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The New Deal for Oil Markets: implications for Russia's short-term tactics and long-term strategy

Introduction: adapting to three crises in one

Oil prices have fallen sharply over the past few weeks and have tested lows not seen since the early 2000s. In effect a triple blow has hit the markets. Firstly, the demand shock caused by the coronavirus pandemic; secondly the supply shock as a result of the collapse of the OPEC+ deal on March 6th 2020; and finally the intensified rivalry between the global powers that has led to trade wars, sanctions and disagreement over how best to re-balance the global oil market. This paper focuses on the position of Russia in the current events, highlighting some of the reasons why the country and its oil companies have felt confident in adopting an assertive position in negotiations with both Saudi Arabia and the US. Russia has certainly now become an integral part of the "big three" oil producers and exporters, who combined account for over one-third of the global oil supply. Their actions are going to be key to the future shape of the global oil market, and as a result Russia's strategy and its position with regards to OPEC+ and the current crisis deserves careful consideration.

In early March it appeared that the Kremlin was prepared to sit out a lengthy price war, having refused to accede to Saudi Arabia's demand of production cuts by the OPEC+ group. This decision was driven by a disagreement over the benefit of cuts in stabilizing the oil market and also by a Russian belief that its state budget and the country's oil sector are in a robust position relative to their key competitors thanks to a flexible exchange rate policy, large financial reserves, an adjustable tax system and low production costs. However, one month later the country has decided to completely shift its position and agree to a significant cut in output equivalent to around 20% of crude oil production. The very obvious question is why?

Clearly the reality of the impact of the Covid-19 epidemic and the resulting global economic crisis have played a role, as the speed of change has shocked even those countries who believe they have a strong position. A collapse in oil demand and resulting low oil prices have tested the stress levels of all oil-producing nations as never before and catalysed questions about their economically viable cost of production, fiscal break-evens, and elasticity of supply and demand under quickly changing market conditions. This Energy Insight focuses on Russia's position in regard to these questions and assesses how its oil market strategy has evolved in response to its understanding of the positions of its key rivals.

We will outline our understanding of the Russian position going into the March 6th OPEC + meeting and will discuss what we continue to believe is the country's long-term position with regard to the oil market, which is essentially that the Russian oil industry can survive and maintain a relatively strong position in what will undoubtedly be a very tough two years for the global oil industry. We will also explain our thoughts on why Russia has taken the short-term decision to re-enter the OPEC+ group, which we

believe has been made possible by easier operating conditions in the Russian oil sector during the summer months but is mainly driven by political considerations and a desire to be seen to be part of a responsible effort to stabilize global markets in a time of crisis. We will also outline why, over the longer term, we believe that the Russian economy and its oil companies can survive a low oil price environment for some time and therefore why Russia's short-term tactics may not reflect its long-term oil market strategy.

Calm before the storm

The year 2020 started with the oil price reaching above \$70 per barrel. Cooperation between OPEC and Russia since 2016 had been keeping oil prices in check and seemed to be delivering satisfactory results, with the level of inventories having been brought down to the targeted 5-year average levels. However, during February 2020 oil prices quickly slipped to the low \$50s, reflecting the new worries over the reemergence of a surplus on the back of growing US shale oil and the spread of COVID-19 in China and its impact on Asian (and global) demand for oil. Oil demand projections for 2020 published in February suggested a slowdown, but it was not expected to be too long or too dramatic. For example, the IEA's forecast in February predicted global oil demand would grow by 825,000 b/d in 2020¹. Other parts of the world seemed little affected by the epidemic at the time, although first concerns over the global dispersion of the virus started to appear. During the next few weeks, however, as COVID-19 spread into Europe and North America, the outlook became much grimmer, raising fears that oil demand might not increase at all this year, or might even fall year-on-year, for the first time in decades. On March 9 the IEA assessed global oil demand at 99.9 mb/d in 2020, down around 90,000 b/d from 2019, a first year-on-year decline in several decades². Now, of course, these expectations seem wildly over-optimistic.

The failed meeting which exacerbated a much bigger crisis

The much-discussed meeting between OPEC and Russia in Vienna on March 6th, 2020 took place in an atmosphere of complete uncertainty over the prospects for near-term oil demand. In response to the fall in the oil price the Saudis initially proposed an extension of the most recent production cut of 2.1 mb/d (relative to the output as of October 2018 agreed in December of 2019³) and, also put forward a proposal for a new cut of 1.5 mb/d until the end of 2020. All OPEC+ members supported the proposal except for Russia which suggested an alternative "wait and see" approach, arguing that because the oil demand outlook for 2020 was so vague, OPEC+ should extend the existing deal through the second quarter of 2020 only and return to the question of further production cuts in June. The Saudis, clearly irritated by what they interpreted as Russia's lack of cooperation, said that they were not prepared to countenance a "no action" strategy or bear the bulk of the burden of adjustment and made an ultimatum: either Russia becomes part of the proposed reduction, or the whole OPEC+ deal is off the table. The Russians did not budge, and the rest has become history: from April 1, 2020 all OPEC+ producers have been able to extract as much oil as they like, with the Saudis announcing record discounts for their crude for April deliveries, effectively pursuing a market share strategy. Meanwhile, the COVID-19 pandemic has been accelerating, bringing global economies to a standstill. By March 20th, 2020 oil prices had fallen to the low \$20s, at which level a significant share of current oil output becomes uneconomic, undermining the budgets of countries relying on oil revenues.

In retrospect, the obvious questions to ask are: First, had OPEC+ agreed to the proposed reduction, could it have prevented the oil price collapse? Second, was Russia's position a blunder or a strategic calculation? As far as the first question is concerned, the answer is that it probably could only have slightly mitigated the price fall but not prevented it, given the extent of the demand destruction caused by Covid-19. As to the second question, we are fortunate to have a detailed account of Russia's strategic thinking with regards to OPEC+ from a person who was instrumental in forging the agreement between Russia and Saudi Arabia in 2016 and has been involved in all key negotiations since then including the meeting on March 6 – Russia's Deputy Energy Minister Pavel Sorokin.

¹ <https://www.iea.org/reports/oil-market-report-february-2020>

² <https://www.iea.org/reports/oil-market-report-march-2020>

³ OPEC+ has been reducing output by 1.7 mb/d and several countries led by Saudi Arabia committed to slash additional 0.4 m/bd.

Russia's official view

On March 11, 2020 Sorokin gave a very detailed account of the Russian negotiating team's interpretation of the events in Vienna to the Reuters' correspondents in Moscow. Reuters published the full text of this very important interview only in Russian on the Russian version of its website⁴. It also offered a drastically shortened and abridged version of the interview with some key quotes from Sorokin on the English version of its website.⁵

Sorokin started the interview by describing how the Russian side understood the changing context of the events preceding the OPEC+ agreement and the developments after the deal had been reached. The period of extremely high oil prices in the early 2010s led to many FIDs for high-cost projects in every region of the world. In addition to conventional projects with long investment spans, the shale revolution in North America became a game changer by adding more than 4 mb/d to global supply during 2010-2014 period from tight oil projects with a much shorter investment cycle. Sorokin pointed out that this was also a period of extremely low interest rates in developed countries which enabled new debt to be raised and refinanced easily. Ultimately, he concluded, this launched a cycle of investment into numerous unprofitable projects and resulted in "an unprecedented distortion of economic reality" which is still affecting the oil market today.

Sorokin's next important point was that during the previous oil war for market share a critical price level of \$26-27/bbl had been tested. It led to "supply destruction" on a grand scale and changed "the reckless behavior" of many producers investing in unsustainable projects. The creation of the OPEC+ grouping at that time was meant to be an instrument to encourage stability and predictability, allowing the oil market to become "healthy". At the same time, argued Sorokin, some market players mistakenly decided that OPEC+ would target a certain price range and cut output to ensure that the lower limits were not breached. These players started to increase investments into tight oil in the US, in Canadian tar sands, in offshore projects in Brazil and the Gulf of Mexico. However, this "free ride" for those producers had the effect of making each consecutive production cut by OPEC+ less and less efficient. It also meant, said Sorokin, that at some point OPEC+ would inevitably have been forced to expand its supply to protect the market from a new wave of uneconomic projects.

Commenting on the failure of OPEC+ to agree on March 6th, Sorokin said that Russia's proposal to extend the deal, but not introduce a new cut before the second half of 2020, would have given time for everyone to evaluate the true effect of COVID-19 on demand. Had Russia's proposal been accepted, oil prices would have declined only by \$5-8 per barrel, he suggested, but it would have prevented a price collapse and given plenty of time to assess the situation and make an informed decision. Furthermore, he argued that the outcome would have been within an optimal price range of \$45-55 per barrel, which would be high enough for producers and comfortable for the global economy.

Turning to the alternative proposal, Sorokin asserted that it would be technically challenging for Russia to commit to an additional 300,000 b/d output reduction, bringing Russia's total output reduction commitment (relative to output as of October 2018) to 600,000 b/d. He claimed that Russia is not a swing producer and is working many more fields and wells than producers in the Middle East. Many marginal wells, once stopped, could not be re-started again, but even more importantly, "we cannot fight a falling demand situation when there is no clarity about where the bottom (of demand) is. It is very easy to get caught in a circle when, by cutting once, you get into an even... worse situation in say two weeks: oil prices would shortly bounce back before falling again as demand continued to fall."

Sorokin referred to the spat with Saudi Arabia during the negotiations as "differences of opinion" regarding the most appropriate course of action and insisted that Russia does not want a price war. He said Russia was open to talking to OPEC again: "All communication channels are open, but I cannot predict when we will meet again - this largely depends on our partners".

⁴ <https://ru.reuters.com/article/topNews/idRUKBN20Y2TV-ORUTP>

⁵ <https://www.reuters.com/article/us-oil-opec-russia-exclusive/exclusive-russia-to-opec-deeper-oil-cuts-wont-work-idUSKBN20Y2TJ>

According to Sorokin, Russia's negotiating team modeled different price scenarios, including one of unrestrained production by the members of OPEC+. The key conclusion from this analysis was that without any agreement, oil prices would quickly fall to about \$30/bbl but would then settle in a range of \$40-45/bbl by the end of the year. This explains Russia's negotiating position: the shock, according to their analysis, was going to be relatively short-term and would lead to quicker market rebalancing as "high-cost projects will disappear".

When asked about the impact of the low oil prices on Russia's macroeconomic situation and the performance of Russia's oil companies, Sorokin said that the risks for the budget are minimal owing to the floating ruble exchange rate and the flexible tax system that lowers tax take in a low oil price environment. He gave his estimates of average OPEX and CAPEX for the majority of the Russian oil fields as \$3-8/bbl and \$4-8/bbl correspondingly, while the range of OPEX plus CAPEX for most of Russian producers is from \$9-10/bbl to \$15-20/bbl, not including transportation costs from the wellhead.

To conclude, the Russian Ministry of Energy's position was that it was not Russia that started the price war, but now it has happened Russia is extremely competitive and can withstand a low oil price environment for as long as it takes.

