



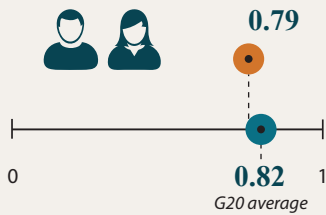
BROWN TO GREEN: G20 TRANSITION TO A LOW CARBON ECONOMY

Russia

This country profile assesses Russia's past, present and indications of future performance towards a low-carbon economy by evaluating emissions, decarbonisation, climate policy performance and climate finance. The profile summarises the respective findings from, amongst others, the Climate Change Performance Index (CCPI, operated by Germanwatch and Climate Action Network Europe), the Climate Action Tracker (CAT, operated by Climate Analytics, NewClimate Institute, Ecofys and the Potsdam Institute for Climate Impact Research), and analyses from the Overseas Development Institute (ODI).

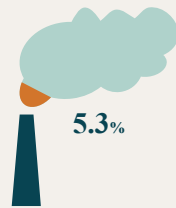


Human Development Index



Source: UNDP, data for 2015

Share of global GHG emissions



Source: World Bank Indicators, data for 2012

GHG emissions per capita (tCO₂e/cap)



Share of global GDP



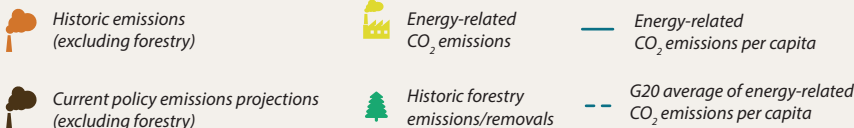
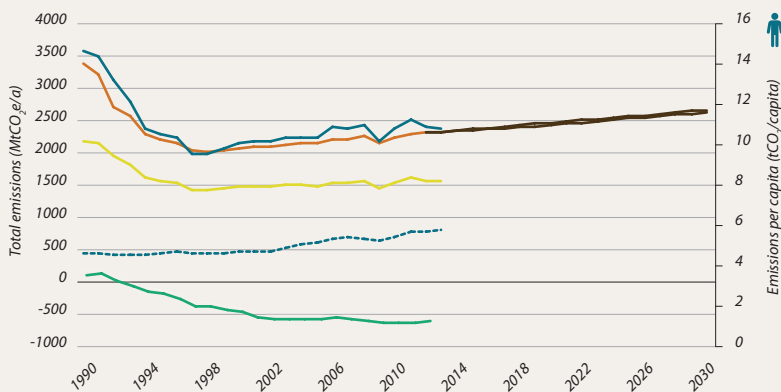
2.5%

GDP per capita



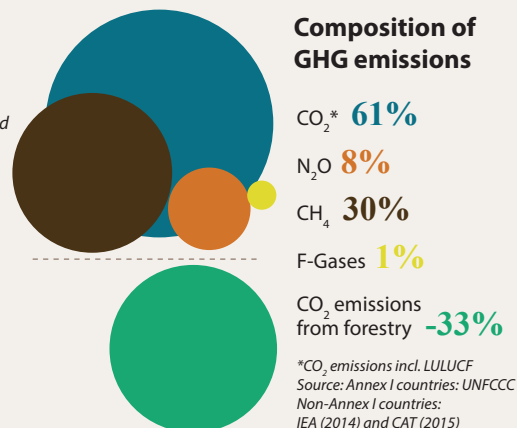
Source: IEA, data for 2013

GREENHOUSE GAS (GHG) EMISSIONS



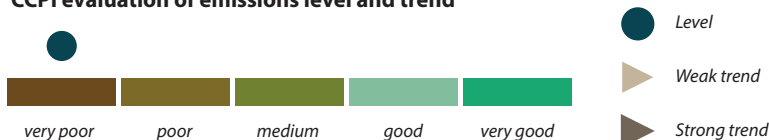
After the breakdown of the former Soviet Union, which caused emissions to drop in the 1990s, Russia's overall greenhouse gas (GHG) and energy-related carbon dioxide (CO₂) emissions slightly increased since 1998. Projections predict GHG emissions will continue to grow between 2016 and 2030. Emissions from land use, land-use change and forestry (LULUCF) are in the negative range. The current level of energy-related CO₂ per capita is wavering around 11tCO₂. The CCPI ranks Russia as a very poorly performing country, with no clear indication of a positive or negative trend over the last years.

