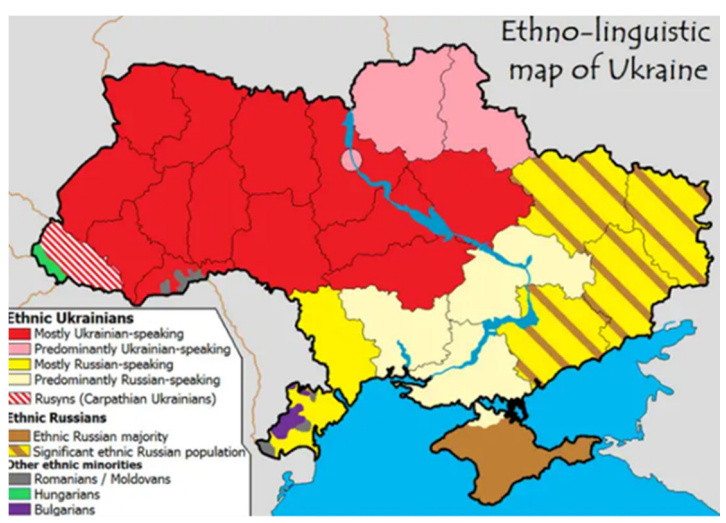
Why did Russia endorse Donetsk and Luhansk? After Russia's annexation of Crimea in 2014, Russia is now attempting to integrate Donetsk and Luhansk, both of which have mostly pro-Russian populations, similar to Crimea.

The strategic importance of Crimea as a naval base, and Donetsk and Luhansk as two culturally similar neighbours to Russia, are undoubtedly highly critical elements of Russia's national security, given the actions of the US and its allied members of the North Atlantic Treaty Organization (NATO), an intergovernmental military alliance between 27 European countries, two North American countries, and one Eurasian country. It implements the North Atlantic Treaty that was signed on 4 April 1949.

Exhibit 7: Ukraine's two separatist states and Crimea

Source: [Bangkok Post](#)

Exhibit 8: Ukraine's ethnic breakdown

Source: [Business Insider](#)

A deep-rooted relationship between two brothers: Ukraine and Russia.

Historically, Kiev, the current capital of Ukraine, is the ancient capital of the Slavic people, who today can be found in Russia, Belarus, Ukraine, Moldova, Serbia, Montenegro, Slovakia, Slovenia, and the Czech Republic.

Since the 11th century, “Kievan Rus” or today’s Kiev, was geographically the largest state in Europe, and known by the western states as “Rus” after the Mongol invasion in the 13th century. Ukraine, literally meaning “in-land” or “native-land”, was later expanded to include “Belarus” (White Russia), “Chorni Rus” (Black Russia), “Chervan Rus” (Red Russia) in western Belarus, and northern Ukraine (Russia).

Exhibit 9: Ukraine and Russia are deeply connected ethnically (9th to 12th centuries)



Source: [Wikipedia](#)

After many centuries of being conquered and ruled by other nations, including the Mongol Empire (12th to 14th centuries), Lithuania and Poland (14th to 16th centuries), the Ukrainian Cossacks finally gained independence. The territory was later divided into Ukraine and Russia, which eventually merged to become the Russian Empire.

After World War I, Ukraine attempted to break free from Russia in 1917 but was unsuccessful and later became a part of the Soviet Union, with western parts of Ukraine divided up among Poland, Czechoslovakia, and Romania.

After multiple wars and independence struggles, Ukraine finally declared its independence in August 1991, before officially ending the existence of the Soviet Union on 26 December 1991.

Exhibit 10: Kievan Rus kingdom included the territory of modern-day Ukraine and Russia (1220-1240)



Source: [Wikipedia](#)

Exhibit 11: Map of Ukraine in (1919)

Source: [Wikipedia](#)

Given the deep history between Ukraine and Russia, Ukraine's population is ethnic Ukrainian 77.8%, Russian 17.3%, Belarusian 0.6%, Moldovan 0.5%, Crimean Tatar 0.5%, Bulgarian 0.4%, Hungarian 0.3%, Romanian 0.3%, Polish 0.3%, Jewish 0.2%, and others 1.8%, according to Wikipedia.

The western part of Ukraine, including the capital, Kiev, is predominantly Ukrainian-speaking, while the eastern half of the country is either predominantly Russian-speaking or has significant Russian minorities. The area populated by ethnic Russians covers most of the eastern parts of Ukraine, including the already annexed Crimean Peninsula, the newly independent countries of Donetsk and Luhansk, and other small pockets.

Crimea has long been a disputed territory, according to an explainer on the region's history published by the blog "Marc to Market". Though it was annexed by Russia in 1783, it was the subject of numerous wars in the 1700s and 1800s. After the Soviet Union broke up in 1991, Ukraine was one of the first 15 countries to declare its independence from the former Soviet Union on 24 August 1991.

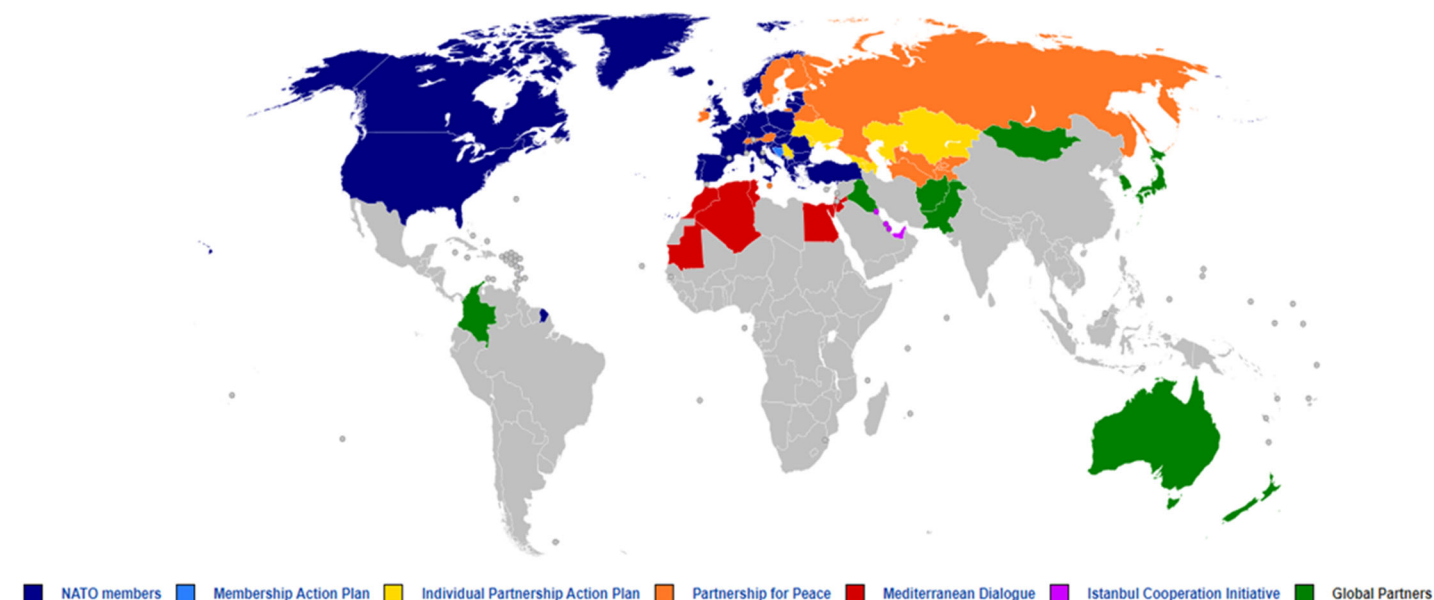
Exhibit 12: Ukraine's territorial evolution from 1922-1954

Source: [Wikipedia](#)

NATO and Ukraine. Currently NATO has 30 members, mainly in Europe and North America. In recent years, new NATO members include states that were once part of Yugoslavia such as North Macedonia (March 2020). Countries seeking to join NATO include Bosnia and Herzegovina, Georgia, and Ukraine.

The threat of Ukraine joining NATO, which could allow the US and its allies to establish strategic weapons sites on Ukraine's eastern border and in northern states adjacent to Russia, is unacceptable to Russia. This would be analogous to Russia setting up a missile base in Cuba, which is located only 90 miles from the US state of Florida.

