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## Sanctions and Moscow's Adaptation Strategy

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Following Russia's annexation of Crimea in 2014 and its hybrid war in Eastern Ukraine, the US and EU imposed several waves of sanctions on Russia. This chapter delves into how these sanctions, primarily those imposed on the energy sector, have impacted and shaped Russia's foreign energy strategy. By design, Western sanctions did not aim to limit the current supply of energy exported from Russia, but intended to raise the cost of developing Russia's long-term and technologically challenging projects. This chapter examines Moscow's adaptation strategy and assesses how sanctions have altered (and bolstered) Russia's reliance and strategy in the Asia-Pacific energy market.

The sanctions came in three 'waves'. The first two batches included diplomatic sanctions, visa bans and asset freezes. The third wave—'smart' sectoral sanctions—pinpointed only certain activities of particular Russian energy, defence and financial entities. Within the energy sector, a combination of financial and technological restrictions have been in place since September 2014. The US has prohibited new debt financing with a maturity period exceeding 90 days for Gazpromneft, Rosneft, Novatek, Transneft and their subsidiaries.<sup>1</sup> A ban on technology transfer was designated for Gazprom, Gazpromneft, Lukoil, Rosneft, Surgutneftegas

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<sup>1</sup> Office of Foreign Assets Control, 'Directive 2 (as Amended) Under Executive Order 13662', US Department of the Treasury, 12 September 2014, [www.treasury.gov/resource-center/sanctions/Programs/Documents/eo13662\\_directive2.pdf](http://www.treasury.gov/resource-center/sanctions/Programs/Documents/eo13662_directive2.pdf).

and their subsidiaries. The provision, export and re-export of goods, services or technology for the exploration and production of deepwater, Arctic offshore and shale oil projects in Russia was also restricted.

Following the US, the EU imposed similar financial and technological sanctions that varied in certain aspects. As the EU's energy dependency on Russia has been substantially higher than that of the US, the EU excluded Gazprom and Novatek from their restrictions and spared the gas industry altogether. In addition, the EU's sanctions included a so-called 'grandfathering' clause that validated pre-existing contracts, allowing European companies to do business with sanctioned entities. In contrast to the US, the EU abstained from sanctioning CEOs of Russian energy majors associated with the Kremlin, and limited its sanctions listings to political entities rather than business organisations.<sup>2</sup>

With the US's *Countering America's Adversaries through Sanctions Act* (CAATSA), the once well-coordinated transatlantic sanctions started to diverge. Signed by then US President Donald Trump in August 2017, CAATSA stiffened conditions for Russia's energy sector, while the EU's sanctions continued maintaining the status quo. CAATSA's provisions revised down new debt borrowing for Russian energy companies by limiting it to a 60-day maturity. The scope of technological sanctions was expanded: for example, the technology transfer to Russia's deepwater, Arctic offshore and shale oil projects worldwide (not just in Russia) was prohibited. More importantly, the new regulation introduced secondary sanctions on third parties. Non-US individuals and entities were banned from making significant investments in the construction, modernisation or repair of Russian energy export pipelines with a fair market price of more than US\$1 million. Such a provision made the construction of Nord Stream 2 a clear victim of the legislation and aimed to target European companies involved. After the EU's outrage, the legislation was revised, altering the threshold to a 33 per cent or greater ownership and introducing a grandfathering clause, thus leaving Nord Stream 2 out of the legal brackets. In the spirit of transatlantic solidarity, secondary sanctions on Russian export energy pipelines would only be applied in coordination with allies. However, no particular mechanism was specified

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2 Daniel P. Ahn and Rodney Ludema, 'Measuring Smartness: Understanding the Economic Impact of Targeted Sanctions', US Department of State, Working Paper, January 2017, 30.

in the provision.<sup>3</sup> Since July 2020, the US Department of State has lifted the grandfathering clause, exposing Nord Stream 2 to US extraterritorial sanctions and aggravating tensions with EU allies and Germany in particular.

Other Western allies such as Canada and Australia followed suit and imposed similar financial and technological sanctions, while Norway introduced export controls for goods, services and technology for unconventional projects. Japan and New Zealand imposed only symbolic sanctions and abstained from targeting Russia's energy sector. China, India, South Korea, Singapore and Vietnam did not impose any sanctions on Russia at all.

## Impact of Sanctions on Russia's Energy Sector

The sanctions were exclusively limited to the oil industry, targeting the upstream sector (i.e. exploration and development). As a result, the short-term effects of the sanctions have been modest at best, while Russia's oil and gas production has continued to climb. Throughout 2016 and 2018, Russian oil output growth was at its highest in a decade, and Russian gas exports to Europe hit record levels.<sup>4</sup> Russia's output growth was maintained by the increase of production drilling—58 per cent of which was performed in Western Siberia's brownfields.<sup>5</sup> A steep decline in production and exploration was avoided due to currency devaluation, lavish investments and generous tax breaks. The depreciation of the rouble proved to be beneficial for Russian energy producers. It decreased costs for Russian energy companies, as the drop in roubles discouraged imports and lowered prices for Russian manufacturers.<sup>6</sup> Low mineral extraction tax and export duties kept projects profitable even amid plunging oil

3 US Department of the Treasury, *Countering America Adversaries through Sanctions Act*, Public Law, 115–44, 2 August 2017, [www.govinfo.gov/content/pkg/BILLS-115hr3364enr/html/BILLS-115hr3364enr.htm](http://www.govinfo.gov/content/pkg/BILLS-115hr3364enr/html/BILLS-115hr3364enr.htm).