Composition of GHG emissions



*CO₂ emissions incl. LULUCF
Source: Annex I countries: UNFCCC (2015); Non-Annex I countries: IEA (2014) and CAT (2015)

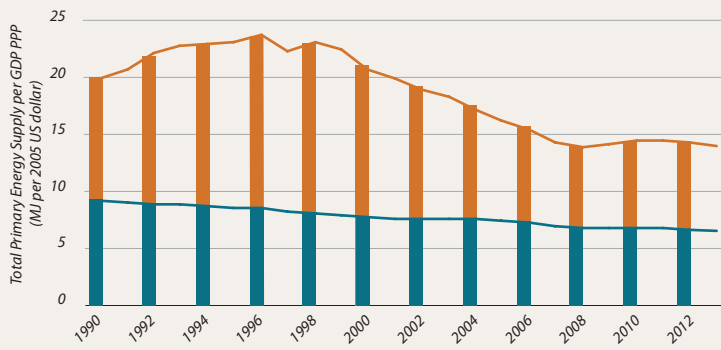
CCPI evaluation of emissions level and trend



Sources: Past energy related emissions from the Climate Change Performance Index (CCPI); past non-energy and future emissions projections from the Climate Action Tracker (CAT). CCPI calculations are primary based on the most recent IEA data; CAT calculations are based on national policies and country communications.

DECARBONISATION

Energy intensity of the economy



Energy intensity
Average energy intensity in G20

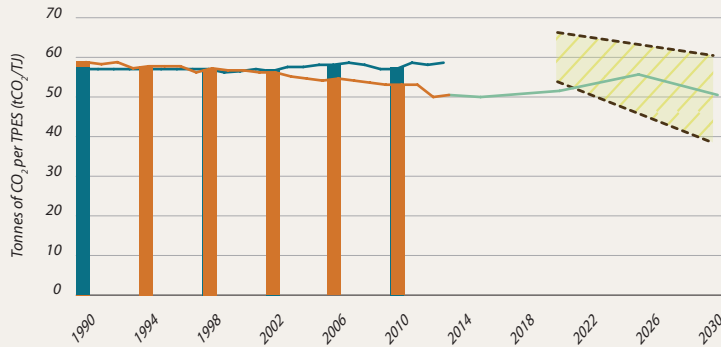
Source: CCPI, 2016

The energy intensity of the Russian economy is among the highest in the world, although it managed to improve intensity values in recent years. After peaking around 1996, energy intensity steadily dropped. Consequently, the CCPI evaluates Russia's energy intensity of the economy as very poor, but with a positive trend.

CCPI evaluation of energy intensity of GDP



Carbon intensity of the energy sector

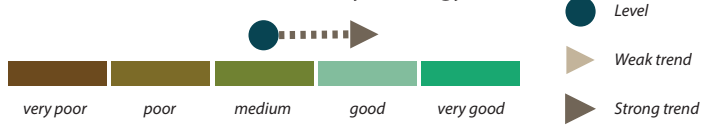


Carbon intensity (past trend) Average carbon intensity in G20
Carbon intensity (current policy projection) Global benchmark for a 2°C pathway