President Putin and the meeting that set Russia's position for the OPEC+ summit

A further interesting element to the oil market debate concerns the involvement of the key actor in all Russia's strategic decisions, namely President Putin. The timeline of his schedule around the March 6th meeting can also tell us much about the Russian position.

Putin had a very busy schedule on March 1st: he was flying to the city of Pskov to attend the 20th anniversary of one of the key events of the Chechen war when 90 paratroopers (the 6th regiment) of the 76th division based in Pskov fought more than 3,000 rebels for two days and did not give ground with almost all the paratroopers being killed in the battle. Before boarding his plane, Putin summoned the heads of the main Russian oil companies and the key members of the government (including Energy Minister Alexander Novak, who was going to Vienna for the OPEC+ meeting shortly after) to Vnukovo airport in Moscow for a brief meeting. This was apparently the last discussion between the key decision-makers when Russia's strategy with regards to OPEC+ was agreed. The Kremlin website has the account only for the start of the meeting, as the main discussion happened behind closed doors, but nevertheless Putin's opening remarks are interesting.⁶

Russia's President started by pointing out the troubling economic developments resulting from COVID-19, in particular the decline of the oil price from \$70/bbl at the beginning of the year to \$50/bbl by the time of the discussion. He then said that this price level was comfortable for the Russian budget and the Russian economy since the fiscal breakeven price for the Russian budget in 2020 was set at \$42.40/bbl. Moreover, Russia's financial reserves were substantial and would allow Russia to withstand a possible worsening of the situation in the global economy. Putin said that the international currency reserves of Russia's Central Bank amounted to \$563 billion. This includes Russia's National Welfare Fund created for dealing with external crises had accumulated \$124 billion, which would ensure budget stability even under severe economic stress. Then Putin proceeded to talk about the upcoming meeting in Vienna. He called OPEC+ "an effective instrument in providing long-term stability for the global energy markets" and said that "we received additional budgetary revenues [as a result of the deal] and, importantly, our oil companies could invest in perspective new projects".

Putin's remarks match Sorokin's account of Russia's position being in favor of the OPEC+ deal in general and confirm that the meeting did not discuss the end of cooperation with OPEC. Also noteworthy is the general conviction among Russian decision-makers that Russia's position with regards to a possible economic crisis is solid and that Russia's "pain threshold" allows it to confront a very low oil price environment for a long time.

⁶ <http://kremlin.ru/events/president/news/62888>

The views of the Russian oil companies

But what about the Russian oil companies? After all, the Energy Ministry was merely the coordinator of the cooperation between Russia and OPEC, but it is the oil companies that will have to survive the crisis.

On March 12th Russia's Energy Minister Alexander Novak held a meeting with the representatives of Russia's main oil companies. In the midst of the unfolding price war following Saudi Arabia's announcement that it would sharply increase its supply to 12.3 mb/d and would offer huge discounts for its crude for April deliveries, the Russian companies said they were ready to work in a low oil price environment.⁷ Alexander Dukov, the head of Gazpromneft, said that given the company's combined OPEX and CAPEX of only \$10/bbl it was ready for oil prices as low as \$35/bbl for an extended period of time. He also said that Russia wanted the continuation of cooperation in an OPEC+ format, but the decision to end the deal had been taken by OPEC members. Nail Maganov, CEO of Tatneft announced that even an \$8/bbl price was not critical for his company. Vagit Alekperov of LUKoil confirmed that Russian oil companies "have been mobilized" to address the challenge of low prices.

As prices dwindled, however, some started to express their concerns. Leonid Fedun, Vice-President of LUKoil and also one of its largest shareholders, gave an interview to RBC TV on March 19th, 2020, shortly after oil prices had breached \$25/bbl,⁸ where he called the current oil price "catastrophic". He confirmed that during the meeting of the Russian oil companies with President Vladimir Putin on March 1st there was no discussion about leaving OPEC+, although he admitted that some Russian state companies "did lobby that", but even they "could not imagine in their worst nightmare" that prices would fall to the low \$20s. Cheap crude oil as a result of the "war of attrition" between Russia and Saudi Arabia might be beneficial to the US as the world's largest importer and consumer of petroleum, continued Fedun. On the other hand, he said, the price war "will not kill but only wound" US tight oil producers, pushing developments in the US oil patch back six or seven years.

Rosneft versus all

However, although the views of these oil companies are interesting it is really the position of Rosneft, and its CEO Igor Sechin, that matter most, given that the state oil company produced 4.6 mbd of crude in 2019 (41 percent of Russia's total). LUKoil's Fedun hinted in his interview that Rosneft was the main opponent of continued cooperation with OPEC, and this was reiterated when Sechin gave an interview to Evgeniy Primakov, the host of a respected TV program "International Affairs", on March 20, 2020.⁹ Sechin referred to the current crisis as "complex", the result of a mixture of economic and political factors as well as the COVID-19 pandemic. He, however, appeared to believe that these factors were transitory in nature. He pointed out China's recent success in bringing the spread of the coronavirus under control.

Among the "political" factors that contributed to the oil price collapse Sechin mentioned the future US presidential elections and the issue of the succession of power in Saudi Arabia. He then said that the international sanctions against OPEC members such as Iran and Venezuela had also contributed to the reduction of their output. He further argued that the sanctions had diminished the role of OPEC+ in balancing the market and raised questions about its relevance amid the new realities in the marketplace.

Speaking about the significance of the OPEC+ agreement, Sechin said that it did play a role in balancing the oil market by reducing supply, but it was very limited. He pointed out the tremendous increase in oil output in the United States that had turned the former net importer of petroleum into a net exporter. According to Sechin, the US was actively increasing its market share in areas that were critically important to OPEC+ countries: in particular in Europe, China and India. Other non-OPEC producers like Mexico, Brazil and Norway with relatively high production costs were also increasing their output. Sechin then turned to the issue of production costs and stressed that OPEX in Russia is very low, at

⁷ <https://www.rbc.ru/business/12/03/2020/5e6a5c559a79472e60d5b361>

⁸ https://www.rbc.ru/business/19/03/2020/5e726cd49a79475a72b455dc?utm_source=yxnews&utm_medium=desktop&utm_referrer=https%3A%2F%2Fyandex.ru%2Fnews

⁹ https://www.youtube.com/watch?v=AouhoU_uiX0

about \$3.10/bbl, and not much higher than in Saudi Arabia. So, he concluded: “Does it make any sense for us to cut output in this situation?”

Commenting on the oil price collapse, Sechin said that he expected a price recovery to \$50-60 per barrel by year end as a result of the contraction of “shale oil” in the US. Moreover, he expressed doubts about the revival of US oil output to pre-crisis levels after the price rebound since “investors would not trust it [the US tight oil business model]”.

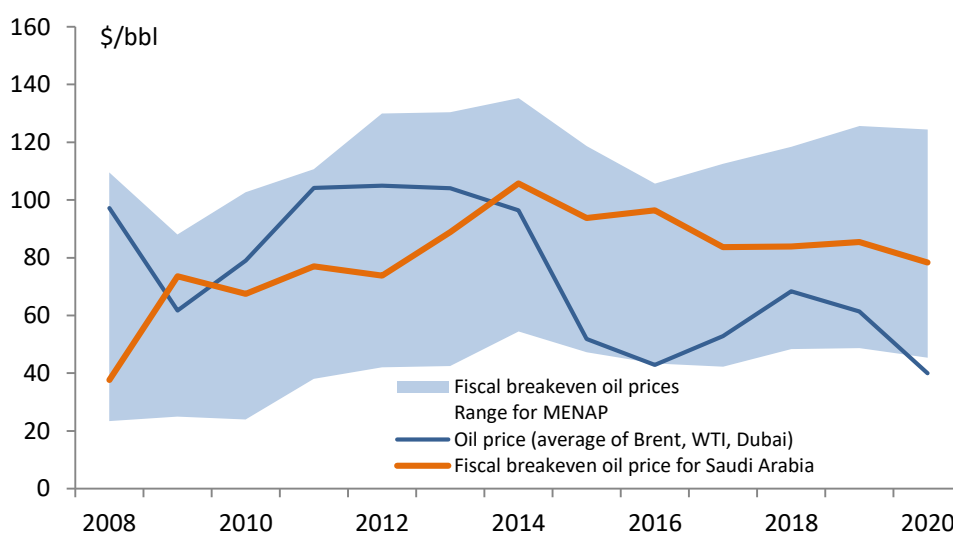
To summarize, most of the Russian oil companies have been braving the storm and saying: “We did not want it, but we can survive the shock better than our key competitors”. At the same time, hardly anyone in Russia anticipated that prices would fall to the low \$20s. Nevertheless, Russia feels that it is better positioned for this price downturn than in 2014-2016 thanks to its record-level of currency reserves and savings in the National Welfare Fund. Rosneft has been the “hawk” with regards to cooperation with other producing countries, but Russia’s official position remains that the agreement worked, and it made sense to extend it. The directives given to Novak did not contain any instructions to terminate OPEC+. This was expressly confirmed by several other key participants in the meeting with Putin on March 1st – Russia’s Prime Minister Mikhail Mishustin¹⁰ and First Deputy Prime Minister Andrey Belousov.¹¹ The initiative to kill the deal, according to Belousov, belonged to “our Arab partners”.

Who is afraid of a low oil price?

Russia’s confidence in its position is based on its beliefs about the issues facing its key competitors. These can be summarized as follows: Saudi Arabia has low-cost production but expensive social needs, while US shale oil cannot survive extremely low oil prices due to its cost base and financing model. Below we outline our understanding of the Russian view based on observations and conversations in Moscow.

Saudi Aramco has the world’s lowest-cost oil. However, the Saudi economy is extremely dependent on oil revenues, and the Saudi budget has had a fiscal breakeven oil price that has exceeded market levels since 2014. Indeed, the IMF estimates that the fiscal breakeven oil price for the kingdom is about \$80/bbl in 2020 (See Figure 1).