Exhibit 13: Map of NATO members and partners

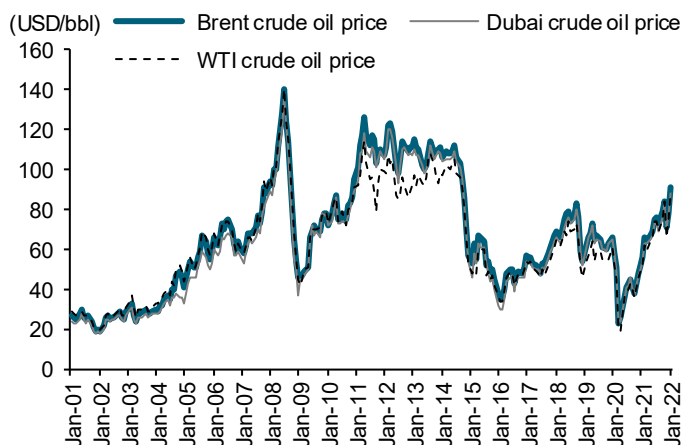


Source: [Wikipedia](#)

Energy market reactions. Immediately after Russia's endorsement, the Brent oil price jumped past USD100/bbl to stay at USD103/bbl as of 3pm Bangkok time, Newcastle coal jumped by 24% within two days to hit USD250/t, and the ICE UK natural gas futures price rose 15% overnight to hit £204/10,000 mmbtu as the market continued to digest the potential impact of a Russia-Ukraine conflict.

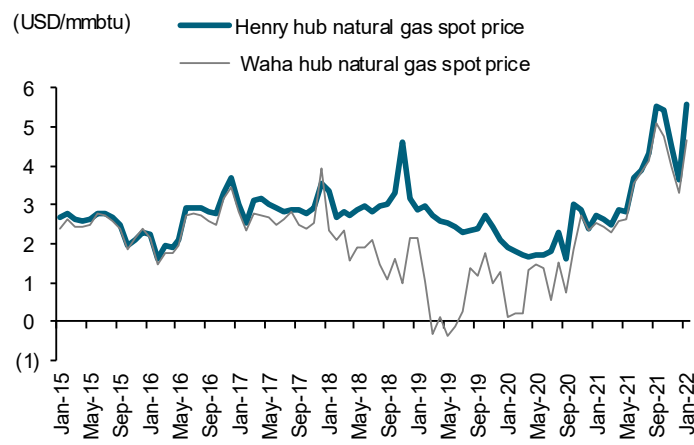
Meanwhile, the US gas benchmark Henry Hub (HH) price rose by 6.4% or USD0.3/mmbtu to USD4.9/mmbtu in response, reflecting that the US gas market is influenced more by domestic market conditions of demand-supply, rather than by the European gas market, which is now mostly dictated by the geopolitical tensions between Russia and the US and its allies, according to Natural Gas Intelligence.

Exhibit 14: Brent, Dubai, WTI crude oil price

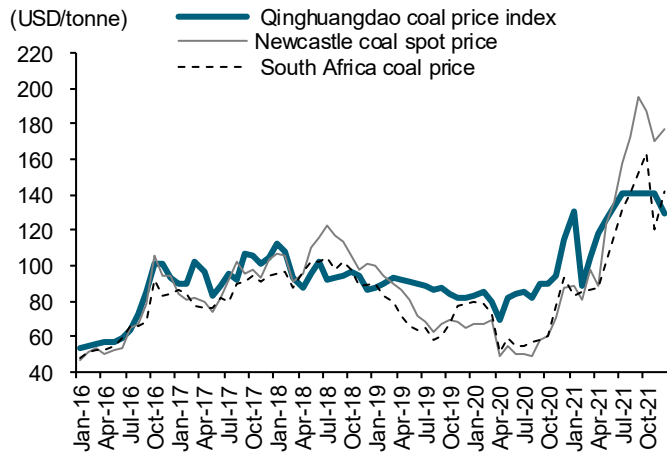


Source: Bloomberg

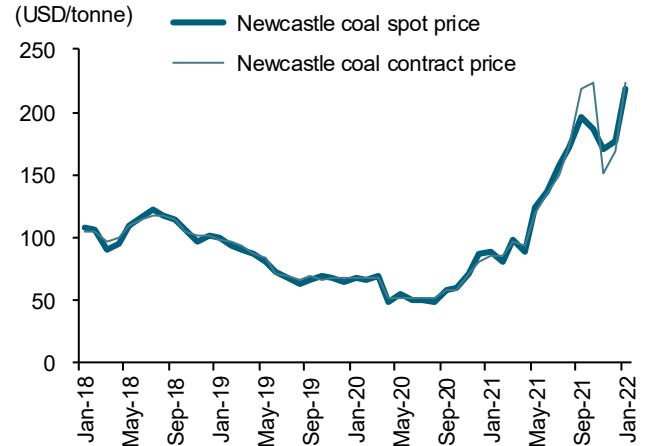
Exhibit 15: Henry Hub and Waha Hub natural gas spot price



Source: Bloomberg

Exhibit 16: Qinghuangdao, Newcastle, and South Africa coal price

Source: Bloomberg

Exhibit 17: Newcastle coal spot and contract price

Source: Bloomberg

However, the commodity futures market reacted much less than the spot price market, moving up 2-4% on average for the futures of Brent, Dubai, and West Texas Intermediate (WTI). The Newcastle coal price index similarly moved in tandem with the spot price market, up by over 10% overnight in response to Russia's invasion of the Ukraine, as claimed by the US and its allies.

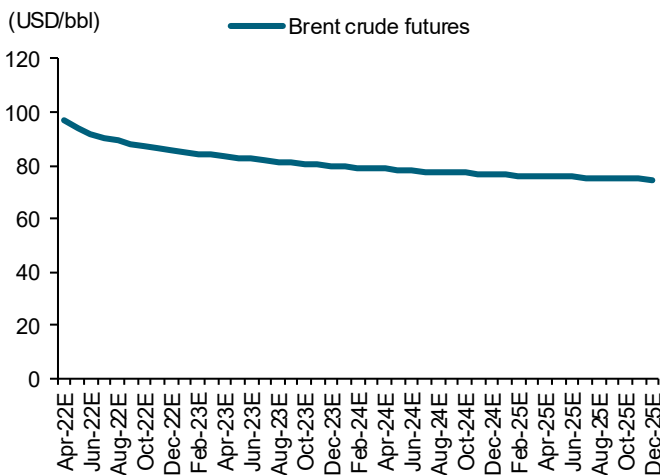
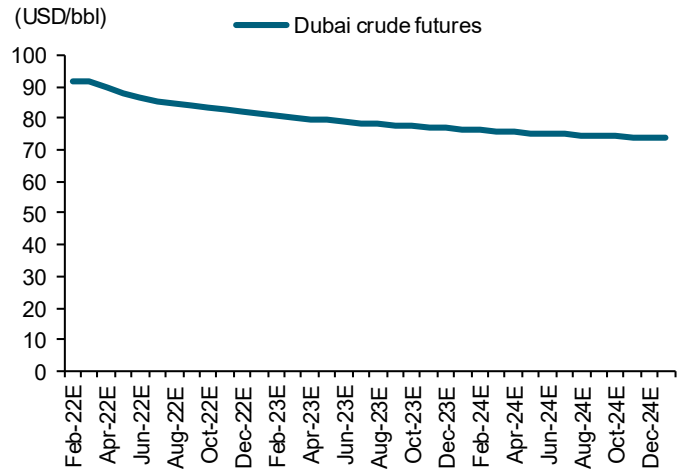
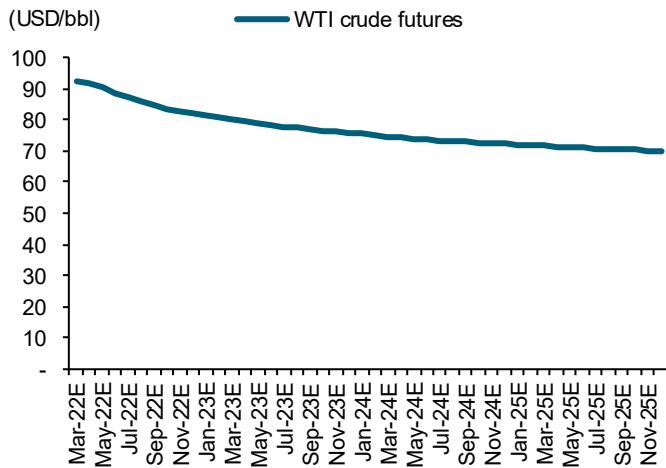
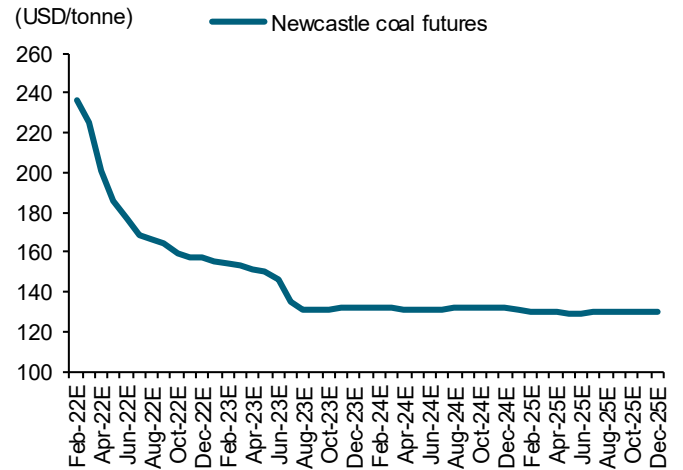
Exhibit 18: Brent crude futuresPrice as of 23 Feb-22
Source: Bloomberg**Exhibit 19: Dubai crude futures**Price as of 23 Feb-22
Source: Bloomberg

