CASE STUDY: RUSSIA

Beyond Fossil Fuels: Fiscal Transition in BRICS

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Russia’s dependence on fossil fuels at a glance (2017 data)

$25,767
GDP per capita, purchasing power parity in current international $ (World Bank, 2019)

90%
Share of fossil fuels in total primary energy supply (Annex A in the main report)

23.6%
Share of revenue from fossil fuel production and consumption in general government revenue (Table 1 in this brief)

Proved reserves of fossil fuels. In 2018, Russia’s proved reserves accounted for 20 per cent of the global total for gas, 6 per cent for oil and 15 per cent for coal (BP, 2019). These reserves are equivalent to 428 GtCO₂, which is more than 12 times higher than global carbon dioxide emissions from energy sources in 2018 (see Figure 1 in the main report).

Fossil fuel extraction and use. In 2018, Russia was the world’s second largest gas producer (after the United States), third largest producer of oil (after the United States and Saudi Arabia) and sixth largest producer of coal (BP, 2019). In 2017, 95 per cent of domestic energy production and 90 per cent of total energy supply in Russia came from fossil fuels (see Annex A in the main report). Russia exports about half of its crude oil, refined oil products and coal as well as about a third of the gas that it produces (International Energy Agency [IEA], 2019a). Russia’s energy demand is relatively stable, in striking comparison with other BRICS economies experiencing fast rates of energy consumption growth.

Note: This country brief accompanies and refers to a main report: Gerasimchuk, I., Kühne, K., Roth, J., Geddes, A., Oharenko, Y., Bridle, R., & Garg, V. (2019). Beyond fossil fuels: Fiscal transition in BRICS, which can be found here.
The role of the fossil fuel sector in the economy. Due to differences in how trade in fossil fuels is accounted for, official estimates of the share of the fossil fuel sector in Russia’s GDP vary from around 10 per cent to 25 per cent.¹ Fossil fuels accounted for over 60 per cent of Russia’s export value in 2018 (Federal Customs Service of the Russian Federation, 2019). As a result, oil price fluctuations on the world market also affect the size of Russia’s GDP and national currency (RUB) exchange rate.² Taxes and other fees on fossil fuel production and consumption generated 23.6 per cent of the general government revenue in 2017 (i.e., the joint budget of the federal government, regions, municipalities, social security and other government-managed funds), with the prevailing majority of these revenues coming from oil and gas production (see Table 1 in this brief). The Federal Service of State Statistics (2019b) reports around 670,000 employees in the fossil fuel extraction and field servicing sectors (“upstream”) and 746,000 employees in the fossil fuel refining, processing, distribution and power generation sectors (“downstream”) in 2018. This was equivalent to 3.2 per cent of total employment across all sectors in Russia.

State-owned enterprises (SOEs) in the fossil fuel sector. As the main owner of fossil fuel assets, the Russian government can be significantly exposed to the risk of their stranding as a result of clean energy competition and climate policies affecting export markets for energy (Nelson & Goggins, 2015). At present, majority SOEs dominate Russia’s oil and gas production and pipelines. In particular, Gazprom accounts for 68 per cent of Russia’s gas output, while Rosneft and other SOEs produce over a half of Russia’s oil (Gazprom, 2018; Interfax, 2019). Fossil fuel electricity generation assets are owned by both private companies and SOEs, including Gazprom and Inter RAO. In contrast, coal production is mostly privately owned.

Rosneft, Gazprom and other fossil fuel SOEs are Russia’s largest sources of tax on income, resource extraction and export. Dividends from Gazprom, Transneft (an operator of trunk oil pipelines) and Rosneftegaz (a holding company that owns part of Gazprom and Inter RAO shares and all of the government’s Rosneft shares) also contribute to the federal budget (see Table 1 in this brief). In 2016, the government also raised more than RUB 1.1 trillion (USD 16.4 billion) in the federal budget via selling its share in Bashneft to Rosneft and then privatizing 19.5 per cent of its shares in Rosneft (Rosneft, 2016).

Government plans on energy and climate. Russia’s energy policy seeks to cover the relatively stable domestic consumption needs and retain the current shares in the global fossil fuel markets by continuing trade with Europe and expanding its exports to the Asia-Pacific region, especially China (Ministry of Energy of the Russian Federation, 2017; President of the Russian Federation, 2019). As mature fields in Western Siberia and the Volga-Urals are being increasingly depleted, delivery of this policy requires development of new, higher-cost reserves in Eastern Siberia, the Far East and the Arctic (Ministry of Natural Resources of the Russian Federation, 2018). To this end, the government supports the new field development with tax breaks, infrastructure finance and other production subsidies (see “Fossil fuel subsidies” and Table 1 in this brief).