4 Deloitte, *Obzor neftegazovogo rynka v Rossii—2019* [Overview of the Russian oilfield services market—2019], 10, [www2.deloitte.com/content/dam/Deloitte/ru/Documents/energy-resources/oil-gas-survey-2019-en.pdf](http://www2.deloitte.com/content/dam/Deloitte/ru/Documents/energy-resources/oil-gas-survey-2019-en.pdf).

5 Deloitte, *Obzor neftegazovogo rynka v Rossii—2019*, 11.

6 Bud Coote, 'Impact of Sanctions on Russia's Energy Sector', Atlantic Council, 1 March 2018, 3, [www.atlanticcouncil.org/in-depth-research-reports/report/impact-of-sanctions-on-russia-s-energy-sector/](http://www.atlanticcouncil.org/in-depth-research-reports/report/impact-of-sanctions-on-russia-s-energy-sector/).

prices. Large financial reserves helped energy companies to offset their debt. Altogether, it cushioned the impact of the sanctions and kept Russian energy companies afloat.<sup>7</sup> In the short term, the uncertainty of the political environment and economic volatility had a more immediate effect on the market rather than the sanctions per se. The drop in oil prices affected investment plans and forced the Russian Ministry of Energy to revise its output forecasts by adjusting the baseline oil price from US\$110 to US\$42.5 per barrel.

Although these short-term effects are seemingly insignificant, in the long term they are set to have a compounding influence with irreversible negative consequences. The combination of financial and technological sanctions will affect Russia's ability to sustain production volumes in the future. In Western Siberia, the brownfields are gradually depleting, making access to enhanced oil recovery technology crucial. Yet, it is currently denied by the sanctions. Even prior to sanctions, the resource deposits had been depreciating, requiring significant capital investments and state-of-the-art extraction technology. Over the last few years, the effectiveness of drilling has continued to drop, requiring more capital investment in the repair of drilling wells.<sup>8</sup> Currently, Russian firms recover oil at a rate of 25 per cent—a strikingly low figure in comparison with the world's technological leaders whose oil recovery rates lie at 50 per cent.<sup>9</sup> Hydraulic fracturing will remain the key technology to sustain future production levels and will require special software to improve economic optimisation and monitoring performance.<sup>10</sup> In Eastern Siberia, both financial restrictions and technology-related sanctions will be critical for the development of new fields. As the majority of Eastern Siberian fields are underdeveloped, larger investments and advanced technology will be necessary for the exploration and development of resource deposits. Currently, only 9 per cent of oil extraction takes place in Eastern Siberia.<sup>11</sup>

7 Tatiana Mitrova, Ekaterina Grushevenko and Artyom Milov, 'The Future of Oil Production in Russia: Life Under Sanctions', Skolkovo Energy Center, Moscow School of Management, March 2019, 4; Deloitte, *2015 Russian Oilfield Service Market: Current State and Trends*, October 2015, 3, [www2.deloitte.com/content/dam/Deloitte/ru/Documents/energy-resources/2015-russian-oilfield-service-market-current-trends.pdf](http://www2.deloitte.com/content/dam/Deloitte/ru/Documents/energy-resources/2015-russian-oilfield-service-market-current-trends.pdf).

8 Deloitte, *Obzor neftegazovogo rynka v Rossii—2019*, 8.

9 'Rossiia ostalas' bez sovremennykh tekhnologiy dobychi nefti' [Russia is left without modern technology for oil extraction], *Finanz.ru*, 3 August 2018, [www.finanz.ru/novosti/birzhevyye-tovary/rossiya-ostalas-bez-sovremennykh-tekhnologiy-dobychi-nefti-1027429571](http://www.finanz.ru/novosti/birzhevyye-tovary/rossiya-ostalas-bez-sovremennykh-tekhnologiy-dobychi-nefti-1027429571).

10 Mitrova, Grushevenko and Milov, 'The Future of Oil Production in Russia', 5.

11 Deloitte, *Obzor neftegazovogo rynka v Rossii—2019*, 11.

For now, Western sanctions have mainly negatively affected Russia's long-term capital-intensive offshore and shale projects. A series of projects were suspended due to the sanctions: a joint project between Lukoil and Total for tight oil exploration on the Bazhenov formation; nine projects between Rosneft and ExxonMobil for tight oil production in West Siberia, geological research in the Black Sea, an offshore oil project in the Okhotsk Sea and test-drilling in the Kara Sea; and a joint project between Gazprom and Royal Dutch Shell for oil and gas production in the Okhotsk Sea.<sup>12</sup> The lack of advanced technology together with low oil prices disincentivised Russian energy majors to invest in unconventional projects. Between 2014 and 2015, spending on offshore Arctic exploration plunged from US\$1.8 billion to US\$170 million.<sup>13</sup> As a result, no major fields have been discovered since the introduction of sanctions. Given financial and technological constraints, Arctic offshore projects look too risky and potentially unprofitable.<sup>14</sup> Against this background, Gazprom, Rosneft and Novatek officially postponed their Arctic offshore and shale projects until 2030 and asked the government to extend their licence terms due to unexpected delays.<sup>15</sup>