Exhibit 20: WTI crude futures



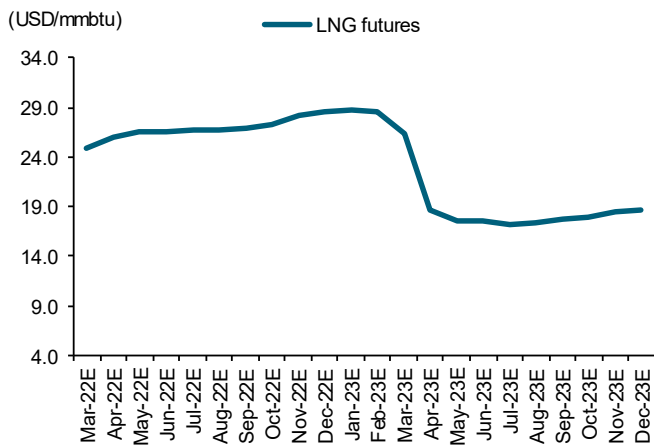
Price as of 23 Feb-22
Source: Bloomberg

Exhibit 21: Newcastle coal futures



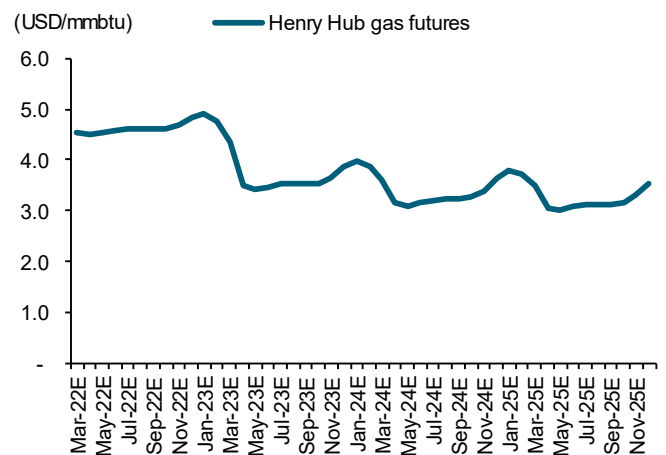
Price as of 23 Feb-22
Source: Bloomberg

Exhibit 22: LNG futures



Price as of 23 Feb-22
Source: Bloomberg

Exhibit 23: Henry Hub futures



Price as of 23 Feb-22
Source: Bloomberg

US sanctions. The Biden administration is imposing "full-blocking sanctions" on state-owned VEB and Promsvyazbank, or PSB, along with 42 of their subsidiaries, as well as comprehensive sanctions on Russia's sovereign debt, a move designed to cut Russia off from Western financing.

The measures against VEB and PSB prevent them from doing business in the US and cut off their access to the US financial system. Assets in the US are immediately frozen, according to the US Treasury Department.

The Kremlin-connected oligarchs sanctioned by the Biden administration are: Aleksandr Bortnikov and his son Denis Bortnikov; Sergei Kiriyenko and his son Vladimir Kiriyenko; and Petr Fradkov.

Mr. Fradkov is the chairman and CEO of PSB, which primarily focuses on financing Russian defence initiatives. Aleksandr Bortnikov is the head of Russia's FSB, the country's security service and successor to the Soviet KGB. He's also a member of Putin's national security council. His son, Denis, is the deputy president of a state-owned financial institution, according to the US Treasury Department.

Sergei Kiriyenko is Mr. Putin's first deputy chief of staff and the Russian leader's "domestic policy curator", according to the US Treasury. His son Vladimir is the CEO of the parent company that owns Russia's largest social media platform.

The executive order issued by Mr. Biden on Monday barred new investment in the two breakaway regions by any American, as well as the importation and exportation into or from the US of any goods, services or technology.

Reports suggest that future measures could take aim at Russia's access to the broader international financial system, and cut off Russia's access to technological exports, which essentially could kick Russia out of the SWIFT system, a network used by banks and financial institutions to process transactions around the world. But this is less likely at least for now according to US officials, citing potential "spillover effects" for the global economy and the US.

US and allies' responses. The US and its allies have applied economic sanctions against Russia over its invasion of Ukraine. US President Joe Biden announced new economic sanctions targeting two key Russian financial institutions and five Russian oligarchs on Tuesday in response to the Kremlin's "escalating aggression" against Ukraine, penalties that join measures from Western allies that seek to punish Russia for its latest actions.

Exhibit 24: Pipe systems and shut-off devices at the gas receiving station of NS2 in Germany (16 Feb-22)



Source: [CBS News](#)

Exhibit 25: The Nord Stream and Nord Stream 2 pipeline routes from Russia to Germany from Gazprom



Source: Ane Gil Elorri, [Universidad de Navarra](#)

Germany moves to stop certification of Nord Stream 2 pipeline. However, one of the most important sanctions against Russia is the prohibition of the commercial operation date (COD) of Russia's new NS2 pipeline to export gas to the European market from northern Russia via Germany's northern shore.

Germany finally decided to halt the certification of the NS2 pipeline in response to Mr. Putin's latest act of aggression against Ukraine, a significant setback for Russia's aspirations to exert more leverage over European energy markets.

Owned by Gazprom, Russia's state-backed energy company, the non-operational pipeline is a project designed to double the amount of gas carried from Russia to Germany.

The US has been opposed to Germany using the pipeline, warning it would boost the country's dependence on Russia for natural gas. Mr. Biden said the US is working with Germany to ensure NS2 "will not move forward".

According to the BNP Paribas report, "Russia-Ukraine conflict: Implications for commodity markets", dated 31 January 2022, Russia is currently supplying around 39% and 28% of EU gas and crude imports, respectively, mostly via pipelines. The disruptions to gas and oil flows from Russia to Europe could trigger a domino effect driving up the global LNG price, given that the European gas market is currently tight, with inventories hitting a five-year record low in Jan-Feb 2022. The major causes for the gas price spike in Europe are the lower-than-expected renewable power production levels and, mostly importantly, the sharp drop in the gas supply from Russia over the past 12 months.

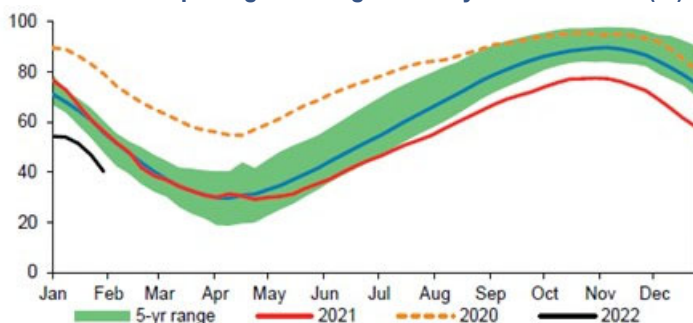
European gas prices have spiked but are still far below the peak in 4Q21.

Sanctions on Russia's gas supply have large implications for the global LNG price and market. No country buys more natural gas from Russia than Germany, which depends on the fuel to heat homes in the winter and operate factories. The Russia-to-Germany NS2 pipeline is clearly becoming a focus of the conflict.

With as much as 40% of Europe's natural gas imported from Russia, sanctions on Russia's gas supply have large implications for the global LNG price and markets, according to BNP.

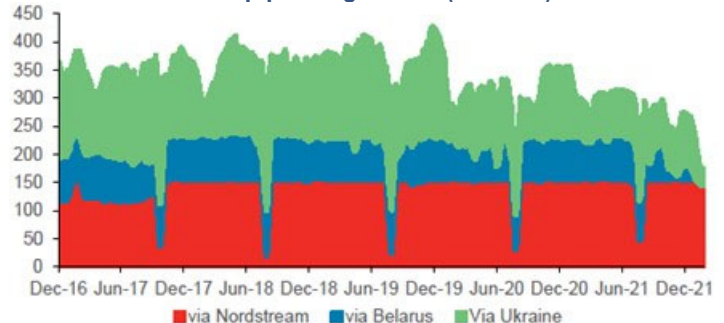
If the gas imported from Russia via NS2 is blocked due to sanctions, BNP expects the benchmark TTF gas-electricity price to spike to over €200/MWh (USD50/mmbtu for LNG), surpassing the €180/MWh peak seen in December 2021. The tight LNG supply could sustain the gas price in Europe at €160/MWh over the coming summer, unless the gas supply disruption risk from Russia is removed, according to BNP.