Figure 1: Fiscal breakeven price for Saudi Arabia



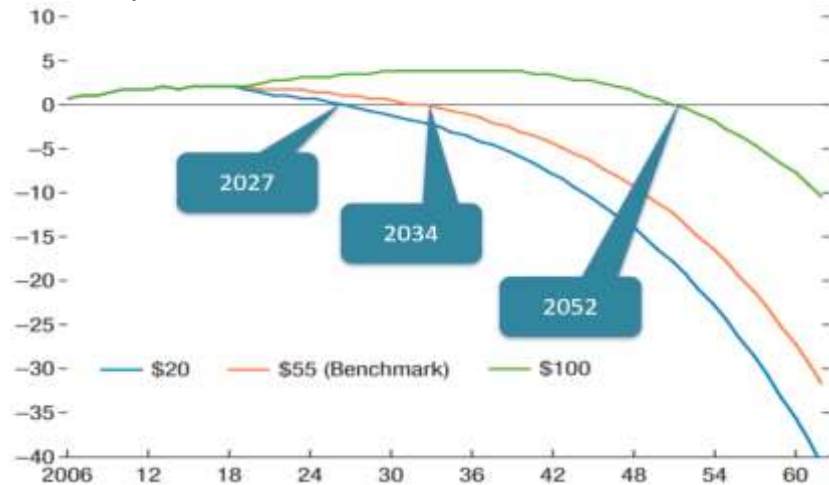
Source: OIES, data from IMF and World Bank

¹⁰ <http://government.ru/news/39127/>

¹¹ https://www.rbc.ru/business/22/03/2020/5e7680e69a79477afec1cfe7?utm_source=yxnews&utm_medium=desktop&utm_referrer=https%3A%2F%2Fyandex.ru%2Fnews

Furthermore, a recent report by the IMF team covering Middle East and Central Asia gave a grave warning that the current fiscal policies of GCC countries are leading them towards a fast depletion of their wealth¹². Unless GCC countries radically change their fiscal systems, a high oil price can only delay this process but not stop it. Moreover, a low oil price may result in a major financial crisis for these countries as soon as 2027 (See Figure 2)

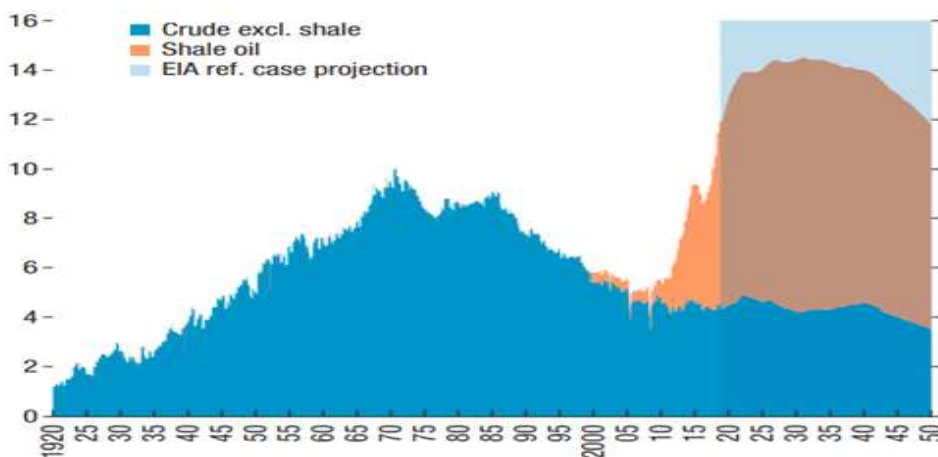
Figure 2: GCC countries' financial wealth depletion under the current fiscal stance (in real 2018 \$US trillion)



Source: The International Monetary Fund

As far as North America is concerned, the region's oil and gas sector has produced a miracle, more than doubling its output during the last decade. The US EIA sees this expansion continuing through to 2030 with crude and condensate output reaching a plateau of over 14 mb/d and then slowly declining during the 2040s (See Figure 3). These high expectations are now confronting the reality of sub-\$30 per barrel prices that may undermine a sector that is already struggling financially. The key reason for this is that "in financial terms, this production boom has been an unrelenting financial bust", as a recent report by the Institute for Energy Economics and Financial Analysis argues¹³.

Figure 3: US Production of Crude Oil and Lease Condensate



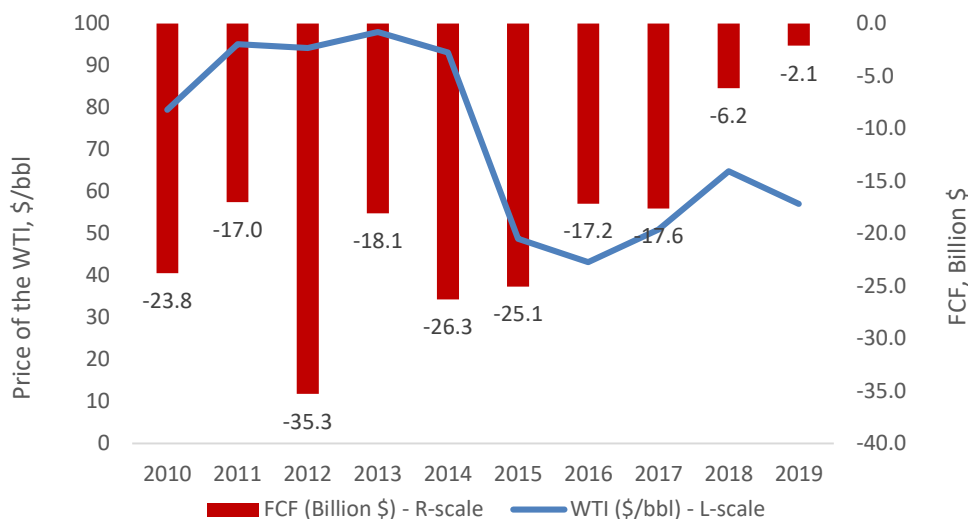
Source: US Energy Information Administration

¹² <https://www.imf.org/en/Publications/Departmental-Papers-Policy-Papers/Issues/2020/01/31/The-Future-of-Oil-and-Fiscal-Sustainability-in-the-GCC-Region-48934>

¹³ https://ieefa.org/wp-content/uploads/2020/03/Shale-Producers-Spilled-2.1-Billion-in-Red-Ink-Last-Year_March-2020.pdf

Specifically, as a group the main shale-focused companies in North America have generated negative free cash flows in every single year over the past ten years, resulting in a negative cumulative total of \$188.6 billion (See Figure 4).

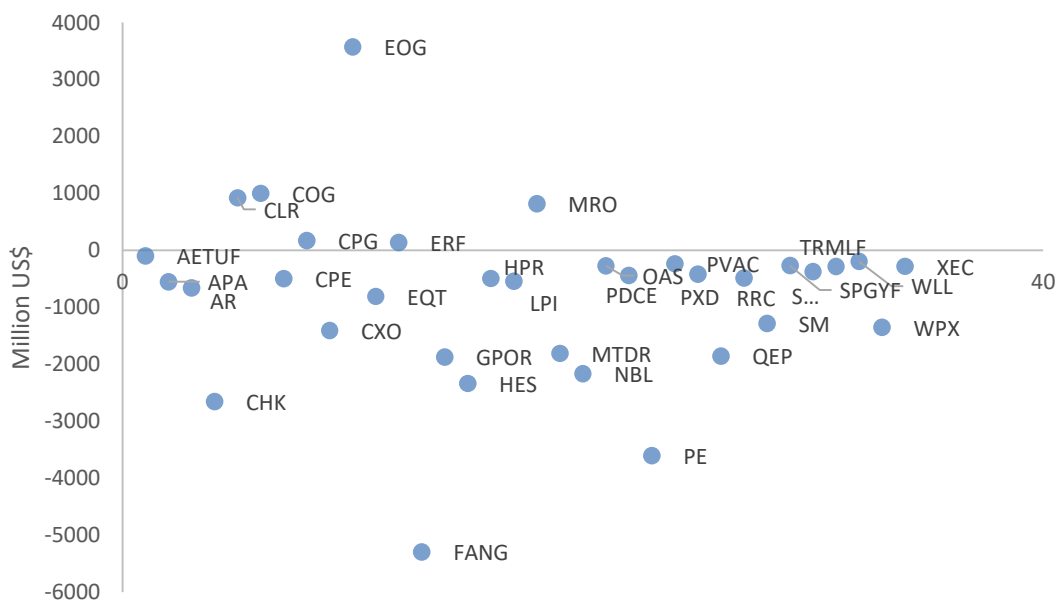
Figure 4: Free Cash Flow of 34 North American Shale-Focused Oil and Gas Companies



Source: OIES, data on FCF based on corporate reports compiled by IEEFA, price data from the World Bank

The cash flow losses reduced in 2019 but remained in negative territory for the group as a whole despite collective cutbacks in capital spending of nearly \$8 billion year-on-year by the companies. Only a few of them produced positive cash flows during 2017-2019 (See Figure 5).

Figure 5: Free Cash Flow of Individual North American Shale-Focused Companies, 2017-2019



Source: OIES, data from IEEFA

It would appear that the business model of delivering increased production volumes while disregarding profitability may have reached its limits, with the IEEFA stating that “fracking has failed as a financial endeavor: even after a decade of technical improvements and increasing investor scrutiny, most shale-

focused companies still burn through more cash than they produce”¹⁴. Indeed, the oil price slump in 2020 combined with a looming recession suggests that North American shale producers are now facing the risk of massive shut-ins.¹⁵

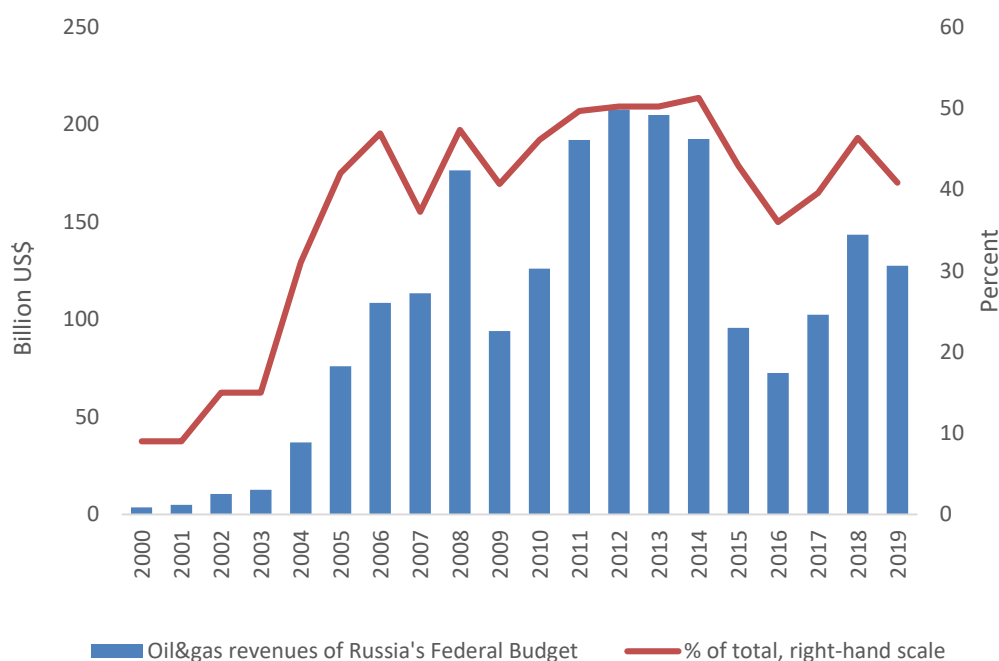
According to an IHS Markit report published on April 1, 2020, if no agreement on supply cuts among the main producers can be reached, the oil market would be overwhelmed by production exceeding available capacity. The result could then be the forced shut-in of oil production amounting to 10 mb/d as storage would essentially be full. Then, following an “extreme, light-speed rebalancing of the oil market” the situation in 2021, when demand returns, would be drastically different from today. U.S. crude production could be as low as 8.8 mb/d by the fourth quarter of 2021 – nearly 32 percent below the figure for the first quarter of 2020. In contrast, Saudi output should be 1.8 mb/d higher and Russian output “just slightly lower” by the final quarter of 2021 compared with Q1 2020.¹⁶

Nevertheless, low oil prices will hurt Russia as well, but in a different way from the Middle Eastern producers or the US. Overall, Russia's resilience to a prolonged oil price slump is quite high as a result of its flexible exchange rate, which allows the country to balance its state budget by way of macro policies, high levels of hard currency reserves and a self-adjusting tax take that protects oil producers in a low oil price environment. In addition, a large share of output from Russian oil companies comes from brownfields with low production costs, and many large fields also enjoy special tax exemptions. While trade-offs between reduced tax take in a low oil price environment and the fiscal needs of the state are an inevitable source of conflict in the longer term, for the next few years Russia is well-positioned to survive the crisis. We review all these factors below.