Western sanctions affected Russian energy majors disproportionately. Among Russian energy majors, Rosneft and Gazpromneft were hit the hardest.<sup>16</sup> In particular, Rosneft was impacted by financial sanctions due to its high indebtedness—in 2013 the company's net debt amounted to a staggering US\$70.5 billion. Technologically, it was more challenging for Rosneft to pursue its ambitious plans in the Arctic. In contrast with Gazprom, Rosneft's fields are generally further away from the coast, in the deepwaters of the Barents, Pechora and Kara seas and thus require more high-quality technologies such as telemetric, drilling and marine equipment as well as coastal infrastructure.<sup>17</sup>

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12 Maria Shagina, 'Russia's Energy Sector. Evaluating Progress on Import Substitution and Technological Sovereignty', GRI Special Report, Global Risk Insights, April 2018, 6.

13 Sberbank CIB Investment Research, 'What Happened to the Russian Arctic?', October 2017, 45.

14 In contrast with the Arctic offshore, the development of Arctic onshore is not covered by sanctions and is less costly.

15 Adnan Vatansever, 'Energy Sanctions and Russia: What Comes Next?', Atlantic Council, 5, [www.atlanticcouncil.org/in-depth-research-reports/issue-brief/energy-sanctions-and-russia-what-comes-next/](http://www.atlanticcouncil.org/in-depth-research-reports/issue-brief/energy-sanctions-and-russia-what-comes-next/).

16 Vatansever, 'Energy Sanctions and Russia', 5.

17 Shagina, 'Russia's Energy Sector', 6.

## Dependency on Western Technology and Financial Markets

Russia's resource-dependent, export-oriented economy hinges on its ability to sustain energy output and exports. As the energy sector accounts for 70 per cent of total export revenue and represents about 50 per cent of Russia's federal budget, Western 'smart sanctions' targeted the sector's key vulnerability—high dependency on foreign imports and services.<sup>18</sup> The latter is an example of weaponised interdependence, whereby advanced states possess technological statecraft and control supply value chains in asymmetrically globalised networks, allowing them to maintain leverage over others.<sup>19</sup> Prior to sanctions, Western oilfield service companies such as Schlumberger, Baker Hughes and Halliburton provided over 50 per cent of technologies for Russia's technically advanced projects.<sup>20</sup> The overall dependency on Western technology in the sector constituted 70 per cent. While the reliance on imported goods in conventional projects was low, the share of foreign equipment in unconventional projects such as offshore, shale and liquefied natural gas (LNG) was up to 80 per cent. The dependency on foreign software programming was particularly high—more than 90 per cent. The domestic analogues of advanced equipment, such as offshore platforms, subsea processing equipment, drilling rigs, catalysts for oil processing, high-pressure pumps and others were largely absent.<sup>21</sup>

Financial sanctions exacerbated Russian energy companies' reliance on Western financing. Prior to sanctions, the Russian financial system was closely intertwined with European and American financial markets. Due to the high reliance on hydrocarbons exports, more than 80 per cent of all currency payments were done in US dollars via the Brussels-based Society for Worldwide Interbank Financial Telecommunication (SWIFT).<sup>22</sup> Russian firms were among the largest borrowers from European institutions, as Western markets offered the most cost-effective loans with

18 Tatiana Mitrova, 'Shifting Political Economy of Russian Oil and Gas', Center for Strategic & International Studies, 23 March 2016, 2, [www.csis.org/analysis/shifting-political-economy-russian-oil-and-gas-0](http://www.csis.org/analysis/shifting-political-economy-russian-oil-and-gas-0).

19 Henry Farrell and Abraham Newman, 'America's Misuse of its Financial Infrastructure', *National Interest*, 15 April 2019, [nationalinterest.org/feature/americas-misuse-its-financial-infrastructure-52707](http://nationalinterest.org/feature/americas-misuse-its-financial-infrastructure-52707).

20 'Negative Outlook for Russian Economy as Sanctions Bite', *Strategic Comments* 21, no. 5 (March 2015), [doi.org/10.1080/13567888.2015.1029240](https://doi.org/10.1080/13567888.2015.1029240).

21 Shagina, 'Russia's Energy Sector', 6.

22 Henry Foy, 'Can Russia Stop Using the US Dollar?', *Financial Times*, 3 October 2018.

low interest rates. In particular, by 2014, Rosneft accrued US\$26.2 billion in debt, which had to be repaid by the end of 2015. The majority of the debt was owned by the US, EU and Japanese firms, making Rosneft especially vulnerable to financial restrictions.<sup>23</sup> The prohibition on long-term debt financing undercut the company's development plans for capital-intensive unconventional projects.

## Russia's Response to Sanctions

Accelerated by Western sanctions, Russia's import substitution aimed to mitigate the country's economic and technological vulnerabilities. Although the idea of import substitution was floated well before the geopolitical rift between Russia and the West, it is Western sanctions that have mobilised the launch of an institutionalised and well-funded program. Originally designed as a strategy for spurring economic growth and stimulating competitiveness, import substitution became a strategy for the securitisation of the economy after sanctions were introduced.<sup>24</sup> With the mounting geopolitical tensions between Russia and the West, the import substitution strategy was viewed through the lens of security concerns. Both national security strategy and economic security strategy called for building domestic capabilities in order to reduce the country's vulnerability and to enhance its economic sovereignty.<sup>25</sup> Import substitution was perceived as a way for Russia to shield itself from external threats, including the 'discriminatory measures' used by hostile foreign powers.<sup>26</sup>

Launched in 2015, the Russian Government Commission on Import Substitution created an institutional framework for the replacement of over 2,000 products and technologies across 19 branches of the economy. Within the energy sector, the Ministry of Energy elaborated

23 'Russia Armors Rosneft Against EU Sanctions', *Stratfor*, 8 September 2014.