¹ Estimates vary strongly depending on methodology, source and year. Due to the mechanism of transfer pricing, a lion’s share of fossil fuel-related economic activity may be reported as trade (Gurvich, 2004). The Federal Service of State Statistics (2019a) reports the combined value of oil, gas and coal extraction and processing at 10.4 per cent of the GDP in 2016. The IEA (2014) estimates the contribution of the oil and gas sector at 20 per cent of the GDP in 2012. Russia’s draft Energy Strategy to 2035 reports the contribution of the entire (fossil fuel and non-fossil fuel) energy sector at 25–26 per cent of the GDP (Ministry of Energy of the Russian Federation, 2017).

² Thus, when the oil price drops, Russia’s GDP shrinks in USD much more than in RUB.
The government strategy documents recognize the increasing competitiveness of clean energy and climate regulations among the challenges to Russian fossil fuel exports (Ministry of Energy of the Russian Federation, 2017; President of the Russian Federation, 2019). These documents also stress the need to improve the energy efficiency of the Russian economy. Russia is party to the UN Framework Convention on Climate Change and the Paris Agreement on climate change. Under its Intended Nationally Determined Contribution within the framework of the Paris Agreement, Russia committed to “limiting anthropogenic GHG emissions to 70–75 per cent of 1990 levels by 2030,[3] subject to the maximum possible account of absorbing capacity of forests” (Government of Russia, 2015). This target allows Russia to increase its emissions above the current levels, which at the end of 2017 stood at only 68 per cent of the 1990 level without accounting for land use, land-use change, and forestry (LULUCF), and 51 per cent with LULUCF (Russian Federation, 2019). At the time of writing, Russia’s low-carbon strategy to 2050 was under development, expected to be completed by the end of 2019 (Dadydova, 2019).

**Fossil fuel production and fiscal space.** Russian government revenues are highly dependent on fossil fuel sector performance and, in particular, on international commodity prices and exports. Mineral extraction tax (MET) and export duties are the two main forms of government revenues from oil and gas production, officially singled out as such in the federal budget. They are officially reported as forming 40 and 46 per cent of the federal budget in 2017 and 2018, respectively (Ministry of Finance of the Russian Federation, 2019b). However, this estimate is incomplete for two reasons. First, Russia is a federation and its revenues should be viewed within the context of the general government budget—that is, the joint budget of the federal government, regions, municipalities, social security and other government-managed funds. Second, there are more types of revenues from the fossil fuel sector as a whole collected at federal, regional and local levels, including corporate and personal income tax, taxes and royalties from special tax regimes (Production Sharing Agreements), dividends from fossil fuel SOEs and pollution charges. Authors’ calculations indicate Russia’s revenues from oil, gas and coal extraction as well as oil refining amount to 7.2 per cent of the GDP or 21.3 per cent of the general government revenue (see Figure 1 and Table 1 in this brief for methodology and sources).

Following the oil price drop at the end of 2014, government revenues from fossil fuel production shrank significantly. Due to this and other factors, general government deficits amounted to 10 per cent and 4 per cent in 2016 and 2017, respectively (Ministry of Finance of the Russian Federation, 2019a). In 2016, the government managed to cover some of the deficit by privatizing its oil and gas assets and tapping the Sovereign Wealth Fund (see “Earmarked funds” below).

The taxation system is undergoing reforms. From 2015 to 2017, Russia undertook the so-called “tax manoeuvre,” gradually decreasing export duties on oil, gas and petroleum products while increasing the MET, resulting in roughly revenue-neutral changes. From 2019 to 2024, Russia plans “completion of the tax manoeuvre,” whereby export duties on oil and petroleum products will be further reduced (down to 0 by 2024), and the MET will continue to increase. In order to prevent a sharp increase in prices on the domestic market and to support oil refineries, the government introduced the reverse excise tax on oil and damping mechanisms for gasoline, diesel fuel and jet fuel supplied to the domestic market (Vedomosti 2019a). Starting January 1, 2019, Russia is also piloting

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3 Domestically, the President of the Russian Federation (2013) also set a goal of ensuring that, by 2020, Russia’s greenhouse gas emissions would not exceed 75 per cent of the 1990 level in support of the national Climate Doctrine (President of the Russian Federation, 2009).
a new tax regime for oil fields, making a switch from output- and export-based taxation to profit-based taxation. If successful, it may be extended to other fields in Russia (Gazpromneft, 2018).