Russia's budget and oil & gas revenues

Russia's reliance on hydrocarbon revenues is well known. In 2019, proceeds from sales of oil and gas amounted to \$128 billion, or 41 percent of the federal budget revenues (See Figure 6).

Figure 6: Oil and gas revenues of Russia's Federal Budget



Source: OIES, data from Russia's Ministry of Finance and Central Bank

¹⁴ https://ieefa.org/wp-content/uploads/2020/03/Shale-Producers-Spilled-2.1-Billion-in-Red-Ink-Last-Year_March-2020.pdf

¹⁵ <https://www.woodmac.com/news/the-edge/seven-days-that-shook-the-world/>

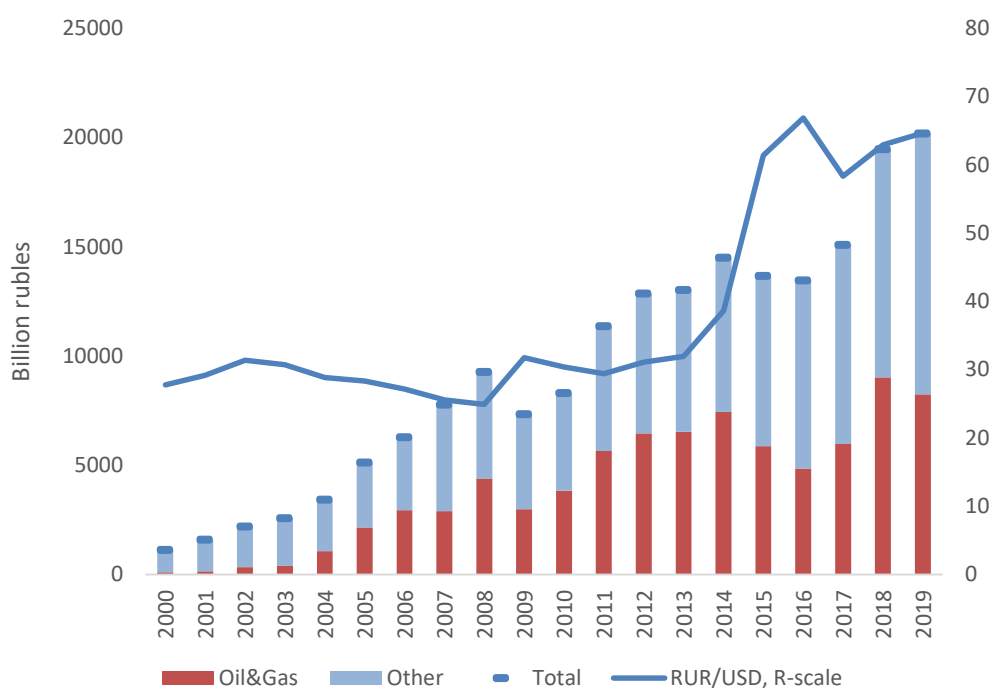
¹⁶ https://www.rigzone.com/news/10mm_bpd_of_oil_output_could_vanish-01-apr-2020-161594-article/

This is something of a decline from the 2011-2014 period, when annual oil and gas revenues were hovering around \$200 billion thanks to the \$100-plus oil price environment, providing around a 50% share of budget revenues, but nevertheless it underlines that hydrocarbons remain a vital source of government cashflow.

Converting Russian oil and gas revenues to dollars, however, hides an important feature of the Russian system – a highly flexible exchange rate regime that has been used to stabilize budgetary revenues during external oil price shocks. Russia moved to a floating currency regime after oil prices collapsed at the end of 2014 and has been using the weak ruble as a shield against adverse external circumstances ever since. When measured in rubles, oil and gas revenues for the budget experienced only slight declines in 2015 and 2016 but have grown strongly in the past two years (See Figure 7).

It is also worth noting that in spite of an oil price recovery to \$80 per barrel and above by the end of 2018, the ruble did not strengthen owing to Russia’s additional policy of putting any extra revenues from oil prices above \$40 per barrel into a national “rainy day” fund called the National Welfare Fund. Essentially, Russia has designed a system that allowed the ruble to depreciate when global oil prices were falling but did not allow it to appreciate when oil prices increased. This had two benefits: as a macroeconomic and fiscal tool it shielded the budget while as an industrial policy instrument it protected the competitiveness of Russian exporters.

Figure 7: Russia’s budgetary oil and gas revenues in rubles



Source: OIES, data from Russia’s Ministry of Finance and Central Bank

A further important consideration is the changing structure of the oil and gas tax take, as over the past few years the Russian government has reallocated the bulk of the overall fiscal burden for crude oil and refined products away from export taxes and towards the mineral extraction tax (Russia’s equivalent of a mineral royalty). (See Table 1)

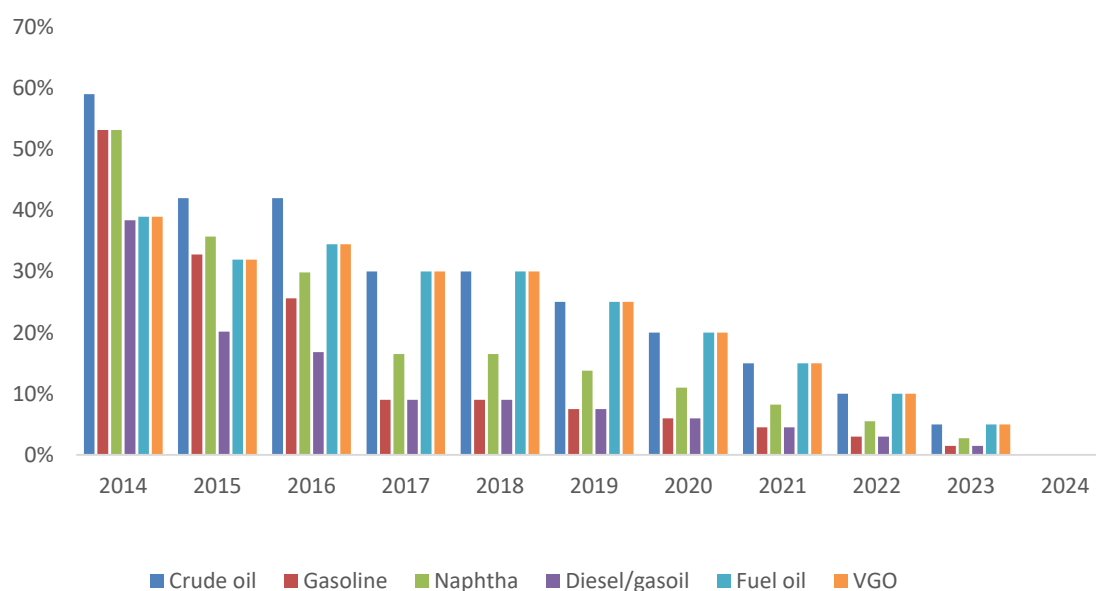
Table 1: Russian budgetary oil and gas tax revenues in 2012-2018 (as percent of GDP)

	<u>2012</u>	<u>2013</u>	<u>2014</u>	<u>2015</u>	<u>2016</u>	<u>2017</u>	<u>2018</u>
Total fiscal revenues	31.86	30.8	31.29	28.97	28.51	30.27	32.72
Fiscal revenues from taxes on oil, gas, and refined products	10.18	9.65	10.01	7.42	6.12	6.84	9.03
<i>including</i>							
MRET, crude oil	3.13	2.99	3.11	3.25	2.72	3.64	5.04
MRET, natural gas	0.39	0.44	0.47	0.51	0.57	0.73	0.75
Excise taxes, refined products	0.54	0.57	0.49	0.36	0.49	0.36	0.35
Export duties, crude oil	3.65	3.19	3.31	1.72	1.2	1.06	1.49
Export duties, natural gas	0.64	0.66	0.62	0.66	0.62	0.63	0.78
Export duties, refined products	1.66	1.65	1.88	0.9	0.52	0.43	0.62
Export duties, oil and oil products for exports from Republic of Belarus	0.17	0.14	0.14	0	0	0	0
Fiscal revenues, not related to oil&gas	21.69	21.15	21.28	21.55	22.39	23.42	23.69

Source: OIES, data for GDP from Rosstat, data for revenues from Federal Treasury

The shift towards wellhead taxes is designed to protect the budget against a possible decline in the volume of Russian oil and gas exports. In 2020 the marginal rate of the export tax on crude oil in Russia is 20% compared with 65% in the early 2010s, and Russia's so-called "tax maneuver" will see a complete phase-out of export taxes on crude and refined products by 2024 (See Figure 8).

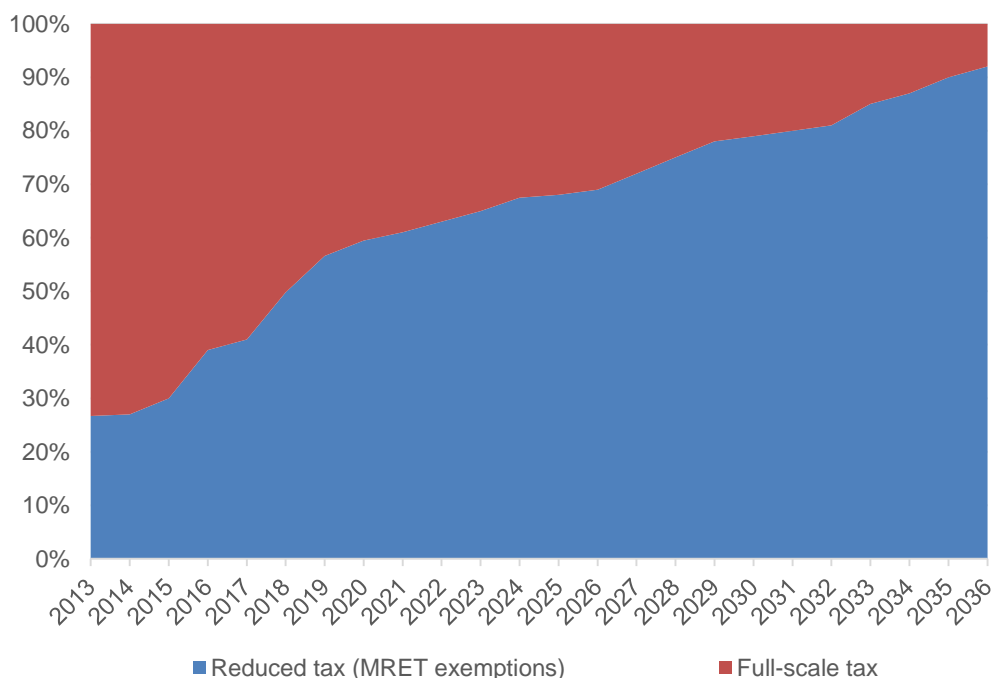
Figure 8: Planned schedule of phasing out petroleum export taxation in Russia: marginal rates of export duty for crude oil and refined products



Source: OIES, based on multiple RF governmental resolutions, actual for 2014-2020, planned for 2021-2024

The downside of this change has been the negative impact it has had on the economics of many Russian brownfields. Whereas mineral royalties are usually site specific, the philosophy of the Russian MRET when it was introduced in the early 2000s was of a "one-size-fits-all" tax. However, over time the Russian tax administrators have had to accept the reality that a production tax should reflect differences in project economics that are a function of site-specific mineral rents. However, a fear of tax avoidance has driven Russian tax policy away from cost-based calculations that might be manipulated by company accountants.