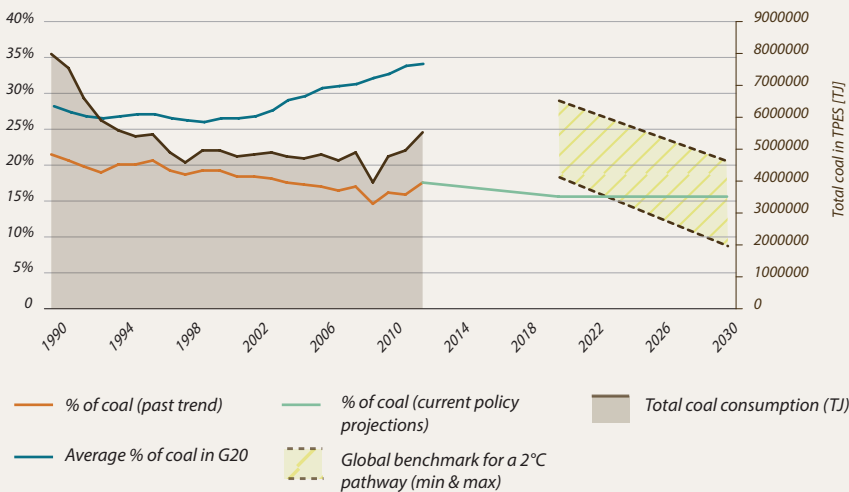
Sources: Past: CCPI; future projections: CAT

The carbon intensity of Russia's primary energy supply (CO₂/TPES) has slowly decreased since 1990. However, future projections show it is likely to increase again towards 2025, exceeding the minimal value for the 2°C benchmark corridor. Nevertheless, as Russia's carbon intensity is below the G20 average, and there has been a decrease over the last five years, the CCPI ranks Russia as medium performer, with a positive trend.

CCPI evaluation of carbon intensity of energy sector



Share of coal in Total Primary Energy Supply (TPES)

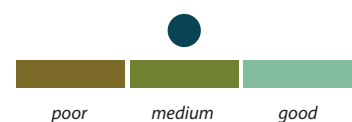


Source: CAT



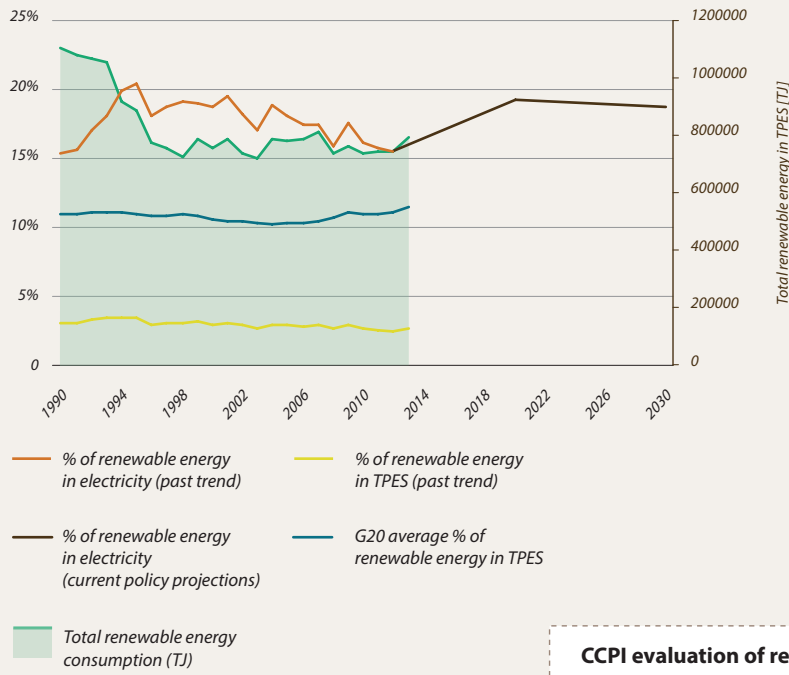
From 1990 onwards, the share of coal in Russia's primary energy supply dropped from 22%, down to 18% in 2012. Future predictions do not indicate major changes in the share coal for the coming decades. While this level would be low enough for Russia to stay within the range of the 2°C benchmark corridor, it would exceed its minimal value.