**Fossil fuel consumption and fiscal space.** Energy products are subject to a standard value-added tax (VAT) rate of 18 per cent before 2019 and 20 per cent from January 1, 2019. Excise taxes are applied to a variety of oil products (e.g., gasoline, diesel, heating oil, engine oils, medium distillates) and gas. Authors’ calculations indicate that government revenues from VAT and excise taxes on fossil fuels amount to 0.8 per cent of GDP or 2.3 per cent of the general government revenue. There is no carbon tax in Russia, though discussions started on passing the legislation that will provide a framework for government regulation of greenhouse emissions. As part of its global exercise, the International Monetary Fund (IMF) estimated the value of under-taxing fossil fuel consumption in Russia in 2017 at USD 74 billion in terms of climate change effects and USD 422 billion in terms of air pollution impacts on human health. In other words, the IMF estimates of fossil fuel undertaxation are roughly equivalent to the entire general government revenue (Coady, Parry, Nghia-Piotr, & Shang, 2019; IMF, 2018).

**Fossil fuel subsidies.** The Russian government provides support to both production and consumption of fossil fuels in the form of direct budgetary transfers, foregone government revenue, regulated prices and tariffs, subsidized finance, preferential access to government-owned infrastructure, land, water and subsoils as well as other measures (Bast, 2015; Gerasimchuk, 2012). The first estimate of fossil fuel subsidies in Russia comes from the Organisation for Economic Co-operation and Development (OECD) and is based on the Russian government’s own reporting. It captures the two types of subsidies that directly affect the budget: budgetary transfers and government revenue foregone due to tax breaks (OECD, 2019). These two types of subsidies amount to 0.5 per cent of GDP or 1.5 per cent of Russia’s general government revenue (see Figure 1 and Table 1 in this brief). These subsidies predominantly benefit fossil fuel production, especially through reduced rates of MET on highly depleted and newly developed fields, especially in the Arctic, including specific projects such as Yamal LNG (Lunden & Fjaertoft 2014). Russian companies continue asking for even larger subsidies, including the 2019 request by Rosneft and its partners for up to RUB 2.6 trillion (USD 40 billion) worth of tax breaks to match their planned investments of RUB 5 trillion to 8.5 trillion (USD 77 billion–130 billion) (Vedomosti 2019b).

The second estimate originates from the IEA and captures subsidies to Russian consumers via prices (tariffs) regulated below international benchmark levels. These subsidies do not affect the government budget directly, but they are considerable: at 1.3 per cent of the GDP or 3.9 per cent of general government revenue (IEA, 2019b).

**Earmarked funds.** Since 2004, Russia has run a Sovereign Wealth Fund capturing windfall revenues during periods of high oil prices. Since 2018, after several re-designs and outflows to cover federal budget deficits, the fund has operated as the single National Welfare Fund designated to support future pension liabilities. In July 2019, the National Welfare Fund amounted to 7.2 per cent of Russia’s GDP (Interfax, 2018; Ministry of Finance of the Russian Federation, 2019c).

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4 The estimate is based on an illustrative value of roughly USD 40 tCO$_2$. 
Figure 1. Government revenues versus subsidies to fossil fuels in Russia as a percentage of GDP