Figure 9: Share of oil production in Russia subject to reduced rates of MRET



Source: OIES, data from Russia’s Ministry of Finance

As a result, numerous exemptions and rate reductions to MRET have had to be granted to alleviate the burden of this revenue-based tax, with these discounts primarily addressing the problems of depleted fields and also the higher cost of new fields in regions lacking developed infrastructure. However, as Russia’s mature production base has deteriorated and more new fields have been brought into production, the share of assets that have been granted various MRET exemptions had reached almost 60 percent by 2020. Moreover, Russia’s Ministry of Finance is concerned that by 2035 the output with reduced rates of MRET could reach 90 percent of the total (See Figure 9).

Anticipating the storm: Russia runs stress-tests for its budget

Amid this complex tax background, at the end of 2019 Russia’s Ministry of Finance submitted a budget for 2020 to the Russian parliament as well as projections for 2021-22. As part of this process it also ran a stress-test that looked at the Russian budget’s resilience to a low oil price (See Table 2). The simulation suggested that even if the oil price (in this case Urals blend) remains at \$25/bbl for a year, oil and gas revenues for Russia would fall by only 2.4 percent of GDP. If oil prices remain at this level for three years, the oil and gas revenue shortfall could reach 7.6 percent of GDP. At the same time, Russia’s National Welfare Fund had collected \$123.4 billion (7.3% of GDP) from surplus oil revenues as of March 1, 2020, which would be enough to offset losses to the state budget from a \$25 oil price for almost three years. Indeed, Russia’s total war chest is even larger, as the country’s total currency reserves (including the NWF) stood at \$581 billion as of 13 March 2020.¹⁷

¹⁷ <https://www.minfin.ru/ru/statistics/fonds/>

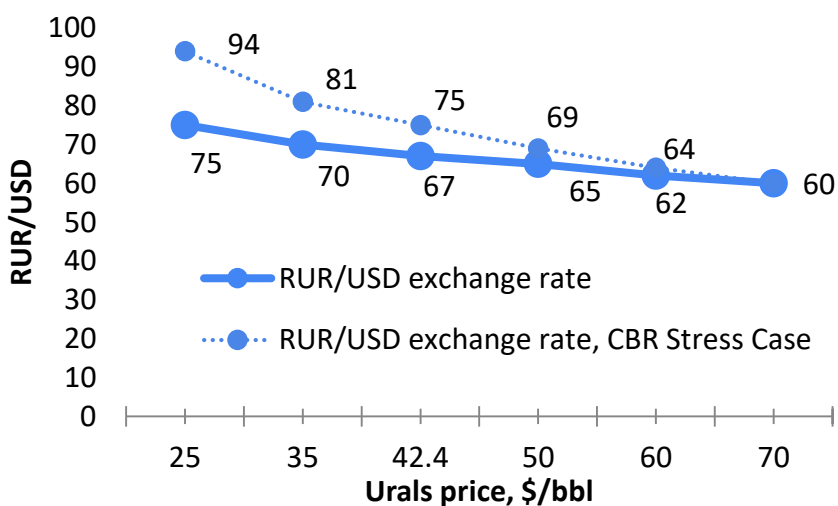
Table 2: Reduction in oil and gas revenues of Russia's Federal Budget under different oil price assumptions (percent of GDP)

Urals price, \$/bbl	Number of years				
	1	3	5	7	10
40	0	0	0	0	0
35	-0.8	-2.5	-4.4	-6.5	-9.9
30	-1.6	-5	-8.9	-13.2	-20.4
25	-2.4	-7.6	-13.6	-20.2	-31.5
20	-3.4	-10.7	-19	-28.3	-43.6
15	-4.4	-13.9	-25	-37.5	-58.9
10	-5	-16.1	-29.1	-44.1	-70.4

Source: Source: Russia's Ministry of Finance, Main directions of budgetary, fiscal, and customs policies for 2020 and 2021-22

At the end of 2019 Russia's Central Bank also ran a stress-test simulation looking at the sensitivity of the ruble exchange rate to changes in oil price¹⁸. According to the CBR if the oil price were to decline to \$25 per barrel then the ruble would depreciate considerably, to a range of 75-94 rubles per US dollar, compared with an average annual exchange rate of 64.9 in 2019. The upper band of the range, apparently, refers to the impact upon the ruble of a prolonged period of low oil prices as opposed to relatively short-term oil price fluctuations (See Figure 10).

Figure 10: Ruble/US dollar exchange rate sensitivity to changes in oil price



Source: OIES, based on CBR guidance

Another important element of stability for Russia has been its very strong financial position, as it has a very low level of external state debt at only 4% of GDP (See Table 3).

¹⁸ http://cbr.ru/Content/Document/File/71220/main_directions.pdf

Table 3: Russia's state debt (billion rubles)

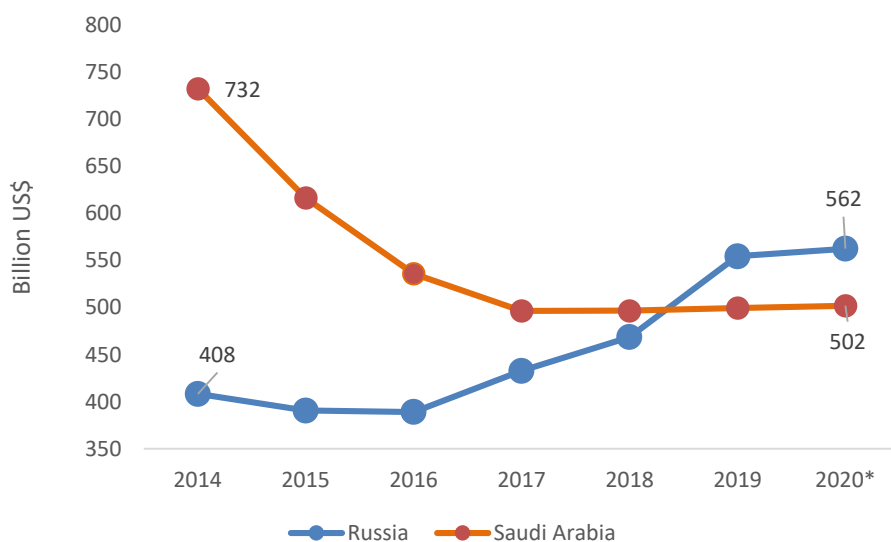
	2019	2020*
State debt	15439.5	17201.9
<i>Percent of GDP</i>	14.2	15.2
including under state guarantees	3351.4	3448.9
<i>Percent of GDP</i>	3.1	3.1
Internal state debt	11142.2	12981.3
<i>Percent of total debt</i>	72.2	75.5
including under state guarantees	1793.2	1823.2
External state debt	4297.3	4220.6
<i>Percent of total debt</i>	27.8	24.5
including under state guarantees	1558.3	1625.7

*Projection

Source: OIES, data from Russia's Ministry of Finance

At the same time, Russia's foreign currency reserves have been increasing steadily and amounted to \$562 billion dollars at the start of 2020. It is worth noting that Saudi Arabia had to spend a significant part of its reserves during the previous oil price shock of 2015-16 and never recovered its pre-2014 position. As a result, in 2019 Russia's foreign currency reserves exceeded those of Saudi Arabia and are \$60 billion higher as of January 2020 (See Figure 11).

Figure 11: Dynamics of international reserves and foreign currency liquidity for Russia and Saudi Arabia



*January 2020

Source: OIES, data from IMF

Impact on Russian oil companies

As noted above, Russian oil companies have also generally been putting a brave face on their ability to survive a low oil price environment, and a look at some of the key numbers would suggest that, although financially painful, current oil prices need not be catastrophic for the majority of the major Russian oils. There are three key reasons for this – firstly the flexible tax system, secondly the movement of the ruble which means that US\$ costs are also very adjustable and thirdly the fact that

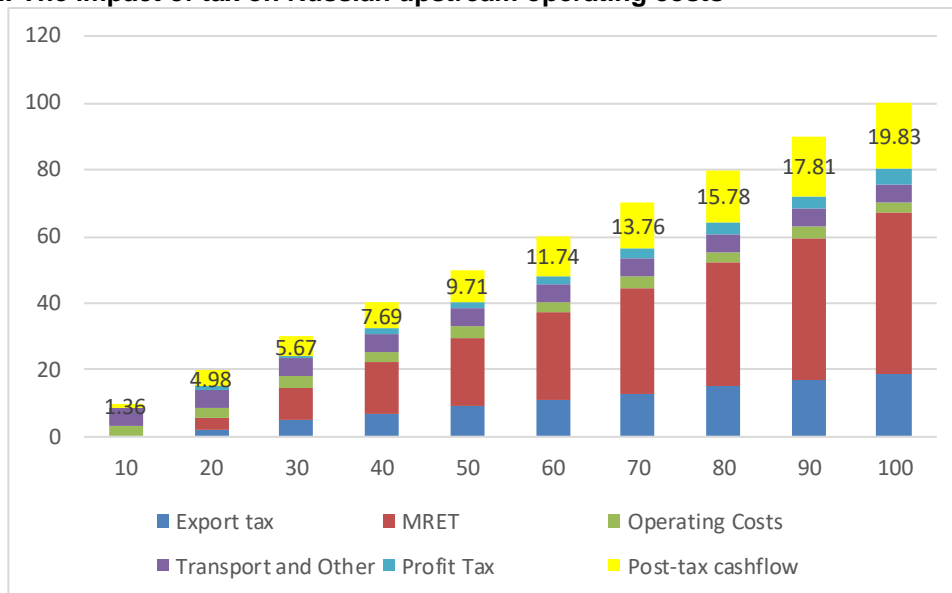


most of the sector has used the recent stronger oil price to strengthen its financial foundations, in particular by reducing debt. It is worth going through each of these in turn.