Exhibit 26: European gas storage hit a 5-year record low (%)



Sources: Bloomberg, BNP Paribas

Exhibit 27: Russian pipeline gas flow (mmscfd)



Sources: Bloomberg, BNP Paribas

EU and UK sanctions. The EU and UK are targeting five Russian banks – Rossiya, Black Sea Bank, Genbank, IS Bank and Promsvyazbank – and three oligarchs including Gennady Timchenko, Boris Rotenberg and Igor Rotenberg with economic sanctions.

European Union foreign ministers also agreed to a first package of sanctions in response to Moscow's recognition of the two breakaway republics in eastern Ukraine, which target individuals and banks, as well as the ability of the Russian state and government to access the EU's capital and financial markets.

The sanctions specifically hit 27 Russian individuals and entities covering the political, military, business and media sectors, as well as the 351 members of Russia's parliament who voted to recognise the Luhansk and Donetsk regions as independent countries.

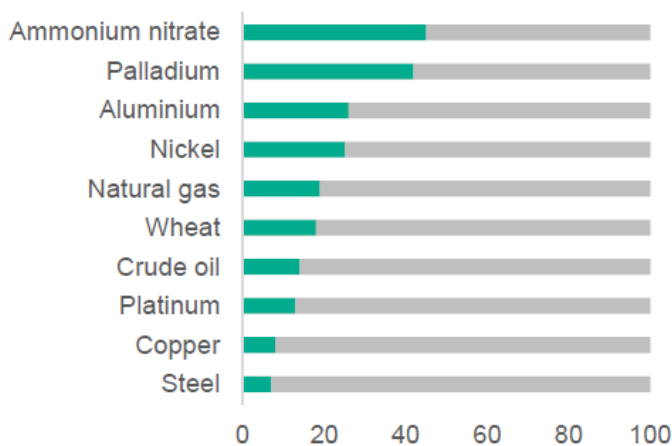
Will Russia cut off the gas supply to Europe entirely? We do not think so. While Russia now sits on USD630b in currency reserves at the end of 2021, meaning it could withstand a short-term hit to its energy revenue, we think the full package of sanctions that could be imposed on Russia could significantly impact Russia as a country. Over 60% of its national budget comes from the exports of hydrocarbons, and oil & gas accounts for nearly one-third of Russia's gross national product, according to the World Trade Organization (WTO).

Russia pumped 175bcm of gas into Europe in 2021, and nearly a quarter of it through the pipelines in Ukraine. In January 2022, Russia reduced its gas exports via pipelines in Ukraine to only 50mmscfd, down more than 50% y-y, according to the Energy Information Administration (EIA). While Russia could afford to cut off the gas exports via Ukraine's pipelines, we think it is less likely that Russia would cut off the gas flows via the pipelines under the Baltic Sea and through Poland.

If Russia stopped sending just the gas that goes through Ukraine, it would take the equivalent of about 1.27 shiploads of additional LNG per day to replace that supply, based on the EIA's forecast. Russia could also reroute some of that gas through other pipelines, reducing the need for additional LNG to about a half-shipload per day.

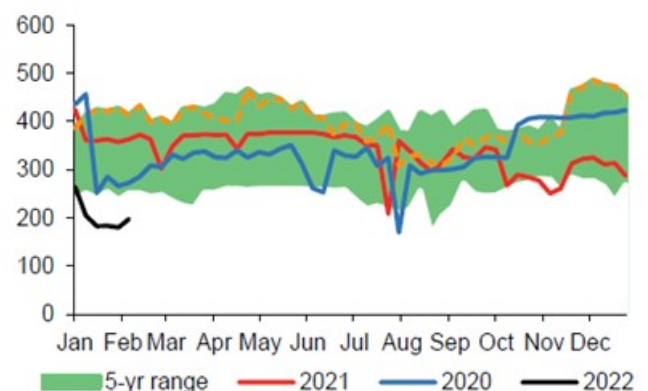
The stalling of Russia's USD11b NS2 due to sanctions could also hurt Russia's financial coffers. So, whether Europe is more dependent on Russia's gas, or Russia is more reliant on Europe's money, remains a tricky question.

Exhibit 28: Russia's share of global exports in 2019-21 (%)



Sources: WTO; Russian Trade Ministry; BNP Paribas

Exhibit 29: Russian gas exports below the five-year band (mmscfd)



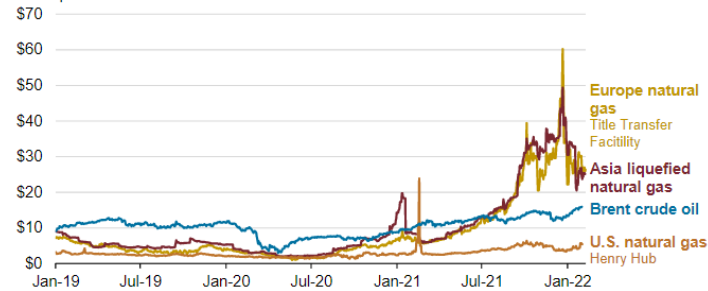
Sources: Bloomberg; BNP Paribas

Will the US come to the rescue and replace Russia's gas shortfall in Europe? We think it is still unlikely in 2022. Since 2017, the US has become a net exporter of LNG, and it has been on track to become the world's largest LNG exporter by the end of 2022. For Europe, the US has already secured the LNG market in the UK, Spain, and France, but Germany remains the most promising market for US LNG exports due to the potential demand diversion from Russian to US LNG.

In January 2022, European countries imported higher amounts of LNG from the US, accounting for 34% of the European LNG import volume and two-thirds of US LNG exports, implying that if the entire US LNG export volume was sent to Europe, it would still not be sufficient to replace the gas supply from Russia. The higher US LNG exports came at the expense of lower gas imports from Russia, which made up just 17% of total imports, down from 39% in 2021.

Exhibit 30: Spot prices of crude, gas, and LNG (Jan-19 to Feb-22)

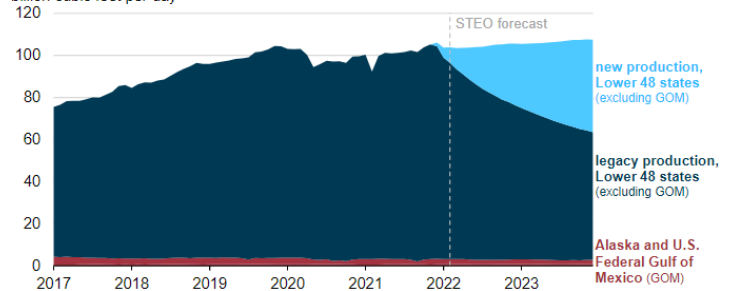
Daily crude oil, natural gas, and liquefied natural gas spot prices (Jan 2019–Feb 2022)
dollars per million British thermal units



Source: EIA

Exhibit 31: US gas production is projected to rise in 2022-23

U.S. monthly marketed natural gas production (Jan 2017–Dec 2023)
billion cubic feet per day



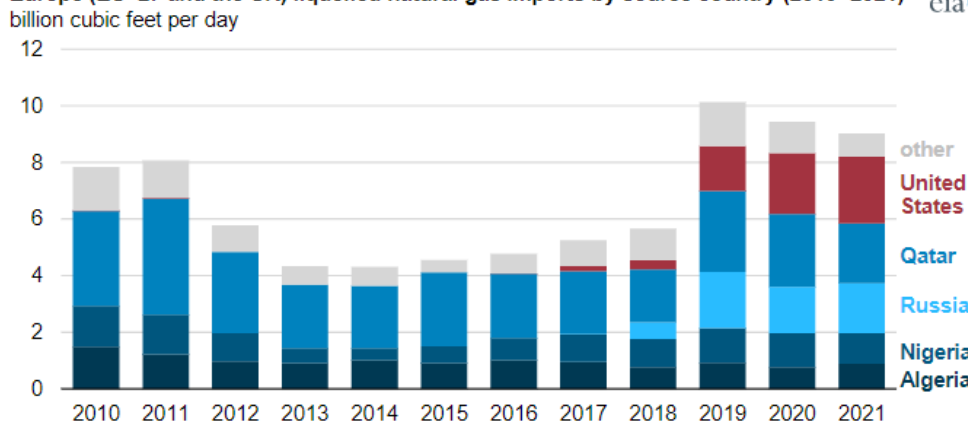
Source: EIA

According to the EIA, Europe has ample LNG regasification capacity, but it is insufficient to fill the entire supply gap left by Russia if it were to stop exporting gas to Europe. In 2021, a large share of Europe's supply of LNG was from US, Qatar, and Russia, accounting for almost 70% of the total gas supply to Europe.