**Table 1. Government revenues versus subsidies to fossil fuels in Russia in 2017**

<table>
<thead>
<tr>
<th></th>
<th>RUB billion</th>
<th>USD billion</th>
<th>Percentage of GDP</th>
<th>Percentage of general government revenue</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>GDP</strong></td>
<td>92,101</td>
<td>1,579</td>
<td>100.0%</td>
<td>296.7%</td>
</tr>
<tr>
<td><strong>Total general government revenue</strong></td>
<td>31,047</td>
<td>532</td>
<td>33.7%</td>
<td>100.0%</td>
</tr>
<tr>
<td><strong>Fossil fuel revenues:</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total revenues from fossil fuel production⁶</td>
<td>6,624</td>
<td>114</td>
<td>7.2%</td>
<td>21.3%</td>
</tr>
<tr>
<td>MET &amp; other taxes &amp; fees on natural resource use</td>
<td>3,940</td>
<td>68</td>
<td>4.3%</td>
<td>12.7%</td>
</tr>
<tr>
<td>Export duties on oil, gas &amp; petroleum products</td>
<td>1,950</td>
<td>33</td>
<td>2.1%</td>
<td>6.3%</td>
</tr>
<tr>
<td>Taxes under special tax regimes</td>
<td>78</td>
<td>1</td>
<td>0.1%</td>
<td>0.3%</td>
</tr>
<tr>
<td>Corporate income tax on fossil fuel companies, including refining</td>
<td>348</td>
<td>6</td>
<td>0.4%</td>
<td>1.1%</td>
</tr>
<tr>
<td>Personal income tax in the fossil fuel sector, including refining</td>
<td>80</td>
<td>1</td>
<td>0.1%</td>
<td>0.3%</td>
</tr>
<tr>
<td>Regional taxes and fees</td>
<td>97</td>
<td>2</td>
<td>0.1%</td>
<td>0.3%</td>
</tr>
<tr>
<td>Local taxes and fees</td>
<td>4</td>
<td>0</td>
<td>0.0%</td>
<td>0.0%</td>
</tr>
<tr>
<td>SOE dividends (Rosneftegaz Holding, Gazprom, Transneft)⁷</td>
<td>128</td>
<td>2</td>
<td>0.1%</td>
<td>0.4%</td>
</tr>
<tr>
<td><strong>Total revenues from fossil fuel consumption⁸:</strong></td>
<td>711</td>
<td>12</td>
<td>0.8%</td>
<td>2.3%</td>
</tr>
</tbody>
</table>

⁵ General government includes federal government, regional governments, local governments, social security and other government-managed funds.

⁶ The total for revenues from fossil fuel production is a conservative estimate since it relies on the structure of government reporting whereby some data are not disaggregated. In particular, these estimates exclude tax revenues from fossil fuel power generation reported within the aggregated statistics on utilities as well as fossil fuel company payments to social security funds.

⁷ These estimates include the dividends that the Russian government receives from Rosneftegaz, which holds its entire stake (over 50 per cent) in Rosneft, 10.9 per cent of shares of Gazprom and 27.63 per cent of Inter RAO, as well as dividends from its remaining stake in Gazprom (38.37 per cent) and Transneft (100 per cent).

⁸ The total for revenues from fossil fuel consumption is a conservative estimate since they rely on the structure of government reporting whereby some data are not disaggregated. In particular, import duties on fossil fuels and VAT on fossil fuel-based electricity are excluded since official reporting does not disaggregate VAT on utility services.
<table>
<thead>
<tr>
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<th>Percentage of GDP</th>
<th>Percentage of general government revenue</th>
</tr>
</thead>
<tbody>
<tr>
<td>VAT on fossil fuels</td>
<td>133</td>
<td>2</td>
<td>0.1%</td>
<td>0.4%</td>
</tr>
<tr>
<td>Excise taxes on fossil fuels</td>
<td>578</td>
<td>10</td>
<td>0.6%</td>
<td>1.9%</td>
</tr>
<tr>
<td><strong>Fossil fuel subsidies:</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>OECD estimate (direct transfers and tax expenditure):</td>
<td>476</td>
<td>8</td>
<td>0.5%</td>
<td>1.5%</td>
</tr>
<tr>
<td>Fossil fuel production subsidies</td>
<td>440</td>
<td>8</td>
<td>0.5%</td>
<td>1.4%</td>
</tr>
<tr>
<td>Fossil fuel consumption subsidies</td>
<td>36</td>
<td>1</td>
<td>0.0%</td>
<td>0.1%</td>
</tr>
<tr>
<td>IEA estimate (regulated prices):</td>
<td>1,210</td>
<td>21</td>
<td>1.3%</td>
<td>3.9%</td>
</tr>
<tr>
<td>Subsidies to oil consumption</td>
<td>0</td>
<td>0</td>
<td>0.0%</td>
<td>0.0%</td>
</tr>
<tr>
<td>Subsidies to gas consumption</td>
<td>672</td>
<td>12</td>
<td>0.7%</td>
<td>2.2%</td>
</tr>
<tr>
<td>Subsidies to consumption of fossil fuel-based electricity</td>
<td>538</td>
<td>9</td>
<td>0.6%</td>
<td>1.7%</td>
</tr>
</tbody>
</table>

References


Federal Customs Service of the Russian Federation. (2019). Exports and imports of key economic goods in January-December 2018 [in Russian]. Retrieved from http://customs.ru/statistic/%D0%AF%D0%BD%D0%B2%D0%B0%D1%80%D1%8C%20-%20%D0%BC%D0%B0%D0%B9%202018


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