The Russian tax system helps to lower upstream costs when the oil price is low

Russia’s reliance on oil tax revenues has been discussed above, but the tax system has been set up to ensure two things – firstly that when oil prices are high that the Russian state takes the majority of the windfall in revenue terms and secondly that when oil prices are low Russian companies are protected by a sharply reduced tax take. Both MRET and export duty for crude oil work in a way that the first \$15 of any revenue is effectively tax free, with differential rates when the oil price is between \$15 and \$20 per barrel and then between \$20 and \$25 per barrel. The full rate is only applied to revenues over \$25 per barrel, meaning that at the current oil price of around \$33 per barrel it is only being applied to around \$8 per barrel of revenue. Figure 12 below shows the impact that this has on upstream operating costs and also shows the free cashflow generated at various oil price levels.

Figure 12: The impact of tax on Russian upstream operating costs



Source: OIES Calculation

MRET (a levy analogous to mineral royalty) has become by far the largest burden on Russian oil companies as the export tax is gradually phased out, and in this graph the full impact is shown. In reality, and as discussed above, oil companies can often claim discounts for more difficult or more depleted fields, but even when the full tax is paid it is clear that the average upstream breakeven can fall to as low as \$10 per barrel on a cash basis. If one includes funds for re-investment in production from new fields, which analysis of the accounts of the major Russian oil companies equates to around \$7 per barrel, then the full breakeven price of Russian upstream production is in the range \$30-40 per barrel.¹⁹

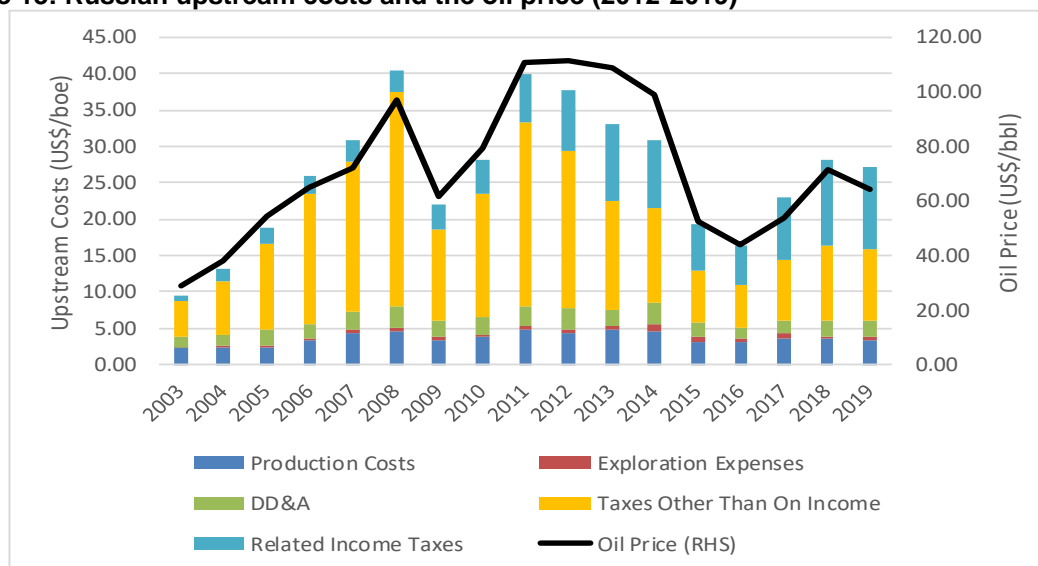
The ruble exchange rate helps companies to breakeven at low oil prices

Figure 13 underlines the variable nature of Russian upstream costs in line with the oil price. Data for this graph is taken from the SFAS 69 filings of the major Russian oil companies and shows very clearly how costs fluctuate over time, driven largely by tax payments but also thanks to the devaluation of the ruble when the oil price falls. The correlation between annual upstream costs in the period 2012-2019 and the oil price is very obvious and has an r² of 0.94, emphasizing just how close the link is. The fluctuation in direct production costs is masked by the high level of tax payments, but the correlation is

¹⁹ Data from the SFAS 69 filings by the major Russian oils suggests that the average development cost in the period 2015-2019 was \$6.87 per barrel

equally strong with an r^2 of 0.91. This has something to do with oil company management of costs during periods when revenues fall but is mainly related to movements in the ruble exchange rate in line with the oil price. As discussed above, when the oil price falls the CBR allows the exchange rate to weaken, reducing costs in US\$ terms to the great benefit of exporting companies.

Figure 13: Russian upstream costs and the oil price (2012-2019)

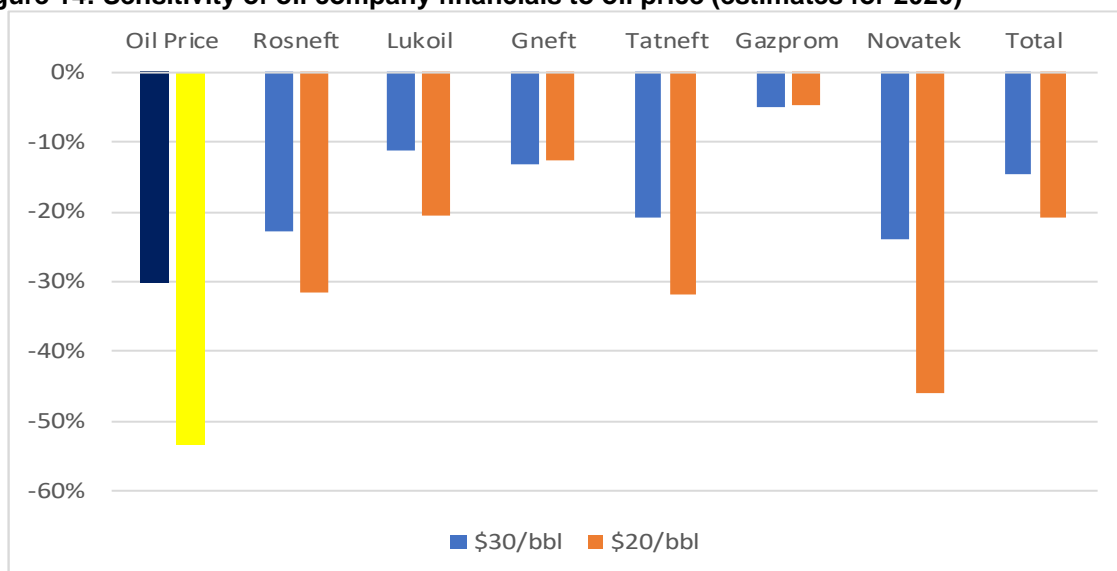


Source: SFAS 69 data from Company Accounts, OIES analysis

This benefit can also be seen at a corporate level when one examines the sensitivity of company financial results to the oil price. We have used analysis from Sberbank Research to illustrate this, and a key result can be seen in Figure 14. The graph shows the percentage change in EBITDA for the most important Russian oil and gas companies when the oil price is adjusted from the base case (\$43 in 2020E) down to \$30 and \$20. As the graph shows, this equates to a 30% and a 53% decline in the oil price, but the average decline in company EBITDA is much lower than this at 15% and 21% respectively. This is partly driven by the lower tax burden as the oil price approaches \$15 per barrel but is also due to the ruble depreciation that is assumed. While the dollar is assumed to be worth around 72 rubles in the \$43 case, this falls to 80 and 100 in the \$30 and \$20 cases.

Perhaps not surprisingly Gazprom is the least sensitive as its gas prices in Russia and Europe now have a relatively low link to the oil price, and indeed gas prices have now been low for some time meaning that a fall in the oil price has little additional impact. Novatek appears most sensitive because of its increasing liquids production and its relatively high level of current expenditure on new LNG projects. Meanwhile of the oil companies Lukoil and GazpromNeft appear to benefit from their greater downstream diversification which allows them to offset the impact of a lower oil price in their refining and marketing arms to a greater extent than Rosneft and Tatneft. Overall, though, it is clear that EBITDA and profits for the Russian oils fall more slowly than the oil price itself.

Figure 14: Sensitivity of oil company financials to oil price (estimates for 2020)

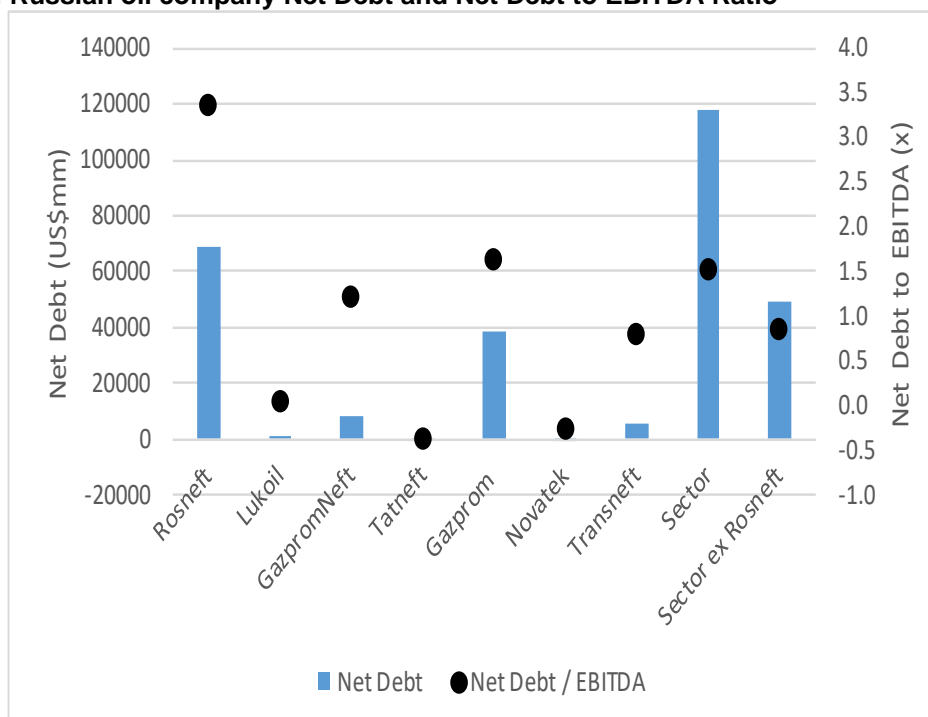


Source: Estimates from Sberbank Research, graph created by OIES

Most Russian oil and gas companies have limited debt exposure

A final crumb of comfort for Russian oil companies in these difficult times is the fact that most of them enjoy a strong balance sheet position. Figure 15 shows the net debt position for each company as well as their Net Debt to EBITDA ratio. The latter is viewed as a good measure of how financially secure a company is, measuring how many years of cashflow would be needed to pay back a company's debt.²⁰ A number of conclusions can be drawn.