24 Richard Connolly, *Russia's Response to Sanctions: How Western Economic Statecraft Is Reshaping Political Economy in Russia* (Cambridge: Cambridge University Press, 2018), 69, doi.org/10.1017/9781108227346.

25 Richard Connolly and Philip Hanson, 'Import Substitution and Economic Sovereignty in Russia', Chatham House, 9 June 2016, 3, www.chathamhouse.org/publication/import-substitution-and-economic-sovereignty-russia.

26 'Decree of the President of the Russian Federation of December 31, 2015 No. 683', President of Russia, accessed 27 August 2020, kremlin.ru/acts/bank/40391; Ministry of Energy of the Russian Federation, 'Energeticheskaya strategiya Rossii na period do 2035 goda' [Energy security of the Russian Federation until 2035], 2014, ac.gov.ru/files/content/1578/11-02-14-energostrategy-2035-pdf.pdf.

its own plan with 45 import substitution sections. It was projected that the program would help reduce dependence on imports from 70–90 per cent to 40–50 per cent by 2020. In the short term (by 2016), hydraulic fracturing and directional drilling technologies were planned to be replaced. In the mid-term (by 2018), software for the drilling and exploration of hydrocarbons, high-powered gas turbines, catalysts for oil processing and petrochemicals were scheduled to be substituted among other technologies. In the long term (by 2030), technologies for offshore projects were slated to be domestically produced. By 2035, it was expected to fully substitute foreign technology in the LNG sector.<sup>27</sup>

To stimulate the import substitution program, the Russian Government provided generous support to meet its lofty ambitions. Nearly ₺375 billion were allocated to the program, including some ₺105 billion of government support from the federal budget and the Industrial Development Fund (IDF). The government offered comprehensive support, ranging from tax breaks, state-subsidised credit lines and special investment contracts to favourable procurement regulations. The Ministry of Energy announced that it would compensate 50 per cent of the cost for pilot industrial studies and subsidise 10 per cent of the cost for the heavy industry sector.

To enhance the process of import substitution and ensure its effectiveness, various coordination centres were launched. In 2015, the Scientific and Technical Council for the Development of Oil and Gas Equipment was created, which includes 14 expert groups in key areas such as Equipment for Offshore Projects, Subsea Production Complexes, Gas Transportation Technologies and Equipment, and Natural Gas Liquefaction Technologies. Additionally, the Information Centre, Centre of Reverse Engineering, and Single Centre for Oil and Gas Substitution were created to stimulate the program. These aimed to foster communication across energy companies, synchronise investment projects and explore the potential of national manufacturers in order to avoid unnecessary parallel substitution.<sup>28</sup>

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27 Ministry of Energy of the Russian Federation, 'Energeticheskaya strategiya Rossii na period do 2035 goda'.

28 Shagina, 'Russia's Energy Sector', 10.

## Outcomes of Russia's Import Substitution

Outlined in a Soviet style, the program's timeline was overly optimistic, leading to many unfulfilled or postponed targets. The progress on import substitution has been a partial success, as Russian energy majors managed to supplant certain foreign equipment and technology with homegrown analogues. Gazpromneft developed full-cycle technology for shale oil fracking, Gazprom localised key aspects of LNG storage manufacturing with Russian producers and Lukoil developed drilling platforms for the Caspian Sea. However, the abovementioned examples are single cases and do not represent a widespread trend across the sector. The majority of the substituted items are low-tech imports that do not require significant investments in research and development. In those cases where advanced technology was successfully supplanted, as a rule, it involved foreign suppliers. For example, Lukoil is the first Russian company to successfully implement multistage hydraulic fracturing in Western Siberia. This technology of enhanced oil recovery was, however, acquired from Schlumberger, a leading US oilfield service provider. Gazpromneft's 'Prirazlomnaya' offshore platform is branded as the only Russian platform involved in oil extraction in the Arctic. However, 90 per cent of the platform's components were imported, including a wellhead from Norway. To process and interpret seismic data, Gazpromneft developed Russia's first integral data platform 'Prime'. Nevertheless, Russian state-owned companies, including Rosneft, Roscosmos, Rosnano, Rostec, Rosatom, Russian Railways and VTB Bank preferred foreign products. They welcomed the localisation of foreign software with SAP, Oracle and other IT leaders as the domestic analogues of software programs were of low quality.<sup>29</sup>

As Russian analogues often did not fully match companies' technological requirements or could not compete with market prices, many projects were delayed or required adjustments. For example, Novatek limited the operational capacity of its third LNG plant due to the company's goal to employ Russian technology exclusively. Compared to Novatek's Arctic LNG 2, which has the capacity to produce 6.6 mmt per train, the capacity of the third LNG plant will be limited to 1.6 mmt, as the substitution of high-powered gas turbines is still unsuccessful. The Zvezda Shipyard,

29 'Inostranniy soft vozmut v gruppu' [Foreign software will be included into a group], *Kommersant*, 4 July 2019, [www.kommersant.ru/amp/4019584](http://www.kommersant.ru/amp/4019584).