Evaluation of coal share in TPES



Source: own evaluation

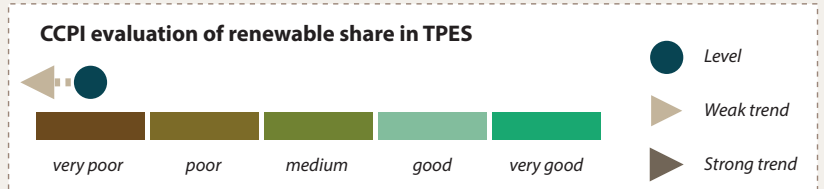
Renewable energy in TPES and electricity sector



Sources: CCPI and CAT

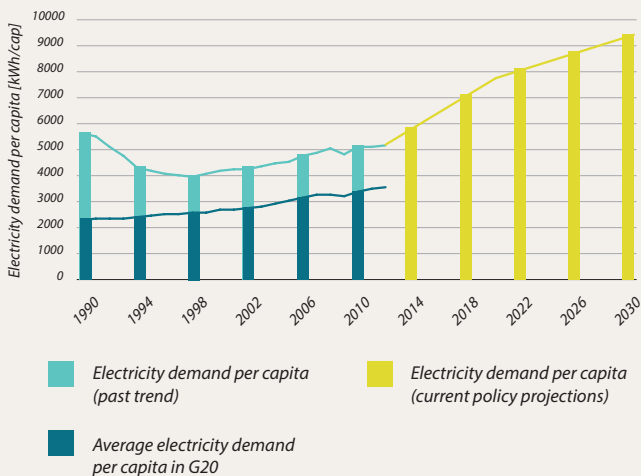


The share of renewable energy in electricity peaked in 1995 with a share of 20% and slowly decreased until 2012 when it reached 16% -nearly back to its 1990's level. Nevertheless, future projections based on national policies predict and increase in the share to up to 19% until 2030. On the other hand, the share of renewable energy in primary energy supply has not varied much in recent decades and remained around 3%. The CCPI therefore evaluates Russia as a very poor performer, with a negative trend.



Electricity demand per capita

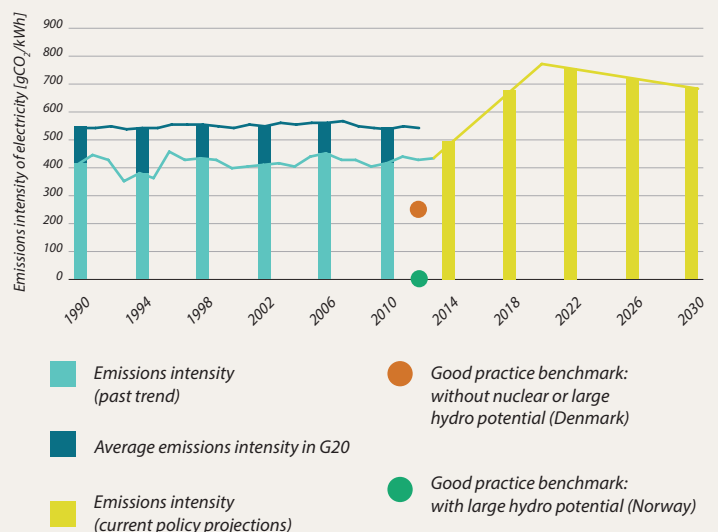
After a shrinking energy demand in the 1990s, Russia's per capita demand for electricity is rising to a similar rate to the G20 average, although at a significantly higher level. Additionally, future projections show a strong increase in the demand can be expected until 2030.



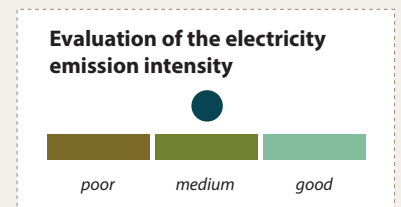
Source: CAT, 2015

Emissions intensity of the electricity sector

The emissions intensity of Russia's electricity sector has varied around 400 gCO₂ per kWh in the last decades. Although it has remained below the G20 average, future projections based on national policies expect a strong increase in the coming years.



