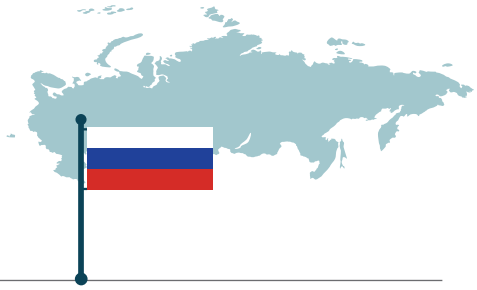
Climate Transparency

BROWN TO GREEN: **2019**

THE G20 TRANSITION TOWARDS A NET-ZERO EMISSIONS ECONOMY

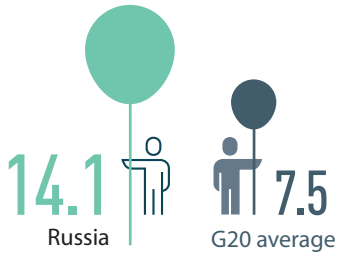
RUSSIA



Russia's greenhouse gas (GHG) emissions are – per capita – almost double the G20 average.

Russia's total GHG emissions (excl. land use) are projected to rise over the next decades.

Greenhouse gas (GHG) emissions (incl. land use) per capita[1]
(tCO_2e/capita)



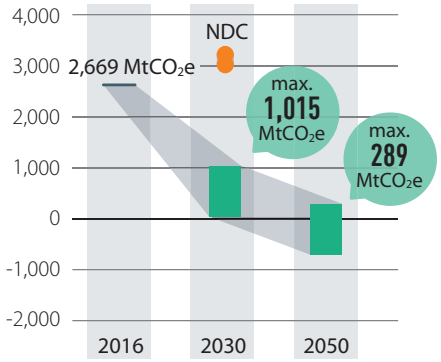
Data for 2016
Source: CAT 2019; PRIMAP 2018; World Bank 2019

Trend (2011-2016) -2% -1%

Russia is not on track for a 1.5°C world.

Russia's fair-share range is below 1,015 $MtCO_2e$ by 2030 and below 289 $MtCO_2e$ by 2050. Under Russia's 2030 NDC target, emissions would only be limited to 3,037-3,232 $MtCO_2e$. 1.5°C-compatibility can be achieved via strong domestic emissions reductions, supplemented with contributions to global emissions-reduction efforts. All figures are drawn from the Climate Action Tracker and exclude land use.

1.5°C compatible pathway[2]
($MtCO_2e$/year)



Source: CAT 2019

Recent developments[3]

In September 2019, Russia ratified the Paris Agreement and started to develop its long-term strategy.

In 2018, Russia's coal production and export reached a record high. More infrastructure is under development to increase coal exports to Asia.

Supported by the government, Russian oil companies have expanded exploration of gas and oil in Arctic territories.

Key opportunities for enhancing climate ambition[3]

The share of fossil fuels in energy supply is above G20 average.

→ **Adopt a low-carbon development strategy for 100% renewable energy by 2050 at the latest.**

#1

Building emissions per capita in Russia are almost twice as high as the G20 average.

→ **Introduce subsidies for energy efficiency renovation and develop a strategy to achieve deep renovation rates of 3% annually by 2020.**

#2

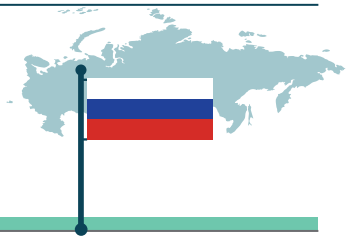
Russia provided US$6 billion of fossil fuel subsidies in 2017.

→ **Russia needs to phase out fossil fuel subsidies by 2025 at the latest.**

#3

This country profile is part of the **Brown to Green 2019** report. The full report and other G20 country profiles can be downloaded at: *http://www.climate-transparency.org/g20-climate-performance/g20report2019*

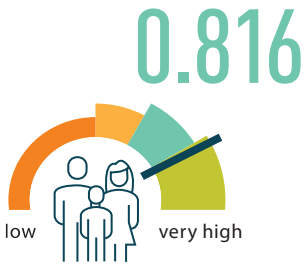
RUSSIA – SOCIO-ECONOMIC CONTEXT



Human Development Index

The Human Development Index reflects life expectancy, level of education, and per capita income. Russia ranks among the highest countries.

Data for 2017 | Source: UNDP 2018



Gross Domestic Product (GDP) per capita

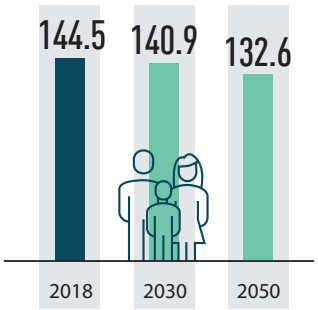
(PPP US$ const. 2018, international)

Data for 2018 | Source: World Bank 2019

Population projections

(millions)

The World Bank expects Russia's population to decline by about 8% by 2050.



Source: World Bank 2019

Death through ambient air pollution

(total ambient air pollution attributable deaths)

Over 115,000 people die in Russia every year because of outdoor air pollution, due to stroke, heart disease, lung cancer and chronic respiratory diseases. Compared to the total population, this is in the middle range of the G20.