Rosneft's flagship project of import substitution required lavish financial support from the government and foreign partners for technology transfer in shipbuilding. The shipyard was granted over 40 orders for the construction of vessels, including 17 LNG ice tankers for Novatek's Arctic LNG 2, but lacked domestic capabilities and expertise. The estimated costs for homegrown substitutes ballooned and were reportedly one and a half times higher than vessels ordered abroad. The government pledged to cover the cost difference to ensure that domestic production withstands competition on the market.<sup>30</sup> To compensate the lack of technological expertise, the Zvezda Shipyard signed agreements with Hyundai Heavy Industries and Samsung Heavy Industries, the two leading South Korean companies in shipbuilding.

The homegrown production failed due to a variety of factors, ranging from the decade-long negligence of research and development departments, poor inter-sectoral coordination and cooperation as well as rent-seeking. For years, Russia's scientific-technological base remained chronically underfunded, leading to a glaring technological lag in innovative development between Russian research and development and its foreign counterparts. Yet, restrictions on technology transfer did not encourage Russian companies to invest in research and development—in 2015, only 9 per cent of Russian energy companies were prepared to do so.<sup>31</sup> In a vicious circle, the companies were disincentivised to invest in technological advancements that would ensure high quality and market profitability due to Russia's adverse business climate and high domestic production costs.

Poor coordination of the program of import substitution often led to cost inefficiency. In many cases, it resulted in double production of the same item, leaving out other categories of items that did not have analogues in Russia. Those firms designated by the Russian Government enjoyed privileged access to state resources and were awarded a lion's share of state contracts, while small and middle-sized companies were effectively sidelined. As the case of catalyst substitution aptly demonstrated, Gazpromneft's project 'Catalytic Systems' was granted a national status, receiving generous preferences and funding from the state. At the same

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30 'Zvezdu podtjanut v rynku subsidiiami' [The Zvezda shipyard will be brought into the market with subsidies], *Kommersant*, 31 January 2019, [www.kommersant.ru/doc/3868358](http://www.kommersant.ru/doc/3868358).

31 'Opros rukovoditelei i spetsialistov neftegazovogo sektora' [Expert survey in the oil and gas sector], Deloitte, 2016.

time, other private actors such as KNT Group, which by 2017 had successfully managed to replace the US Grace and German BASF on the Russian catalyst market, remained neglected and unsupported by the government.<sup>32</sup>

The Russian energy majors also showed no willingness to cooperate and exchange their in-house know-how. Rosneft and Novatek refused to join a single engineering centre for LNG projects initiated by Gazprom. The initiative would become a single EPC (engineering, procurement and construction) centre, encompassing the whole production cycle. Facing fierce domestic competition, the Russian energy majors were reluctant to share their technology and expertise with each other. Instead, Novatek announced that it would independently develop its own engineering capacities, together with French Technip, while Rosneft supported the idea of a single competence centre, but on a voluntary basis.

Finally, the generously funded program of import substitution created a negative stimulus for both state and private actors. Lacking monitoring control over implementation, the program suffered from Russia's inherent problems—rent-seeking and rampant corruption. Between 2014 and 2018, domestic producers intentionally inflated costs for locally manufactured items or failed to meet targets on time to obtain more state-subsidised funding. As a result, the public resources allocated for IDF ballooned to more than 12 times the original amount, totalling  $\text{R}\text{87.9 billion}$ .<sup>33</sup> Government authorities and strategic firms prioritised their personal gains and were ready to exploit state resources, despite the government's calls to safeguard economic security.

The protracted progress on import substitution forced the Russian Government to adjust its strategy. On the one hand, the reorientation to non-Western markets was no longer viewed as a short-term plan and the pivot to Asia remained crucial. Conversely, localisation of foreign imports and technology became a quintessential solution to the lingering import substitution. Localisation proved to be an excellent opportunity to supplant advanced equipment while preserving high quality. As Russian subsidiaries of foreign companies were exempted from sanctions, both Western and Asian companies were eager to partake

32 'Importozameshchenie v neftegazovoi promyshlennosti' [Import substitution in the oil and gas sector], *Neftegaz*, 2018, 11, 13.

33 'Importozameshchenie s samonavedeniem' [Import substitution with self-correction], *Kommersant*, 26 June 2019, [www.kommersant.ru/amp/4012894](http://www.kommersant.ru/amp/4012894).

to maintain their market shares in Russia. Gradually, the protectionist requirements for localisation were relaxed: for example, being unable to produce homegrown high-powered gas turbines, Power Machines lobbied for laxer requirements for localisation to guarantee the technology transfer from Western producers.<sup>34</sup>

In the financial sector, the Russian Government took several measures to alleviate the impact of sanctions and to decrease dependency on Western financial markets. In the aftermath of sanctions, state-directed financing became crucial for Russian energy companies. The Russian state effectively shielded strategic companies, including energy majors, from the impact of sanctions to ensure their survival in adverse market conditions.<sup>35</sup> The growth of the state in the Russian economy accelerated, acting effectively as a lender of last resort. Between 2016 and 2018, government funding of the banking sector more than doubled, increasing from US\$3.55 billion to US\$8.44 billion.<sup>36</sup>