Source: CAT, 2015



Source: own evaluation

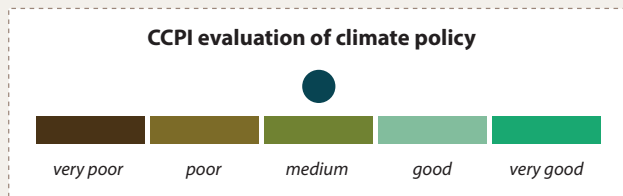
CLIMATE POLICY PERFORMANCE

Checklist of the climate policy framework

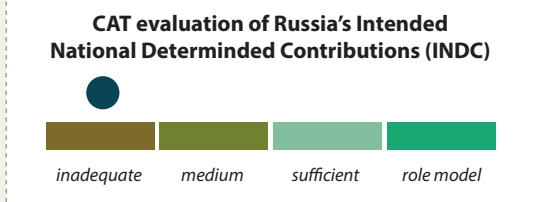
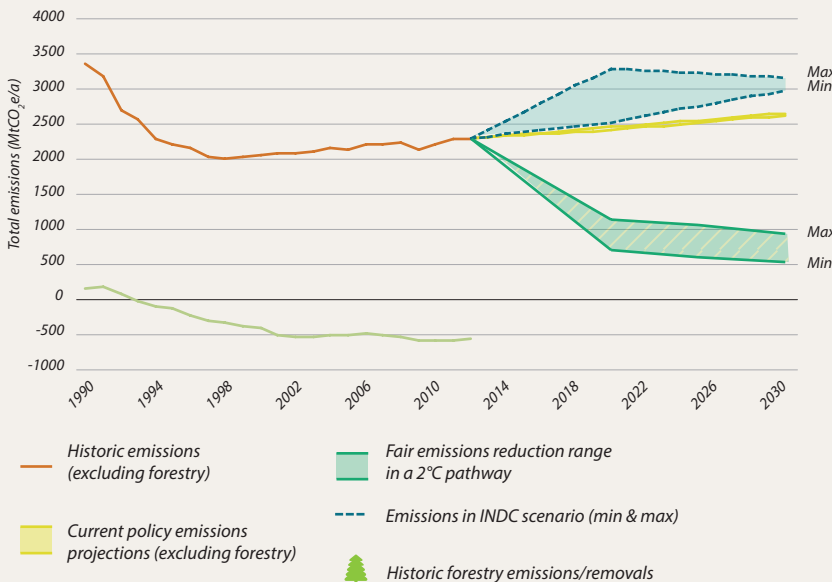
Low emissions development plan for 2050*	✗
2050 GHG emissions target	✓
Building codes, standards and incentives for low-emissions options	✓
Support scheme for renewables in the power sector	✓
Emissions performance standards for cars	✗
Emissions Trading Scheme (ETS)	✗
Carbon tax	✗

* Understood as decarbonisation plans and not specifically as the plans called for in the Paris Agreement

Source: Climate Policy Database, 2016



Compatibility of national climate targets (INDCs) with a 2°C scenario

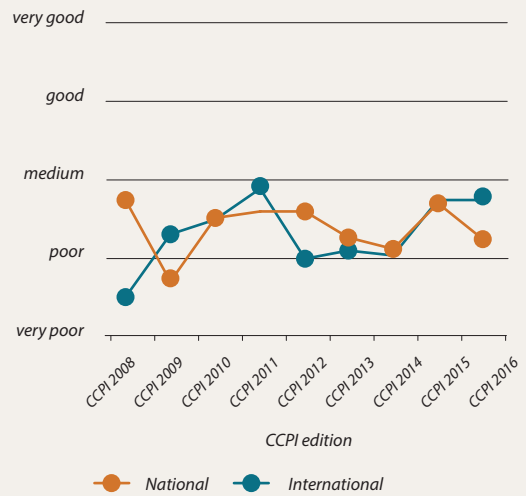


Source: CAT, 2015

Climate policy evaluation by experts

Russia's performance in international climate policy has varied widely and remains in the medium category of the CCPI since the 2015 edition. On the domestic level, performance has been poor and it is further declining in the latest CCPI editions. National experts say existing policies are driven by economic objectives rather than by the purpose of climate protection. Also, support for renewables is still weak and related targets only exist at a provincial level. The CCPI 2016 rates Russia's overall climate policy performance as medium.

The CCPI evaluates a country's performance in national and international climate policy through feedback from national energy and climate experts.