Figure 15: Russian oil company Net Debt and Net Debt to EBITDA Ratio



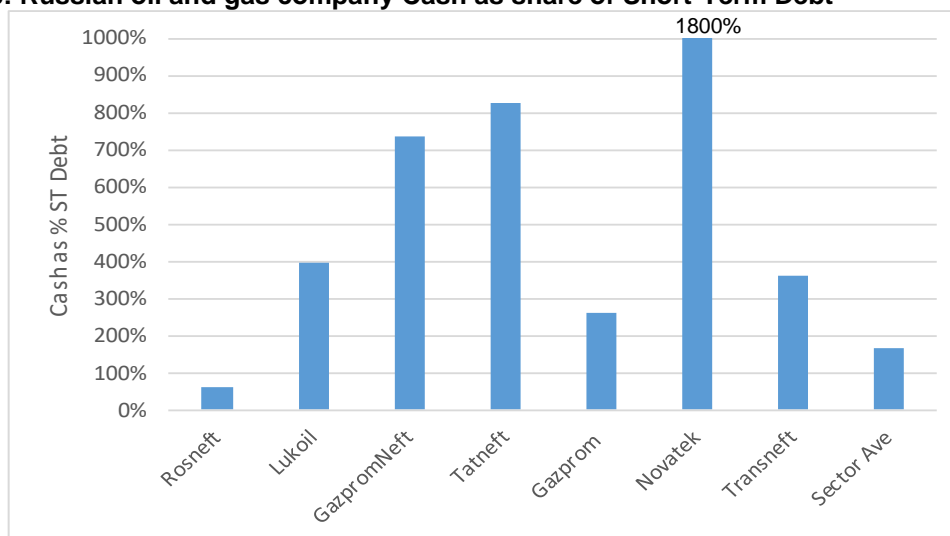
Source: Company Financial Reports, Sberbank Research, OIES analysis

²⁰ <https://corporatefinanceinstitute.com/resources/knowledge/finance/net-debt-ebitda-ratio/>

Firstly, the majority of the debt in the sector is held by state-controlled companies (Rosneft and Gazprom) who would have significant government support in times of difficulty. These two companies are liable for 90% of the sector's total net debt of \$118 billion, with Rosneft alone accounting for 58% of the total. That this could be a potential problem is underlined by the fact that Rosneft's Net Debt to EBITDA ratio is much the highest in the sector at 3.4x. A level of 4-5 times is generally regarded as problematic by banks and ratings agencies, and so Rosneft is below this critical level, but nevertheless at times of economic stress a level above 3 is some cause for concern. Meanwhile the rest of the Russian oil sector is much more secure, with two companies have net cash rather than debt and the average Net Debt to EBITDA ratio for the sector being a healthy 1.5x, which falls to 0.9x if Rosneft is excluded.

Finally, given the volatile nature of energy markets, it is also instructive to look at the companies' short-term exposure to their debt positions by comparing the cash and short-term investments on their balance sheets with their short-term debt (Figure 16). This reveals a similar picture to the overall situation, but underlines that the sector does not have an unsustainable financial exposure in a low oil price environment. Rosneft is once again the most vulnerable, with cash only covering 61% of the company's short-term debt, but in all other cases the figure is over 100%, in some case considerably so. The average for the sector as a whole is 167%, emphasizing that in extremis the companies could pay back their debt immediately if absolutely necessary.

Figure 16: Russian oil and gas company Cash as share of Short-Term Debt



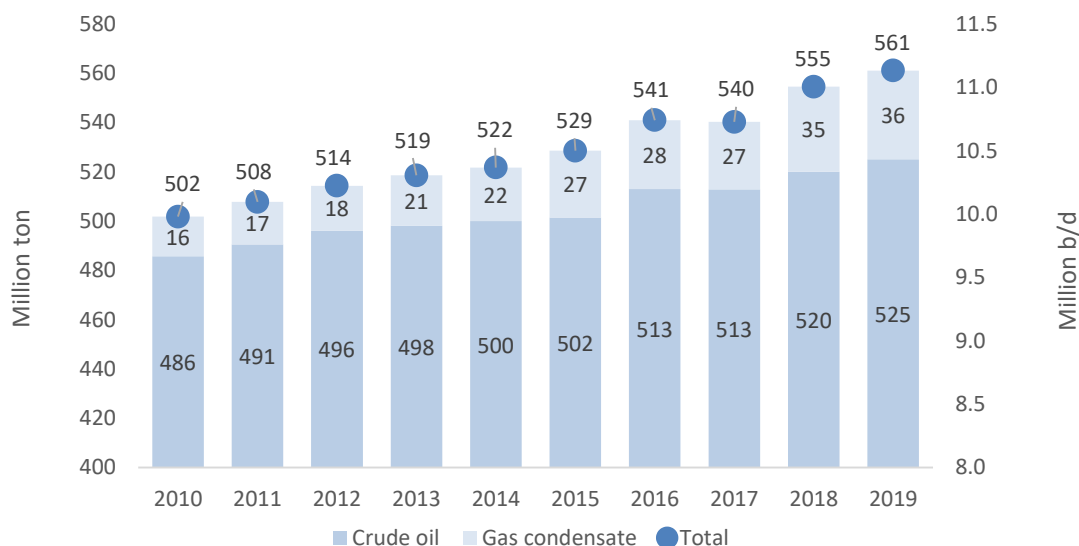
Source: Data from Sberbank Research, analysis by OIES

Russian oil production

Having established that both the Russian economy and the Russian oil companies are relatively resilient to an oil price decline, it should nevertheless be acknowledged that the country and its major oil players have been shocked by the speed of the decline and the low level that the oil price has reached. This has led the Kremlin to agree to cut 2.5mb/d from the 11mb/d threshold level agreed during the April 10th meeting for the next two months, falling to 2mb/d for the rest of 2020 and 1.5mb/d in 2021 and the first quarter of 2022. Given that the Russian oil industry has always protested about the difficulty of making any cut, it is therefore important to understand the make-up of the country's liquids production and how it might be reduced.

In 2010 Russia's oil output crossed the important 10 mb/d threshold. Since then, production has grown by 12 percent, to 561 million metric ton in 2019 (11.25 mb/d), confirming the country's position as one of the top 3 producers in the world (See Figure 17).

Figure 17: Russia's crude oil and gas condensate output



Source: OIES, data from Russia's Ministry of Natural Resources and JODI

How to cut oil output

Usually, Russian statistical reports on oil output include gas condensate in the overall crude oil output without showing the figures for the two categories separately. However, we are showing these statistics separately, based on data reported by Ministry of Natural Resources, because it highlights a very important fact: in the past ten years crude oil output in Russia increased by 8 percent, but gas condensate output has grown by a staggering 125%. The key reason for this is the wide-scale development of the deep layers at many of Russia's major gas fields which contain a lot of "wet" gas.

The issue of gas condensate became front-and-center in Russia's negotiations with OPEC in December 2019. The quotas of each OPEC member are calculated on the basis of crude oil output, not including NGLs. The original Russian quota for the OPEC+ deal was agreed in relation to Russia's overall crude oil and gas condensate output. But in 2019 Russia argued successfully that the methodology of the quota calculation should be uniform for both OPEC and non-OPEC members of the agreement, which would allow Russia to exclude gas condensate production from its quota. As a result of this change, Russia could comfortably meet the requirements of the deal without actually cutting its overall output in 2019. For the Saudis, Russia's ingenuity with regards to the technical aspects of quota calculation apparently were something of an unpleasant surprise.

It would seem that this differentiation between crude oil and condensate may also be crucial in the latest deal. All the announcements over the past few days have talked about crude oil, implying that condensate would be excluded, and have mentioned target production levels for May-June 2020 and for the remainder of 2020 and then 2021. The target for Russia is 8.5 mb/d in the May-June period, but this can be interpreted in two different ways. If condensate is included in the calculations, this would imply a cut of 2.8 mb/d from recent total liquids production of 11.3 mb/d (in March 2020). However, if condensate is excluded then it implies a production cut of around 2 mb/d, given that condensate production is c.0.75mb/d, implying crude output of c.10.5mb/d in March 2020. Clearly it will be important to understand the exact definition of the cuts agreed in order to assess future compliance, but it is interesting to note that following the agreement in December 2019 it would seem that condensate should not be included in its quota, implying that the lower reduction may be what is planned.

Oil production cuts in Russia: limits and trade-offs

Nevertheless, whatever the outcome concerning condensate the cut promised by Russia is very significant even if it is only 2 mb/d. This is effectively 19% of total crude output and would take production

back to levels last seen in the early 2000s and would involve dramatic action by all the Russian oil companies. This is crucial, because Russia has never been a swing producer. Implementing an abrupt production cut at this scale and within a very short timeframe will represent a tremendous technical challenge for Russian oil companies. It will also create significant above-ground risks since Russian regulations on closing oil fields are complex and may involve criminal charges for actions that could lead to a “loss of reserves”. However, on the assumption that this regulatory issue can be temporarily nullified by the government bodies who have insisted on the production cut, it is useful to consider what other challenges the Russian oil industry is likely to face. The first, from a geographical perspective, is that Western Siberia, the core oil production province, will have to carry most of the burden due to its share of overall output (See Figure 18).

Figure 18: Russia’s crude oil and gas condensate production by region in 2018, million ton



Source: Authors, based on RF Ministry of Natural Resources data

While it is formally springtime, the air temperatures in different parts of Russia may remain below zero until June. This is especially true for the northern parts of Western and Eastern Siberia and the northern parts of the European Russia. This creates problems for shutting in some wells, especially in Western Siberia, where water flooding is the main production technique. While not an insurmountable constraint, shutting in wells in cold temperatures can increase the risk of damaging well bores and operating equipment.

Nevertheless, Russian oil companies, confronted with a task of delivering an unprecedented cut, will have to solve a complex problem of optimizing output and trading it off against the risks of permanent loss of production. There are more than 2,600 oil fields in Russia and about 130,000 producing oil wells (out of approximately 160,000 oil wells on the balance). For old wells that represent about 85 percent of the total stock of producing wells average daily output ranges from 7 to 10 tons (50-75 b/d), while new wells produce around 30-40 tons (225-300 b/d). The natural decline rates for many mature fields are in the order of 20-25 percent per annum,²¹ and as a result simply stopping to perform maintenance for two months on all fields indiscriminately will not produce the needed cut in time and may result in excessive damage to reservoirs with massive permanent output losses.

²¹ I.e. without performing ongoing reservoir management and well treatment, or GTM (geological and technical measures) in Russian parlance.

At the same time, Russia's Top-20 oil fields account for about 190 million ton of output (3.8 mb/d), or one-third of total Russian production of crude oil and gas condensate. The latest available breakdown of Russian oil production by the main fields is available for 2018 (See Table 4).