The US became Europe's largest source of LNG in 2021, contributing 26% of total LNG imported by 27 EU members and the UK, followed by Qatar (24%) and Russia (20%). In January 2022, the US supplied over 50% of the total LNG imports to Europe.

Exhibit 32: Three countries provided almost 70% of the LNG supply in Europe in 2021

Europe (EU-27 and the UK) liquefied natural gas imports by source country (2010–2021)



Source: EIA

Would LNG supply from other markets be sufficient to replace Russia's gas supply to Europe? We don't think so. In the event of a full cut-off, even if all of Europe's LNG import facilities were at full utilisation rates, the amount of LNG imported would only be about two-thirds of what Russia sends via pipelines, based on the EIA's estimate.

Historical impact of sanctions on Russia and global gas and oil prices

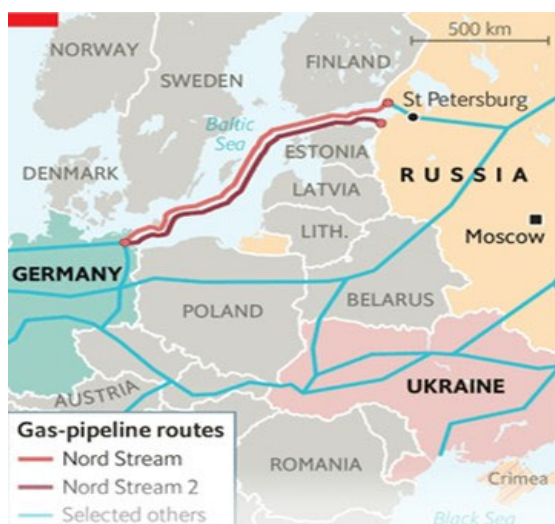
Two previous rounds of sanctions have been enacted against Russia by the US and its allies.

February 2014: Crimea invasion. The impact of the sanctions against Russia after Russia's invasion and annexation of Crimea were insignificant to the energy market as the gas supply remained sufficient.

April 2018: Alleged interference in the 2016 US election. Under the Trump administration, the US Treasury Department imposed sanctions against seven Russian oligarchs with ties to Mr. Putin along with 12 companies they owned or control. The gas price in Europe rose minimally after the sanctions in April 2018, and the price of European base load power moved only slightly, with the one-year forward base load power price in Germany – as a proxy for the European energy market – at €40/MWh.

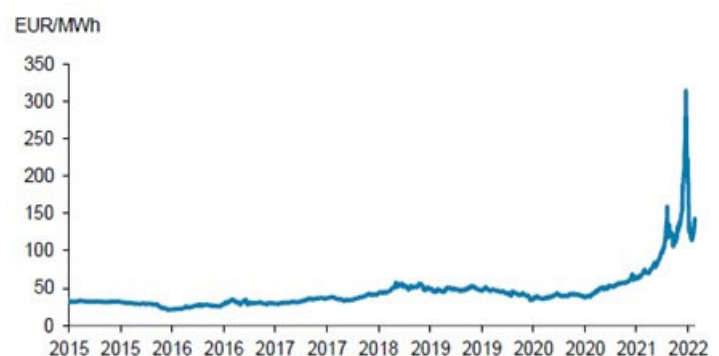
Current crisis: Invasion of Ukraine. We think that if further sanctions are applied, they would have a deeper impact on the global energy market, particularly for the LNG spot price, given the current tight supply and the already high price of one-year forward base load power at €142/MWh, far above its average of €40-50/MWh. Under potential sanctions against Russia to block the gas flow via NS2, we think the resultant spike in the gas price would lead to a sharp rise in the base load power price in Europe.

Exhibit 33: EU gas pipeline networks



Source: [Economist](#)

Exhibit 34: German one-year forward base load power price



Sources: Bloomberg, BNP Paribas

How important is Russia's NS2 pipeline to Europe and the global gas market?

Given that NS2 transits through the Baltic Sea, posing geo-economic and security challenges for the US and Europe, the Russia-Germany gas sales via NS2 have since become the focus of a major political conflict between the US and its allies and Russia. The COD of NS2 remains unsettled, pending the certification process by European authorities and the US' final approval.

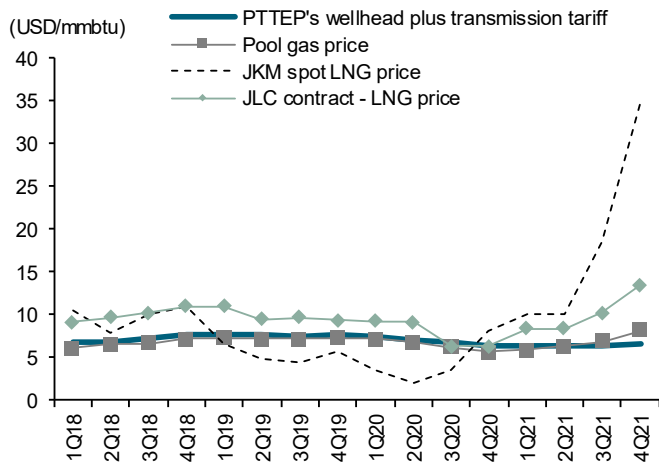
Whether or not NS2 will go online, its emergence raises questions about the EU's future relationship with Kiev, as well as Ukraine's role both as a transit and storage country for natural gas and as a potential alternative energy exporter. Russia sees the completion of the controversial pipeline not only as a commercial and technological achievement, but as a major geopolitical victory for Moscow.

Implications for Thailand

With the EIA's projected lower global LNG price and additional supplies from gas fields, including G2 (+200mmscfd), Bongkot (+150mmscfd), Arthit (+60mmscfd), and MTJDA (+40mmscfd) in 2Q22-4Q22 onward, we believe Thailand's pool price will gradually decline in 2Q22 onward, mainly due to the rising supply from the US.

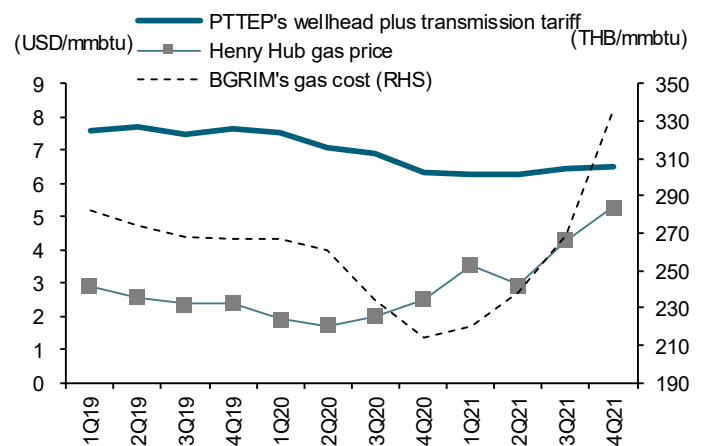
Thailand is a net importer of energy, mostly oil (85% of total consumption in 2021) and coal (80%), while the country exports agricultural, automotive, electrical & electronic, and oil-related products from its refinery and petrochemical industries.

Exhibit 35: PTTEP's wellhead average gas price, Thailand's pool gas price, JKM spot LNG price, and JLC contract LNG price



Sources: PTT; Bloomberg; PTTEP

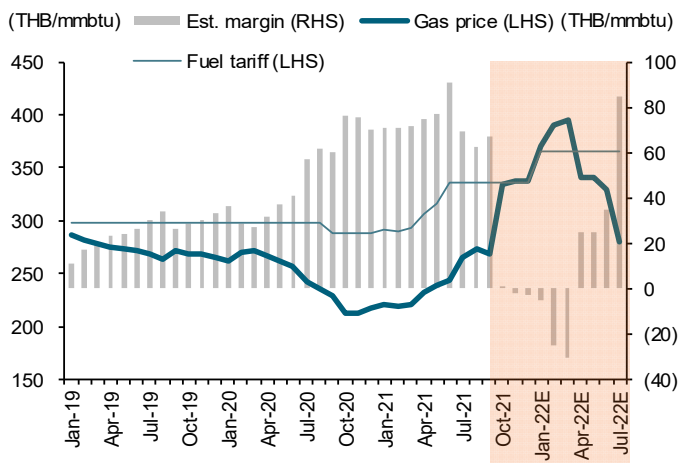
Exhibit 36: PTTEP's average gas selling price plus transmission tariff, US Henry Hub gas price, and BGRIM's gas cost



Sources: PTTEP, BGRIM, Bloomberg

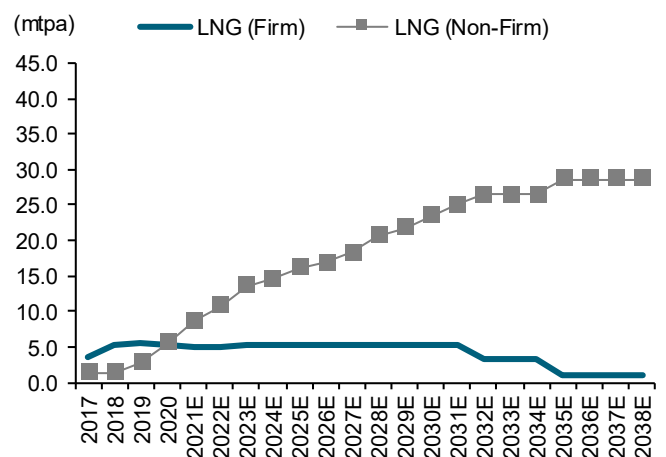
Energy and utilities sector: The higher prices of imported oil and LNG could exacerbate Thailand's national budget deficit and capital inflows, and potentially worsen the financial positions of downstream users of gas and oil, including the power sector, but would benefit upstream producers like PTTEP and PTT.