Source: CCPI, 2016

The Russian Federation submitted its Intended Nationally Determined Contribution (INDC) on 31 March 2015. It proposes to reduce emissions of net greenhouse gases (GHG) by 25–30% below 1990 levels by 2030. After accounting for the land use and forestry sector, this is a reduction of only 6–11% below 1990 levels of industrial GHG emissions, and an increase of 30–38% compared with 2012 levels. Based on this target, the Climate Action Tracker rates Russia "inadequate", meaning that if all governments showed such low ambition, global average warming would likely exceed 3–4°C.

Current policy projections predict a fail in reaching even this INDC target, demonstrating an extreme case of lack of ambition. Russia's emissions dropped substantially after 1990, and forestry emissions have turned from an emissions source into an emissions sink. Given Russia's projected forestry sink of around 0.5 GtCO₂e in 2030, the CAT's assessment is that Russia's proposed commitment for 2030 allows emissions of industrial GHGs to grow significantly from current levels to 3.0–3.2 GtCO₂e in 2030 (excluding LULUCF). To achieve this proposed target, Russian needs to take no further action other than its currently implemented policies.

FINANCING THE TRANSITION

Investment attractiveness



Allianz Energy and Climate Monitor

VERY LOW

RECAI* (E&Y index)
Category (own assessment) not covered

Trend** no data

*Adapted from RECAI and re-classified in 3 categories (low, medium, high) for comparison purposes with Allianz Monitor.

**Taken from RECAI issue of May 2016

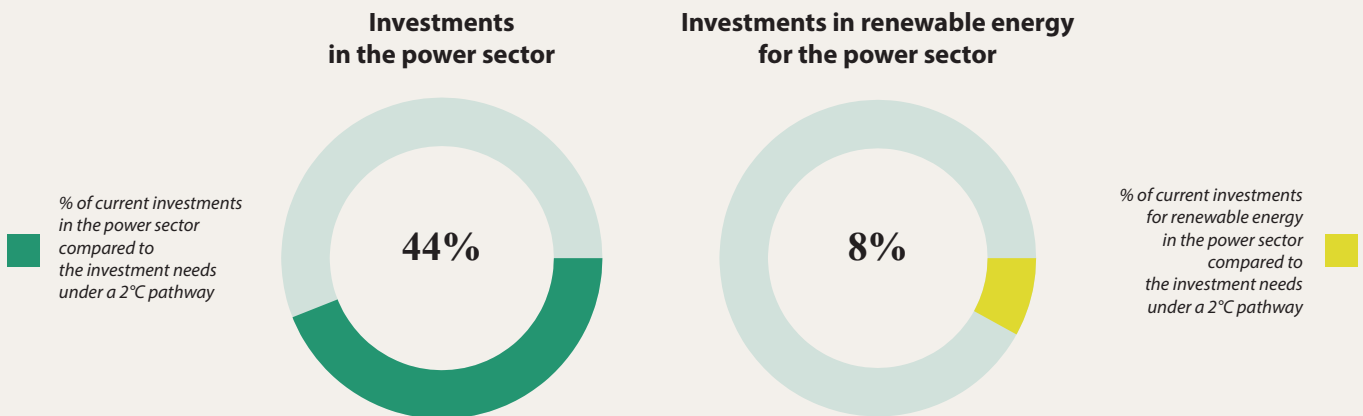
Climate Transparency rates Russia's investment attractiveness as very low, due to a rather inward-looking policy landscape that lacks ambition. A decree without specified support measures is the only relevant form of support for renewable energy. Technology experience and the activity of green businesses is also generally low.

Sources: Allianz Energy and Climate Monitor and RECAI reports

The Allianz Energy & Climate Monitor ranks G20 member states on their relative fitness as potential investment destinations for building low-carbon electricity infrastructure. The investment attractiveness of a country is assessed through four categories: Policy adequacy, Policy reliability of sustained support, Market absorption capacity and the National investment conditions. The Renewable Energy Country Attractiveness Index (RECAI) produces score and rankings for countries' attractiveness based on Macro drivers, Energy market drivers and Technology-specific drivers which together compress a set of 5 drivers, 16 parameters and over 50 datasets.

Historical investments in renewable energy and investment gap

This section shows Russia's current investments in the overall power sector (including distribution and transmission) as well as in renewable energy expressed as the share of the total annual investments needed to be in line with a 2°C compatible trajectory.