To reduce its dependence on Western financial institutions and the US dollar, the Russian Government made necessary steps for the de-dollarisation of the Russian economy. The share of dollar-denominated external debt decreased, while the shares of euro, yuan and gold rose substantially in the Russian sovereign reserves.<sup>37</sup> In the aftermath of the Ukraine crisis, foreign suppliers of goods and services were forced to accept payments in roubles.<sup>38</sup> The so-called 'sanctions clauses' became more widespread: they stipulated that if a Russian entity was prohibited from paying in US dollars, it could do so in Swiss francs, British pounds or euros.<sup>39</sup> Gradually, the euro was chosen as a safe alternative to reduce exposure to the US nexus. Following the trend, the share of dollars in Sino-Russian bilateral trade fell below 50 per cent in 2019, while the euro gained traction as the payment currency, increasing from 7.3 per cent in

34 'Turbinny perekinuli cherez blok' [Turbines were thrown over the bloc], *Kommersant*, 4 July 2019, [www.kommersant.ru/amp/4019612](http://www.kommersant.ru/amp/4019612).

35 'Negative Outlook for Russian Economy as Sanctions Bite'.

36 Thomas Grove and Alan Cullison, 'US Sanctions Tighten Putin's Circle, Extend Kremlin's Reach', *Wall Street Journal*, 11 September 2019.

37 Maximilian Hess, 'Geopolitics, Sanctions and Russian Sovereign Debt Since the Annexation of Crimea', Foreign Policy Research Institute, 25 June 2019, 8, [www.fpri.org/article/2019/06/geopolitics-sanctions-and-russian-sovereign-debt-since-the-annexation-of-crimea/](http://www.fpri.org/article/2019/06/geopolitics-sanctions-and-russian-sovereign-debt-since-the-annexation-of-crimea/).

38 'Russia, Wary of Sanctions, Wants Exporters to Be Paid in Roubles', *Reuters*, 14 May 2014, [www.reuters.com/article/russia-exports-rouble/update-2-russia-wary-of-sanctions-wants-exporters-to-be-paid-in-roubles-idUSL6N0O01RI20140514](http://www.reuters.com/article/russia-exports-rouble/update-2-russia-wary-of-sanctions-wants-exporters-to-be-paid-in-roubles-idUSL6N0O01RI20140514).

39 Hess, 'Geopolitics, Sanctions and Russian Sovereign Debt'. 11.

2018 to 21.9 per cent in 2019. As neither Russian nor Chinese banks had experience dealing with yuan and roubles, the euro was preferred as the most reliable option.<sup>40</sup> Although the vast majority of hydrocarbons have traditionally been traded in US dollars, Russian energy majors started to use the euro as the default payment for its oil and products sales.<sup>41</sup> The transatlantic rift between the US and EU encouraged Brussels to reduce its reliance on US-centred financial systems. The EU declared its intention to create a euro-denominated price benchmark for crude oil to increase the share of the euro in oil trading.<sup>42</sup> Similarly, disagreeing with the US's reimposition of sanctions on Iran, the EU initiated special purpose vehicles as an alternative to SWIFT. Both EU initiatives could become a convenient and legitimate way for Russia to avoid the US nexus in the future.

## Russia's Pivot to Asia

Russia's pivot to Asia has been touted for a long time, but it was only after the Ukraine crisis that the turn to the East became more urgent and pronounced. As none of the Asian states imposed energy sanctions, China, South Korea, Japan, India and Singapore proved instrumental in alleviating the sanctions' burden and providing additional time for Russia to adjust to external pressures. The Asia-Pacific has become a crucial alternative to the European energy market and Western technology, equipment and capital. To offset its former dependence on European energy demand, Russia announced an energy shift towards burgeoning Asian and Chinese markets. Despite being a latecomer, Russia has managed to gain a foothold in the Asia-Pacific energy market. In 2016–17, it became China's largest supplier of crude oil on an annual basis, surpassing Saudi Arabia. Russia is also poised to become a major supplier of natural gas to China within the next decade. With the start of the Power of Siberia in late 2019 and other potential projects, Russia will ramp up its gas export to full capacity.

40 'Dolya dollara v oplate eksporta iz Rossii v Kitai vperve upala nizhe 50%' [The Share of US dollar in payments for Russia's export to China fell below 50% for the first time], *RBC*, 26 July 2019, [www.rbc.ru/economics/26/07/2019/5d39ad439a79477f145b23b0](http://www.rbc.ru/economics/26/07/2019/5d39ad439a79477f145b23b0).

41 'Sanctions-Hit Rosneft Requests Payment in Euros in Naphtha Tender', *Reuters*, 15 August 2019, [www.reuters.com/article/us-russia-rosneft-tenders-euro/sanctions-hit-rosneft-requests-payment-in-euros-in-naphtha-tender-idUSKCN1V41QS](http://www.reuters.com/article/us-russia-rosneft-tenders-euro/sanctions-hit-rosneft-requests-payment-in-euros-in-naphtha-tender-idUSKCN1V41QS).

42 Yusho Cho and Takeshi Kumon, 'China, Russia and EU Edge Away from Petrodollar', *Nikkei Asian Review*, 7 January 2019, [asia.nikkei.com/Economy/China-Russia-and-EU-edge-away-from-petrodollar](http://asia.nikkei.com/Economy/China-Russia-and-EU-edge-away-from-petrodollar).