Exhibit 37: Estimated gross margin, gas price, and fuel tariff



Sources: BGRIM; PTT; EGAT; FSSIA estimates

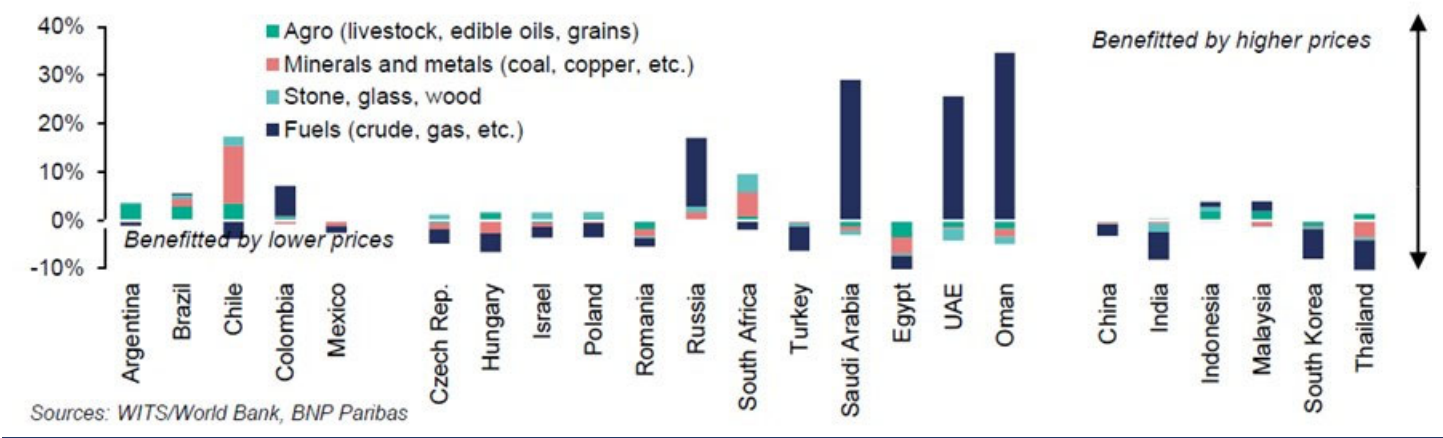
Exhibit 38: Thailand's projected LNG imports (firm contract volume vs non-firm spot volume)



Source: Gas Plan 2018

Other non-energy and utilities sectors: While the capital outflows have higher values and the imported energy could hurt Thailand's revenue, we think Thailand will be healthy enough to withstand the spike in energy prices thanks to the country's high current account balance.

Exhibit 39: Thailand's exposure to commodities is high for energy imports and agricultural exports



Sources: World Bank; BNP Paribas

What should investors do?

Among Thai energy and utilities companies, PTTEP, BANPU, IVL, and BGRIM are our top picks for both the gas price uptrend in 1H22 and the projected downtrend in 2H22.

Producers of oil, gas, and coal are the key winners.

PTTEP: A key gas producer. As a key producer of gas, PTTEP should benefit from the high gas price for the gas it produces in the Gulf of Thailand, Myanmar, and Malaysia in 2022. It could also gain from the higher LNG price via its 8.5%-owned Mozambique LNG area 1 project, scheduled to COD in 2024 when the global LNG price should be higher as a result of a tighter demand-supply balance, based on the EIA's forecast.

BANPU: A key shale gas and coal play. BANPU should see its EBITDA from shale gas rise in 4Q21-2022, driven by a higher average selling price for gas and lower hedging losses. We expect quarterly EBITDA of over USD100m in 4Q21-2022, further strengthening its earnings from coal and power.

IVL: A higher shale gas price should drive its EBITDA from IOD. Thanks to IVL's two integrated oxide and derivatives (IOD) asset acquisitions in 2020-1Q22, we think the expanded capacity of IVL's IOD group to over 5mt will allow it to capture the upsurge in demand following the Covid-19 pandemic and the higher margins of IOD in the US.

SPPs could be losers on higher oil and gas prices. In 4Q21-1Q22, we expect small power producer (SPP) operators, mainly BGRIM and GPSC, to suffer from a gross margin squeeze for their SPPs due to the mismatch of the gas price hike vs the lower fuel tariff rise. If the impact of sanctions on Russia eventually results in a longer price uptrend or even a spike in global oil, gas, LNG, and coal prices, we think SPPs could continue to see a negative impact in terms of a margin squeeze as the rises in the electricity tariff sold to industrial users will not be sufficient to compensate for the gas price hike.

However, starting in 2Q22, the margin trend could turn around from the bottom in 1Q22 to gradually rise in 2Q-4Q22, driven by lower gas costs, the improving operational efficiency of BGRIM's five new SPPs (COD in 2H22), and capacity growth from M&A and the organic growth from five new SPPs with SPP replacement power purchase agreements, scheduled to commence CODs in 2H22 (5 SPPs) and 2023 (2 SPPs). In addition, BGRIM will start to import up to 0.65mt of LNG starting in January 2023 to be consumed mostly by its five new SPPs, which are scheduled to be completed and started up on a staggered schedule from July to December 2022. Hence, even if the global spot LNG price remains high, BGRIM will be able to import LNG under the contract price below USD8/mmbtu, based on management's guidance.

Exhibit 40: Peer comparisons

Company	BBG code	Rec	Share Price	Target price	Up side	Market Cap	3Y EPS CAGR	----- PE -----		---- ROE ----		---- PBV ----		EV / EBITDA	
								21E	22E	21E	22E	21E	22E	21E	22E
			(LCY)	(LCY)	(%)	(USD m)	(%)	(x)	(x)	(%)	(%)	(x)	(x)	(x)	(x)
THAILAND															
PTT	PTT TB	BUY	38.50	60.00	56	34,043	38.8	12.3	8.2	9.5	12.7	1.1	1.0	5.5	4.8
PTT Explor & Prod	PTTEP TB	BUY	128.00	162.00	27	15,731	24.0	10.5	11.1	12.6	10.8	1.2	1.2	4.6	4.3
PTT Global Chemical	PTTGC TB	BUY	54.75	75.00	37	7,642	nm	7.9	9.5	10.5	8.2	0.8	0.8	6.9	9.6
Siam Cement	SCC TB	BUY	393.00	483.00	23	14,599	23.2	10.0	7.9	13.7	15.4	1.3	1.2	10.9	8.7
Indorama Ventures	IVL TB	BUY	48.00	70.00	46	8,343	74.8	9.9	8.9	19.4	18.4	1.7	1.6	7.6	6.9
B Grimm Power	BGRIM TB	BUY	33.75	46.00	36	2,724	32.3	39.5	21.9	7.9	13.3	3.1	2.8	13.2	10.7
Gulf Energy Development	GULF TB	BUY	50.75	60.00	18	18,433	48.9	67.6	43.3	11.0	13.6	6.2	5.7	43.6	32.4
Global Power Synergy	GPSC TB	BUY	75.50	90.00	19	6,590	6.2	23.9	30.0	8.4	6.5	2.0	1.9	14.0	18.9
Electricity Generating	EGCO TB	BUY	182.00	245.00	35	2,966	26.2	7.3	5.6	12.3	14.5	0.9	0.8	14.1	10.3
Ratch Group	RATCH TB	BUY	46.00	60.00	30	2,065	12.3	8.5	7.8	11.9	14.6	0.9	0.9	20.7	12.7
Banpu	BANPU TB	BUY	11.10	16.90	52	2,325	nm	5.5	6.2	15.7	14.7	0.8	0.8	4.1	5.2
Average (all)						115,461	26.1	21.1	15.8	11.6	12.8	2.1	1.9	13.5	11.3