Table 4: Russia's Top-20 Oil Fields (million ton)

Rank	Field	Developer	Oil province	Location (subject of RF)	Reserves as of 1 Jan 2019		Production in 2018
					A+B1+C1	B2+C2	
1	Priobskoye	Rosneft/Gazpromneft/SNG/Kondaneft	West Siberia	Khanty-Mansiisk AO	1165.9	477.8	37.1
2	Samotlorskoye	Rosneft/Russneft/SibInvestNafta/Slavneft	West Siberia	Khanty-Mansiisk AO	858.2	29.7	18.3
3	Vankorskoye	Rosneft	West Siberia	Krasnoyarsk province	302.0	6.8	16.0
4	Romashkinskoye	Tatneft	Volga-Urals	Tatarstan/Samara region	193.9	39.9	15.5
5	Prirazlomnoye*	Rosneft	West Siberia	Khanty-Mansiisk AO	189.1	175.6	9.6
6	Fedorovskoye	Surgutneftegaz	West Siberia	Khanty-Mansiisk AO	250.3	28.5	9.1
7	Malobalykskoye	Rosneft	West Siberia	Khanty-Mansiisk AO	117.2	21.9	8.9
8	Verkhnechonskoye	Rosneft/Gazpromneft	Lena-Tungusskaya	Irkutsk region	129.0	30.8	8.2
9	Krasnoleninskoye	Rosneft/Lukoil/GPN/Inga/Transoil/Bazhen	West Siberia	Khanty-Mansiisk AO	568.1	646.0	7.0
10	Novoportovskoye	Gazpromneft	West Siberia	Yamal-Nenets AO	188.8	29.4	6.4
11	Named after V. Filanovskiy	Lukoil	North Caucasus	Caspian Sea offshore	116.8	0.3	6.1
12	Arlanskoye	Rosneft	Volga-Urals	Bashkortostan/Udmurtiya	91.3	17.0	6.0
13	Talakanskoye	Surgutneftegaz	Lena-Tungusskaya	Sakha Republic (Yakutia)	104.0	1.1	5.7
14	Yaraktinskoye	INK/INK-Zapad/Pacific Terminal	Lena-Tungusskaya	Irkutsk region	36.6	3.5	5.6
15	Chaivo	Exxon Neftegaz Ltd./Rosneft	Sea of Okhotsk offshore	Sakhalin region	35.9	0.0	4.9
16	Severo-Labatyuganskoye	Surgutneftegaz	West Siberia	Khanty-Mansiisk AO	47.7	10.5	4.9
17	Mamontovskoye	Rosneft	West Siberia	Khanty-Mansiisk AO	90.4	36.7	4.8
18	Pravdinskoye	Rosneft	West Siberia	Khanty-Mansiisk AO	85.1	33.5	4.8
19	Ust-Tegusskoye	Rosneft (Uvat NG)	West Siberia	Tyumen region	61.2	6.6	4.8
20	Vostochno-Messoyakhskoy	Rosneft/Gazpromneft	West Siberia	Yamal-Nenets AO	226.0	145.5	4.8
Total for Russia's Top-20 oil and gas condensate fields in 2018							188.5
Total for Russia in 2018							554.6
Share of Top-20 in Russia's Total, percent							34%

* Not to be confused with Prirazlomnoye field in the Barents Sea offshore

Source: OIES, data from Russia's Ministry of Natural Resources

However, an additional question for Russian oil companies attempting to reduce production is how this can be done with least impact on profitability. The obvious candidates for shut-ins would be wells and entire fields with very high water cut factor (i.e. a high share of water in total liquids produced). Water injection and waterflooding techniques are widely used in Russia, especially in mature producing regions such as Western Siberia and the Volga-Urals, which account for the bulk of national production.²² In Khanty-Mansiysk Autonomous Okrug for example, where over half of Russian oil is produced, the average water cut rose from 84.2 percent in 2005 to over 90 percent in 2019. High water cut is a common feature of both the larger, mature fields that are the workhorses of the Russian oil industry but also of many smaller fields using stripper wells and indeed about 15% of Russia's total oil output is currently estimated to come from marginal wells with water cut ratios well above 90 percent. The electricity unit costs per ton of oil at these wells are extremely high and so their operating costs are typically about four times higher than the Russian average (i.e. in the order of \$24–\$32 per barrel), so

²² Once the primary energy of the reservoir depletes, the pressure inside the reservoir must be maintained to achieve optimum production and to maximize ultimate recovery. This can be done by injecting into the reservoir water that is compatible to the formation water present in the reservoir, through several water injection wells. When the water is injected into the reservoir, it tends to push the oil upward, thus increasing the reservoir life and ultimate recovery. Water injection and waterflooding are essentially the same process; in the former water is injected into the reservoir's water zone, and in the latter, it is injected directly into the hydrocarbon zone.

even when oil prices exceeded \$50 per barrel the netbacks from these fields were extremely low. Minor increases in output can help extend their productive lives by lowering per-unit costs, but any oil price declines can quickly make them lossmaking and so they would seem to be obvious candidates for any shut-in.

However, although it is clear that at current extremely low oil prices output from many marginal fields will be uneconomic, companies might nevertheless choose to keep them operational for various reasons, including production obligations, employment issues, and the extra costs incurred in actually closing a field down. The Russian authorities will have to address these issues if fields are to be shut in for any length of time, and a further complicating issue is that an increasing number of these fields now receive tax breaks which companies will lose if production is shut down.

A good example is the Samotlor field. This legendary super-giant, one of the seven biggest fields in the world, was once a workhorse for the Soviet economy, accounting for almost half of the Soviet Union's total oil production during its peak in 1980. Since development began in 1969 Samotlor has produced over 2.3 billion tons (almost 17 billion barrels) and estimates of its remaining reserves are about 0.9 billion tons (6.5 billion barrels). In 2017 the water cut factor at the field exceeded 90 percent and production was declining rapidly, but its operator Rosneft convinced the government to grant tax relief from mineral resource extraction tax (MRET) totaling 350 billion rubles (\$4.5 billion at current exchange rates) over a period of 10 years, starting from January 1, 2018. In exchange, Rosneft committed to increase investments in the field and expand its production.²³ As a result, the company will be reluctant to reduce output here even though it would seem to be an obvious candidate.

The issue has been broadened to other assets as during 2019 the question of giving MRET exemptions to other fields with high water cuts was actively discussed between oil companies and Russian government officials²⁴ and following lively debates Russia's largest oil producing field, Priobskoye, also received tax exemptions. Rosneft operates the larger northern part of the field, where it produced 26 million ton in 2018 (0.5 mb/d) while Gazpromneft operates the smaller southern part of the giant field where output amounted to 11.5 million ton (0.23 mb/d).²⁵ Rosneft can save 46 billion rubles per year (\$0.6bn) while Gazpromneft can save 13.5 billion rubles (\$0.2bn), and the discounts have been approved for a ten-year period. Rosneft also managed to gain tax breaks for its flagship Vankorskoye project in the Krasnoyarsk province, where exemptions were given in order to stimulate the development of infrastructure for a new production cluster and could total up to 60 billion ruble per annum (\$0.8bn) for the next 10 years. However, there is a complication as the MRET breaks for Priobskoye and Vankorskoye will only become effective if the Urals price exceeds the fiscal breakeven price for the Russian budget (\$42.4 per barrel in 2020).²⁶ As a result, without a strong oil price recovery in the second half of the year, the tax breaks for Rosneft and Gazpromneft are unlikely to materialize in 2020, providing another twist in the incentives to cut production.

Another potential problem with production cuts for Russian companies in the April-May period is that large scale production cuts at oil fields in Western Siberia could cause a domino effect and create problems for other sectors of the economy. One example is heat supply at the cities in the oil regions where power supply comes from combined heat and power plants (CHPs). The widescale use of electric-submersible pumps (ESPs) consumes a lot of electricity, with about 130 kWh needed to extract one ton of oil on average and much more needed for marginal wells with high water cuts and low production. As a result, oil companies are the largest consumers for local power stations which are predominantly CHPs. Drastic oil production cuts in these conditions will also mean sharp reduction in electricity usage and will cascade into a problem for power providers that need to deliver heat to the population in the Siberian regions until the end of May.

One final, and more corporate issue, is how the production cuts will be shared out between the key companies. A straight pro rata sharing of the overall number based on existing production would be the

²³ <https://www.rbc.ru/business/06/10/2017/59d7b0889a7947de154ad136>

²⁴ <https://www.vedomosti.ru/business/articles/2019/09/15/811275-tervat-igotah-neftyanikam>

²⁵ <https://www.interfax.ru/business/671174>

These numbers apparently include losses as opposed to the numbers for Priobskoye reported by Ministry of Natural Resources.

²⁶ <https://www.vedomosti.ru/business/articles/2020/03/15/825230-deshevaya-neft>

obvious solution and could certainly be imposed by President Putin if he chose to put his foot down. However, the evidence since 2016 has suggested that the debate may be somewhat more complex, as some companies may be happy to see output decline at unprofitable fields while others will have been hoping to see production growth this year. It will be interesting to see if the various companies are able to agree amongst themselves, but it would be no surprise if more powerful entities such as Rosneft and the other state companies tried to argue for a sharing of the reduction that favored their own interests. One powerful argument against pro rata cuts that might be brought forward by Rosneft is that the company has received prepayment for a significant share of its future output from the Chinese buyers as part of the so-called “ESPO contract”.

Conclusion

Somewhat to the surprise of many, Russia has agreed to rejoin the OPEC+ group and to cut its output significantly. We have argued in this paper that the Kremlin believes that it is in a relatively strong position to survive a period of low oil prices and that its oil companies are also in reasonably robust shape, and to date the logic presented by the Russian Ministry of Energy has pointed towards allowing low prices to rebalance the market through the forced shut-in of higher cost production (most notably in the US, but also elsewhere in the world). As a result, we are forced to conclude that Russia must perceive other significant reasons for its change of strategy. These could include:

- Political benefits to be gained from joining a production cut at this time. It will be interesting to see how relations with Saudi Arabia and the US develop over the next few months. We would not be surprised to see a reduction in US rhetoric over sanctions, for example. In addition we would also surmise that President Trump’s successful intervention into the OPEC+ dispute and his ultimate acknowledgement of the positive actions now taken by OPEC+ bode well for future relations, and that this must have been a consideration in the Russian (and Saudi) thinking.
- Necessity, as production cuts might have become inevitable in the near future as oil storage reached its limits. Better to offer a cut now and gain some benefit from the impact rather than be forced into a cut later.
- Buying time for a possible rebound in demand before oil storage is filled and the oil price collapses completely. Linked to the previous motive, oil producers need to try and extend the period within which oil demand might start to recover.
- A sense that responsible action is needed at a time of global crisis. No useful purpose could be served by extending the oil impasse and being seen to catalyse a price war at a time when perceptions of the oil industry are already negative. Better to show a willingness for cooperation from a position of strength and to be part of a joint response by the OPEC+ group which has been positively recognised by the G20.
- An easier operating environment in Russia during the summer months. This will allow wells to be shut-in more easily and without such damaging long-term consequences as might have been experienced in winter. In addition, the impact on electricity and heat generation in West Siberia will not be as harmful during warmer months.

Having said all this, it will nevertheless be interesting to see how Russia observes the agreement. As discussed earlier, if condensate is excluded it may well be that the reduction in output will be lower than expected at around 2 mb/d for May and June, and monitoring compliance with this will be important in judging how committed Russia is to restoring order in the global oil market.

Furthermore, in terms of the practical implementation of any cut there will be complications surrounding the geography of production, the choice of wells to shut in and the complexities of managing profitability versus oil volumes. Furthermore, it may be that President Putin has to impose his will on the country’s oil companies, as the evidence of the past 4 years has been that each will attempt to argue for a favourable share of any reduction. As a result, it will be important to monitor compliance, especially as there is only a three-week period before around 20% of Russian oil production needs to be temporarily shut down. We suspect that this may be a task that is very difficult to achieve but would not underestimate the ingenuity of the Russian oil industry and the Kremlin to at least make a case for compliance by May.