It envisages increasing hydrocarbons exports to Asia to 20–25 per cent by 2035, while the 2040 energy forecast projects a further rise to 32–36 per cent.<sup>43</sup> As an illustration of Russia's substantial pivot to the East, Novatek plans to ship 80–85 per cent from its Arctic LNG 2 to the region.<sup>44</sup>

By providing equipment and services, Asian countries have not only cushioned the effects of the sanctions but also enabled the continuous operation of Russia's energy projects. Chinese oilfield services replaced Western companies and became a notable alternative supplier of drilling rigs; for example, the share of Yantai Jereh Oilfield Services Group rose to 45 per cent on the Russian market. Although the quality of Chinese equipment did not necessarily meet requirements for drilling in the Russian Arctic and Eastern Siberia, with time, Beijing's technology has significantly improved and is now used for the development of subsea and hard-to-extract resources. China Offshore Oil Engineering Company mastered its ocean engineering technology while participating in Yamal LNG,<sup>45</sup> and two of Russia's largest offshore fields over the last decade were discovered using the Chinese semisubmersible drilling rig 'Nan Hai 8'.<sup>46</sup> Another drilling rig that operates in the Arctic—Gazprom's 'Arkticheskaya'—underwent repair work in Singapore. South Korean shipbuilding companies provided the world's most cutting-edge shipbuilding technologies for the construction of eco-friendly gas-powered tankers for Russia's Arctic projects. Novatek's 15 LNG vessels for Yamal LNG were built by Daewoo Shipbuilding & Marine Engineering (DSME), while Hyundai Heavy Industries and Samsung Heavy Industries signed an agreement with Rosneft's Zvezda Shipyard to transfer technology used in the construction of 17 LNG carriers for Arctic LNG 2. Japanese

43 Ministry of Energy of the Russian Federation, 'Energeticheskaya strategiya Rossii na period do 2035 goda'; A. A. Makarov, T. A. Mitrova, V. A. Kulagin, eds, *Global and Russian Energy Outlook 2019* (Moscow: ERI RAS – Moscow School of Management SKOLKOVO, 2019), 134.

44 'Novatek Plans to Send 80% of Future Arctic LNG Output to Asia: CEO', S&P Global Platts, 7 June 2019, [www.spglobal.com/platts/en/market-insights/latest-news/natural-gas/060719-novatek-plans-to-send-80-of-future-arctic-lng-2-output-to-asia-ceo](http://www.spglobal.com/platts/en/market-insights/latest-news/natural-gas/060719-novatek-plans-to-send-80-of-future-arctic-lng-2-output-to-asia-ceo).

45 Erica Downs, 'China-Russia Energy Relations: Better Than Ever', in *The Emerging Russia-Asia Energy Nexus*, ed. Erica Downs et al., *NBR Special Report 74* (December 2018): 25.

46 Atle Staalesen, 'Chinese Rig Makes Second Large Discovery in Russian Arctic Waters', *Barents Observer*, 20 May 2019, [thebarentsobserver.com/en/industry-and-energy/2019/05/chinese-rig-makes-second-large-discovery-russian-arctic-waters](http://thebarentsobserver.com/en/industry-and-energy/2019/05/chinese-rig-makes-second-large-discovery-russian-arctic-waters).

partners provided expertise for the building of LNG modular plants. JGC Corporation and Chiyoda Corporation won an EPC tender, covering the engineering, procurement and construction of Novatek's Yamal LNG.<sup>47</sup>

Strapped for cash, Russian banking institutions and energy companies also turned to the East. The Asian credit organisations linked to governments became the main financial vehicle for the provision of financial support. Decoupled from Western financial systems, China Development Bank (CDB), Silk Road Fund, Export–Import Bank of China, Japan Bank for International Cooperation (JBIC) and Export–Import Bank of Korea mitigated the sanctions' risks and signalled to the private sector that the state would guarantee support. For example, CDB, Export–Import Bank of China and Silk Road Fund agreed to provide loans to US-sanctioned Novatek, covering the necessary amount of external funding. Support from China's government-backed institutions ensured that Yamal LNG's launch was on time and on budget.<sup>48</sup> Similarly, the government-backed JBIC provided several loans to Novatek, Sberbank and Transneft—all of which are sanctioned by the US.<sup>49</sup> In contrast, Asian private banks and financial institutions were reluctant to lend unless their respective governments provided assurances for mitigating the sanctions' risks. Fearing penalties from the US, Chinese, Japanese and South Korean private businesses were wary of lending to Russia's sanctioned entities and often over-complied with Western restrictions. For instance, Japanese companies refused Rosneft's offer to buy a share in the Far East LNG, the Eastern Petrochemical Company and the Zvezda Shipbuilding Complex, while both Japanese and Korean energy majors hesitated over whether to acquire equities in Arctic LNG 2. It was only after the Japan Oil, Gas and Metals National Corporation (JOGMEC), a government agency, covered 75 per cent of investments that Mitsui & Co., a private Japanese trading house, agreed to participate in Novatek's second LNG project.<sup>50</sup>

The Russian Government was compelled to open the door to Asian equity participation in the energy sector due to Western sanctions. As a consequence, the Asian presence in Russian energy projects has strengthened remarkably: China's National Petroleum Corporation and

47 Maria Shagina, 'Under Pressure: Russian Energy Cooperation with Japan and South Korea since Western Sanctions', *Russia Political Economy Project*, 7 February 2019, 5, 8.