Share prices as of 23 February 2022

Sources: Bloomberg; FSSIA estimates

Corporate Governance report of Thai listed companies 2020

EXCELLENT LEVEL										
AAV	ADVANC	AF	AIRA	AKP	AKR	ALT	AMA	AMATA	AMATAV	ANAN
AOT	AP	ARIP	ARROW	ASP	BAFS	BANPU	BAY	BCP	BCPG	BDMS
BEC	BEM	BGRIM	BIZ	BKI	BLA	BOL	BPP	BRR	BTS	BWG
CENTEL	CFRESH	CHEWA	CHO	CIMBT	CK	CKP	CM	CNT	COL	COMAN
COTTO	CPALL	CPF	CPI	CPN	CSS	DELTA	DEMCO	DRT	DTAC	DTC
DV8	EA	EASTW	ECF	ECL	EGCO	EPG	ETE	FNS	FPI	FPT
FSMART	GBX	GC	GCAP	GEL	GFPT	GGC	GPSC	GRAMMY	GUNKUL	HANA
HARN	HMPRO	ICC	ICHI	III	ILINK	INTUCH	IRPC	IVL	JKN	JSP
JWD	K	KBANK	KCE	KKP	KSL	KTB	KTC	LANNA	LH	LHFG
LIT	LPN	MAKRO	MALEE	MBK	MBKET	MC	MCOT	METCO	MFEC	MINT
MONO	MOONG	MSC	MTC	NCH	NCL	NEP	NKI	NOBLE	NSI	NVD
NYT	OISHI	ORI	OTO	PAP	PCSGH	PDJ	PG	PHOL	PLANB	PLANET
PLAT	PORT	PPS	PR9	PREB	PRG	PRM	PSH	PSL	PTG	PTT
PTTEP	PTTGC	PYLON	Q-CON	QH	QTC	RATCH	RS	S	S & J	SAAM
SABINA	SAMART	SAMTEL	SAT	SC	SCB	SCC	SCCC	SCG	SCN	SDC
SEAFCO	SEOIL	SE-ED	SELIC	SENA	SIRI	SIS	SITHAI	SMK	SMPC	SNC
SONIC	SORKON	SPALI	SPI	SPRC	SPVI	SSSC	SST	STA	SUSCO	SUTHA
SVI	SYMC	SYNTEC	TACC	TASCO	TCAP	TFMAMA	THANA	THANI	THCOM	THG
THIP	THRE	THREL	TIP	TIPCO	TISCO	TK	TKT	TTB	TMILL	TNDT
TNL	TOA	TOP	TPBI	TQM	TRC	TSC	TSR	TSTE	TSTH	TTA
TTCL	TTW	TU	TVD	TVI	TVO	TWPC	U	UAC	UBIS	UV
VGI	VIH	WACOAL	WAVE	WHA	WHAUP	WICE	WINNER	TRUE		

VERY GOOD LEVEL										
2S	ABM	ACE	ACG	ADB	AEC	AEONTS	AGE	AH	AHC	AIT
ALLA	AMANAHA	AMARIN	APCO	APCS	APURE	AQUA	ASAP	ASEFA	ASIA	ASIAN
ASIMAR	ASK	ASN	ATP30	AUCT	AWC	AYUD	B	BA	BAM	BBL
BFIT	BGC	BJC	BJCHI	BROOK	BTW	CBG	CEN	CGH	CHARAN	CHAYO
CHG	CHOTI	CHOW	CI	CIG	CMC	COLOR	COM7	CPL	CRC	CRD
CSC	CSP	CWT	DCC	DCON	DDD	DOD	DOHOME	EASON	EE	ERW
ESTAR	FE	FLOYD	FN	FORTH	FSS	FTE	FVC	GENCO	GJS	GL
GLAND	GLOBAL	GLOCON	GPI	GULF	GYT	HPT	HTC	ICN	IFS	ILM
IMH	INET	INSURE	IRC	IRCP	IT	ITD	ITEL	J	JAS	JCK
JCKH	JMART	JMT	KBS	KCAR	KGI	KIAT	KOOL	KTIS	KWC	KWM
L&E	LALIN	LDC	LHK	LOXLEY	LPH	LRH	LST	M	MACO	MAJOR
MBAX	MEGA	META	MFC	MGT	MILL	MITSI	MK	MODERN	MTI	MVP
NETBAY	NEX	NINE	NTV	NWR	OCC	OGC	OSP	PATO	PB	PDG
PDI	PICO	PIMO	PJW	PL	PM	PPP	PRIN	PRINC	PSTC	PT
QLT	RCL	RICHY	RML	RPC	RWI	S11	SALEE	SAMCO	SANKO	SAPPE
SAWAD	SCI	SCP	SE	SEG	SFP	SGF	SHR	SIAM	SINGER	SKE
SKR	SKY	SMIT	SMT	SNP	SPA	SPC	SPCG	SR	SRICHA	SSC
SSF	STANLY	STI	STPI	SUC	SUN	SYNEX	T	TAE	TAKUNI	TBSP
TCC	TCMC	TEAM	TEAMG	TFG	TIGER	TITLE	TKN	TKS	TM	TMC
TMD	TMI	TMT	TNITY	TNP	TNR	TOG	TPA	TPAC	TPCORP	TPOLY
TPS	TRITN	TRT	TRU	TSE	TVT	TWP	UEC	UMI	UOBKH	UP
UPF	UPOIC	UT	UTP	UWC	VL	VNT	VPO	WIJK	WP	XO
YUASA	ZEN	ZIGA	ZMICO							

GOOD LEVEL										
7UP	A	ABICO	AJ	ALL	ALUCON	AMC	APP	ARIN	AS	AU
B52	BC	BCH	BEAUTY	BGT	BH	BIG	BKD	BLAND	BM	BR
BROCK	BSBM	BSM	BTNC	CAZ	CCP	CGD	CITY	CMAN	CMO	CMR
CPT	CPW	CRANE	CSR	D	EKH	EP	ESSO	FMT	GIFT	GREEN
GSC	GTB	HTECH	HUMAN	IDL	INOX	INSET	IP	JTS	JUBILE	KASET
KCM	KKC	KUMWEL	KUN	KWG	KYE	LEE	MATCH	MATI	M-CHAI	MCS
MDX	MJD	MM	MORE	NC	NDR	NER	NFC	NNCL	NPK	NUSA
OCEAN	PAF	PF	PK	PLE	PMTA	POST	PPM	PRAKIT	PRECHA	PRIME
PROUD	PTL	RBF	RCI	RJH	ROJNA	RP	RPH	RSP	SF	SFLEX
SGP	SISB	SKN	SLP	SMART	SOLAR	SPG	SQ	SSP	STARK	STC
SUPER	SVOA	TC	TCCC	THMUI	TIW	TNH	TOPP	TPCH	TPIPP	TPLAS
TTI	TYCN	UKEM	UMS	VCOM	VRANDA	WIN	WORK	WPH		

Description

Score Range

Excellent

90-100

Very Good

80-89

Good

70-79

Disclaimer:

The disclosure of the survey results of the Thai Institute of Directors Association ("IOD") regarding corporate governance is made pursuant to the policy of the Office of the Securities and Exchange Commission. The survey of the IOD is based on the information of a company listed on the Stock Exchange of Thailand and the Market for Alternative Investment disclosed to the public and able to be accessed by a general public investor. The result, therefore, is from the perspective of a third party. It is not an evaluation of operation and is not based on inside information.

The survey result is as of the date appearing in the Corporate Governance Report of Thai Listed Companies. As a result, the survey results may be changed after that date.

FSS International Investment Advisory Company Limited does not confirm nor certify the accuracy of such survey results.