Source: Adapted from WEIO, 2014⁽¹⁾

⁽¹⁾ WEIO (2014) compares annual average investments from 2000 to 2013 with average annual investments needed from 2015 to 2030 under a 2°C scenario

Carbon pricing mechanisms

Emissions Trading Schemes (ETS)

An ETS caps the total level of GHG emissions and allows industries to trade allowances based on their marginal abatement cost. By creating a supply and demand for allowances, an ETS establishes a market price for GHG emissions.

Carbon Tax

A Carbon tax directly sets a price on carbon by defining a tax rate on GHG emissions or – more commonly – on the carbon content of fossil fuels. Unlike an ETS, a carbon tax is a price-based instrument that pre-defines the carbon price, but not the emissions reduction outcome of a carbon tax.

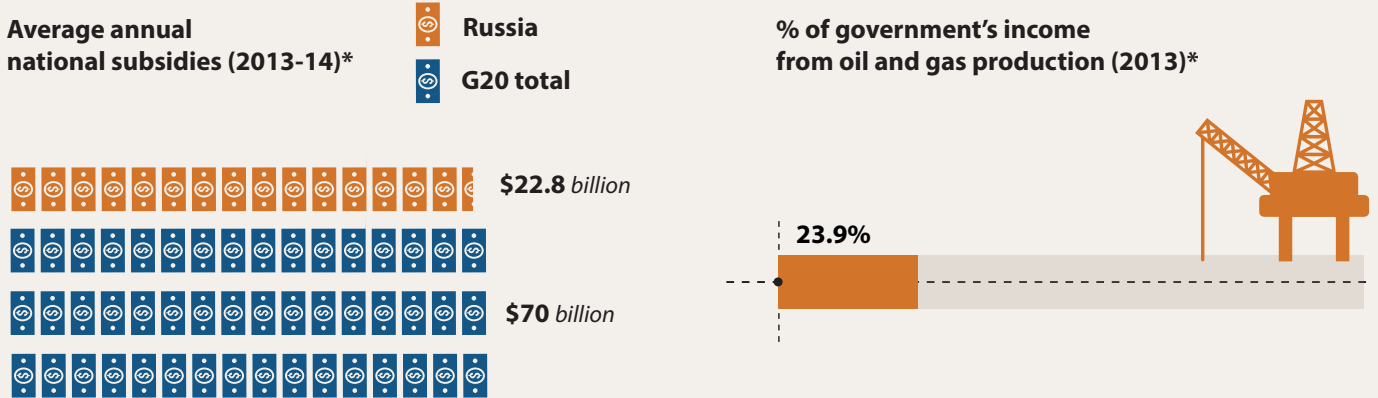
To date, Russia does not have an emissions trading scheme (ETS) or a carbon tax either in place or even under consideration.



Sources: World Bank and Ecofys, 2016; other national sources

Fossil fuel subsidies

In the last 20 years, Russia has significantly restructured its electricity sector, privatising fossil fuel-based power plants, while retaining control over nuclear and hydropower assets. The Ministry of Energy is making efforts to increase energy efficiency and reduce energy intensity through loan guarantees and co-financing, but it is also exploring legislative measures to increase and stimulate oil and coal production and the recovery rate of oil. The government funds geological studies for oil and gas exploration, and financially supports developing new fields in the Arctic. Preferential taxation supports fossil fuel production. Efforts to reduce consumption subsidies by increasing domestic retail prices for fossil fuels have been stalled by economic and financial instability.



Source: ODI, 2015

*The indicators above refer only to subsidies for fossil fuel production, and include direct spending (e.g. government budget expenditure on infrastructure that specifically benefits fossil fuels), tax expenditure (e.g. tax deductions for investment in drilling and mining equipment) and other support mechanisms (e.g. capacity mechanisms).

Public climate finance

Russia is not an Annex II signatory to the UNFCCC and therefore does not have formal obligations to provide climate finance. Its biennial reports to the UNFCCC do not detail bilateral climate finance contributions, though it does include selected contributions amounting to \$5.5 million to UNDP programs and \$2.5 million to the GEF.