48 Downs, 'China-Russia Energy Relations: Better Than Ever', 25.

49 Shagina, 'Under Pressure', 5–6.

50 'Signing of Share Purchase Agreement for Equity Participation into Arctic LNG 2 Project in Russia', press release, Mitsui & Co., 29 June 2019, [www.mitsui.com/jp/en/release/2019/1228966\\_11219.html](http://www.mitsui.com/jp/en/release/2019/1228966_11219.html).

Silk Road Fund acquired stakes in Novatek's Yamal LNG and Arctic LNG 2; Beijing Gas bought 20 per cent of Rosneft's Verkhnechonskneftegaz; China's Siponec took stakes in SIBUR, Russia's top petrochemical company; India's ONGC Videsh acquired stakes in Rosneft's Vankorneft; and Japan's Mitsui & Co. and JOGMEC acquired a 10 per cent stake in Arctic LNG 2.

Mutually established intergovernmental investment funds and alternative financial arrangements became another way of reducing exposure to the US and securing financial operations. Despite being under US sanctions, the Russian Direct Investment Fund (RDIF) reportedly attracted over US\$40 billion in joint funds through long-term strategic partnerships with China, South Korea, India, Japan, Thailand and Vietnam among other countries.<sup>51</sup> For example, RDIF and JBIC established a US\$1 billion investment fund for projects in energy, Far East industry and technology development. Due to financial restrictions, Rosneft used pre-payment arrangements with oil traders and Chinese firms against future oil deliveries.<sup>52</sup> In a bid to alleviate Russia's dependence on US dollars, the de-dollarisation of the economy was promoted. Although the use of local currencies such as the yuan and the rouble was not widespread, the share of euros increased considerably, gradually replacing the greenback. Currency swaps between Russia and China were launched and yuan clearing services with Chinese financial institutions were started.<sup>53</sup> Additionally, Russia and China have been looking into developing alternatives to SWIFT. Moscow's newly launched System for Transfer of Financial Messages allegedly covers 18 per cent of all Russian money transfers, while gradually expanding its network to other countries. Russia has been looking at coordinating its system with China International Payments System and potentially expanding it to Turkey and Iran.<sup>54</sup>

51 'RDIF Partnerships', Russian Direct Investment Fund, accessed 27 August 2020, [rdif.ru/Eng\\_Partnership/](http://rdif.ru/Eng_Partnership/).

52 Connolly, *Russia's Response to Sanctions*, 107.

53 'China's ICBC Starts Renminbi Clearing Services in Russia', *Xinhua*, 22 March 2017, [news.xinhuanet.com/english/2017-03/22/c\\_136149394.htm](http://news.xinhuanet.com/english/2017-03/22/c_136149394.htm).

54 'Trash Discovery Shows Turkey Eyes Putin's Anti-Sanctions Network', *Moscow Times*, 21 August 2019, [www.themoscowtimes.com/2019/08/21/trash-discovery-shows-turkey-eyes-putins-anti-sanctions-network-a66965](http://www.themoscowtimes.com/2019/08/21/trash-discovery-shows-turkey-eyes-putins-anti-sanctions-network-a66965); 'Russian & Chinese Alternatives For SWIFT Global Banking Network Coming Online', *Russia Briefing*, 17 June 2019, [www.russia-briefing.com/news/russian-chinese-alternatives-swift-global-banking-network-coming-online.html/](http://www.russia-briefing.com/news/russian-chinese-alternatives-swift-global-banking-network-coming-online.html/).

Accelerated by Western sanctions, import substitution was launched to safeguard Russia's economic and technological sovereignty. Originally designed as a way to stimulate economic growth and competitiveness, import substitution incrementally descended into selective protectionism with political undertones, directed at shielding strategic firms in revenue-generating sectors. Striving to securitise the economy, the Russian state has become a lender of last resort, significantly increasing its encroachment into the economy and limiting information access on sanctioned entities.

Over the last four years, the policy of import substitution has failed to achieve tangible results. While there are some successful examples of homegrown equipment, they either originate from low-tech categories or were produced with the help of foreign suppliers. Up until now, targets on key advanced equipment and technology have not been met. Due to the lack of domestic capabilities, poor inter-sectoral coordination and rent-seeking, the progress on substitution has been protracted and weighed down by uncompetitive prices and low quality. As a result, import diversification to non-Western markets and localisation of foreign products and technology has gradually replaced Russian-made import substitution. Russian energy majors have become increasingly dependent on Chinese funding, equipment and services. The failure to develop its own equipment will be detrimental to Russia's local manufacturing and technological development in the future. As Chinese financial support often comes with a binding condition on the use of Chinese technology and services, Beijing will have considerable leverage over the development of Russia's energy projects and their price policy.

While Russia's pivot to Asia has proved crucial in terms of alleviating the burden of Western sanctions, this is largely contingent on backing from Asian governments. The Asian private sector has largely remained wary of engaging with sanctioned Russian individuals and entities. With US sanctions expanding, Asian governments' backing will be crucial for the mitigation of reputational risks and avoidance of penalties in the future.

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