* CGR scoring should be considered with news regarding wrong doing of the company or director or executive of the company such unfair practice on securities trading, fraud, and corruption SEC imposed a civil sanction against insider trading of director and executive; ** delisted

Source: Thai Institute of Directors Association (IOD); FSSIA's compilation

Anti-corruption Progress Indicator 2020

CERTIFIED										
2S	ADVANC	AI	AIE	AIRA	AKP	AMA	AMANA	AP	AQUA	ARROW
ASK	ASP	AYUD	B	BAFS	BANPU	BAY	BBL	BCH	BCP	BCPG
BGC	BGRIM	BJCHI	BKI	BLA	BPP	BROOK	BRR	BSBM	BTS	BWG
CEN	CENTEL	CFRESH	CGH	CHEWA	CHOTI	CHOW	CIG	CIMBT	CM	CMC
COL	COM7	CPALL	CPF	CPI	CPN	CSC	DCC	DELTA	DEMCO	DIMET
DRT	DTAC	DTC	EASTW	ECL	EGCO	FE	FNS	FPI	FPT	FSS
FTE	GBX	GC	GCAP	GEL	GFPT	GGC	GJS	GPSC	GSTEEL	GUNKUL
HANA	HARN	HMPRO	HTC	ICC	ICHI	IFS	INET	INSURE	INTUCH	IRPC
ITEL	IVL	K	KASET	KBANK	KBS	KCAR	KCE	KGI	KKP	KSL
KTB	KTC	KWC	L&E	LANNA	LHFG	LHK	LPN	LRH	M	MAKRO
MALEE	MBAX	MBK	MBKET	MC	MCOT	MFC	MFEC	MINT	MONO	MOONG
MPG	MSC	MTC	MTI	NBC	NEP	NINE	NKI	NMG	NNCL	NSI
NWR	OCC	OCEAN	OGC	ORI	PAP	PATO	PB	PCSGH	PDG	PDI
PDJ	PE	PG	PHOL	PL	PLANB	PLANET	PLAT	PM	PPP	PPPM
PPS	PREB	PRG	PRINC	PRM	PSH	PSL	PSTC	PT	PTG	PTT
PTTEP	PTTGC	PYLON	Q-CON	QH	QLT	QTC	RATCH	RML	RWI	S & J
SABINA	SAT	SC	SCB	SCC	SCCC	SCG	SCN	SEAOIL	SE-ED	SELIC
SENA	SGP	SIRI	SITHAI	SMIT	SMK	SMPC	SNC	SNP	SORKON	SPACK
SPC	SPI	SPRC	SRICHA	SSF	SSSC	SST	STA	SUSCO	SVI	SYNTEC
TAE	TAKUNI	TASCO	TBSP	TCAP	TCMC	TFG	TFI	TFMAMA	THANI	THCOM
THIP	THRE	THREL	TIP	TIPCO	TISCO	TKT	TTB	TMD	TMILL	TMT
TNITY	TNL	TNP	TNR	TOG	TOP	TPA	TPCORP	TPP	TRU	TSC
TSTH	TTCL	TU	TVD	TVI	TVO	TWPC	U	UBIS	UEC	UKEM
UOBKH	UWC	VGI	VIH	VNT	WACOAL	WHA	WHAUP	WICE	WIIK	XO
ZEN	TRUE									
DECLARED										
7UP	ABICO	AF	ALT	AMARIN	AMATA	AMATAV	ANAN	APURE	B52	BKD
BM	BROCK	BUI	CHO	CI	COTTO	DDD	EA	EFORL	EP	ERW
ESTAR	ETE	EVER	FSMART	GPI	ILINK	IRC	J	JKN	JMART	JMT
JSP	JTS	KWG	LDC	MAJOR	META	NCL	NOBLE	NOK	PK	PLE
ROJNA	SAAM	SAPPE	SCI	SE	SHANG	SINGER	SKR	SPALI	SSP	STANLY
SUPER	SYNEX	THAI	TKS	TOPP	TRITN	TTA	UPF	UV	WIN	ZIGA

Level	
Certified	This level indicates practical participation with thoroughly examination in relation to the recommended procedures from the audit committee or the SEC's certified auditor, being a certified member of Thailand's Private Sector Collective Action Coalition Against Corruption programme (Thai CAC) or already passed examination to ensure independence from external parties.
Declared	This level indicates determination to participate in the Thailand's Private Sector Collective Action Coalition Against Corruption programme (Thai CAC)

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Note: Companies participating in Thailand's Private Sector Collective Action Coalition Against Corruption programme (Thai CAC) under Thai Institute of Directors (as of June 24, 2019) are categorised into: 1) companies that have declared their intention to join CAC, and; 2) companies certified by CAC.

Source: The Securities and Exchange Commission, Thailand; * FSSIA's compilation

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Suwat Sinsadok, CFA, FRM, ERP FSS International Investment Advisory Securities Co., Ltd

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Company	Ticker	Price	Rating	Valuation & Risks
PTT PCL	PTT TB	THB 38.50	BUY	Risks to our SoTP-based valuation are the oil price and potential earnings downside from government intervention.
PTT Explor & Prod	PTTEP TB	THB 128.00	BUY	Risks our TP, which is based on EV/EBITDA, are a sharp decline in oil price and a potential earnings downside from government intervention.
PTT Global Chemical	PTTGC TB	THB 54.75	BUY	The key downside risks to our EV/EBITDA-based TP are the weaker-than-expected HDPE price and HDPE-naphtha margin
Siam Cement	SCC TB	THB 393.00	BUY	Downside risks to our SOTP based TP include 1) a lower-than-expected demand for chemicals, CBM, and packaging; 2) rising coal costs for its cement and packaging units; and 3) weaker demand from the automobile industry that could erode the demand for SCC's chemical unit and its dividend contributions.
Indorama Ventures	IVL TB	THB 48.00	BUY	The key downside risks to our EV/EBITDA-based TP are weaker-than-expected margins for PX-PTA and PET-PTA, lower demand for polyester, and delays in IVL's projects.
B.Grimm Power	BGRIM TB	THB 33.75	BUY	The downside risks to our SoTP-based TP include 1) lower-than-expected demand for electricity in Thailand, 2) a lower crude price, and 3) unplanned shutdowns of its SPPs.
Gulf Energy Development	GULF TB	THB 50.75	BUY	The downside risks to our SoTP-based TP on GULF include 1) lower-than-expected demand for electricity in Thailand; 2) a lower crude price; and 3) delays in project commercial operation dates.
Global Power Synergy	GPSC TB	THB 75.50	BUY	The downside risks to our SoTP-based TP on GPSC include 1) lower-than-expected demand for electricity in Thailand; 2) a lower crude price; and 3) lower-than-expected demand from industrial users.
Electricity Generating	EGCO TB	THB 182.00	BUY	Downside risks to our SoTP-based TP include 1) lower-than expected demand for electricity in Thailand; 2) delays in project commencement or commercial operation dates (COD); and 3) government intervention in electricity tariff subsidies.
Ratch Group	RATCH TB	THB 46.00	BUY	The downside risks to our SoTP-based TP include 1) lower-than-expected demand for electricity in Thailand; 2) lower crude price; and 3) delays in starting new projects.
Banpu	BANPU TB	THB 11.10	BUY	We see downside risks to our SoTP-based TP from lower coal prices, higher diesel costs and any unplanned shutdowns of its power plants.

Source: FSSIA estimates

Additional Disclosures

Target price history, stock price charts, valuation and risk details, and equity rating histories applicable to each company rated in this report is available in our most recently published reports. You can contact the analyst named on the front of this note or your representative at Finansia Syrus Securities Public Company Limited

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All share prices are as at market close on 23-Feb-2022 unless otherwise stated.

RECOMMENDATION STRUCTURE

Stock ratings

Stock ratings are based on absolute upside or downside, which we define as $(\text{target price}^* - \text{current price}) / \text{current price}$.

BUY (B). The upside is 10% or more.

HOLD (H). The upside or downside is less than 10%.

REDUCE (R). The downside is 10% or more.

Unless otherwise specified, these recommendations are set with a 12-month horizon. Thus, it is possible that future price volatility may cause a temporary mismatch between upside/downside for a stock based on market price and the formal recommendation.

* In most cases, the target price will equal the analyst's assessment of the current fair value of the stock. However, if the analyst doesn't think the market will reassess the stock over the specified time horizon due to a lack of events or catalysts, then the target price may differ from fair value. In most cases, therefore, our recommendation is an assessment of the mismatch between current market price and our assessment of current fair value.

Industry Recommendations

Overweight. The analyst expects the fundamental conditions of the sector to be positive over the next 12 months.

Neutral. The analyst expects the fundamental conditions of the sector to be maintained over the next 12 months.

Underweight. The analyst expects the fundamental conditions of the sector to be negative over the next 12 months.

Country (Strategy) Recommendations

Overweight (O). Over the next 12 months, the analyst expects the market to score positively on two or more of the criteria used to determine market recommendations: index returns relative to the regional benchmark, index sharpe ratio relative to the regional benchmark and index returns relative to the market cost of equity.

Neutral (N). Over the next 12 months, the analyst expects the market to score positively on one of the criteria used to determine market recommendations: index returns relative to the regional benchmark, index sharpe ratio relative to the regional benchmark and index returns relative to the market cost of equity.

Underweight (U). Over the next 12 months, the analyst does not expect the market to score positively on any of the criteria used to determine market recommendations: index returns relative to the regional benchmark, index sharpe ratio relative to the regional benchmark and index returns relative to the market cost of equity.