115,915
attributable deaths

Ambient air pollution attributable death rate per 1,000 population per year, age standardised

Data for 2016
Source: World Health Organization 2018

JUST TRANSITION[3]

Large parts of the Russian economy are based on revenues from fossil fuel extraction and export. Energy exports account for 16% of the Russian GDP (as of 2015). The transition towards a low-carbon economy would mean rebuilding the entire economic system, including dismantling some monopolies in the energy sector. This could affect political balance. Russia has a history of social migration, for example populations affected by the restructuring of the coal sector in the 1990s and 2000s. With this history, it is not unforeseeable, under a future where displacement of workers results from mitigation measures and/or restructuring of the energy system, that government action would need be implemented to aid those affected.

Legend for all country profiles

Trends

The trends show developments over the past five years for which data are available.

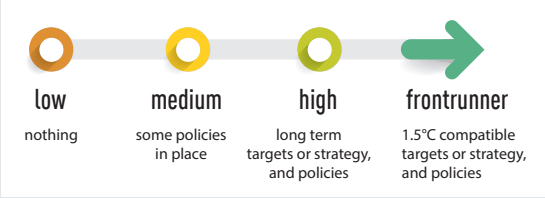
The thumbs indicate assessment from a climate protection perspective.

Decarbonisation Ratings[4]

These ratings assess a country's performance compared to other G20 countries. A high scoring reflects a relatively good effort from a climate protection perspective but is not necessarily 1.5°C compatible.

Policy Ratings[5]

The policy ratings evaluate a selection of policies that are essential pre-conditions for the longer-term transformation required to meet the 1.5°C limit.



For more information see the Annex and Technical Note

MITIGATION BIG PICTURE

RUSSIA

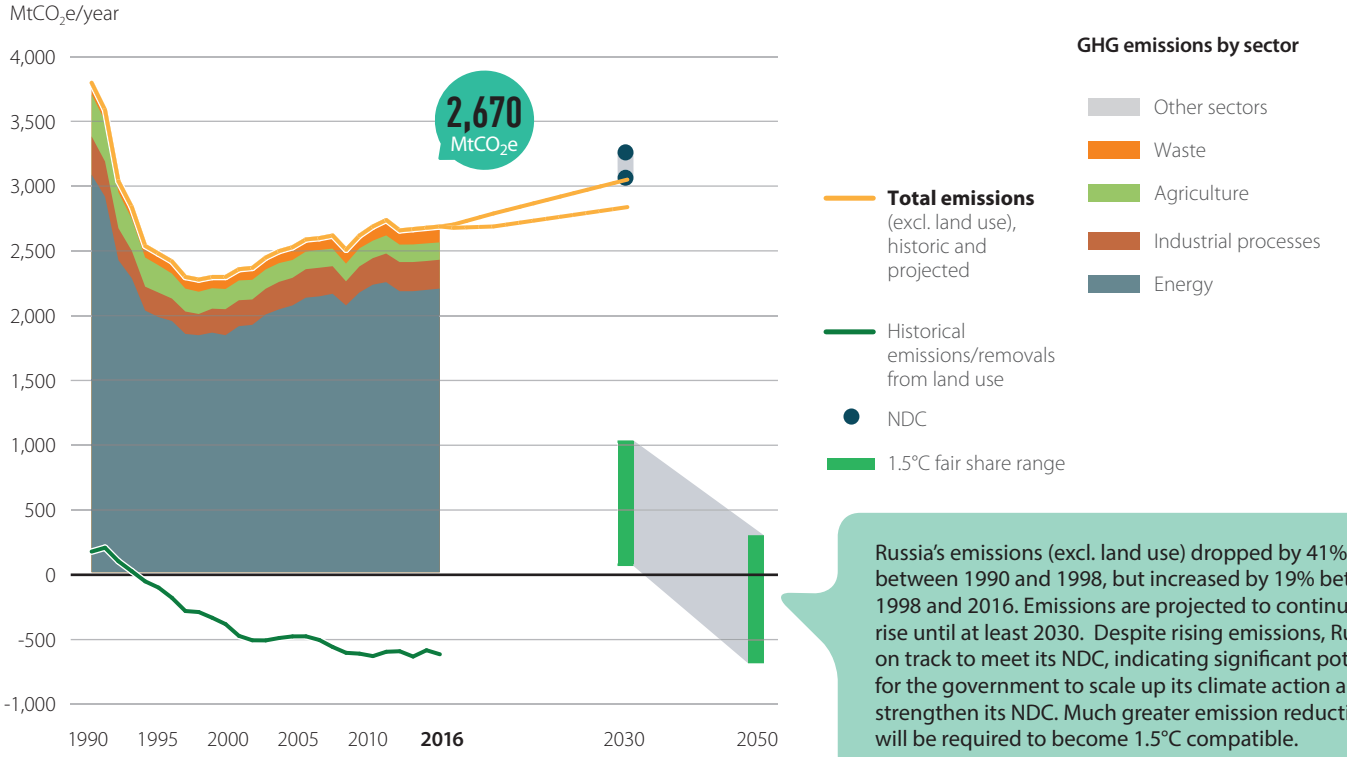
In 2016, Russia's GHG emissions were 29% below 1990 levels, but emissions are rising. The government's climate target for 2030 (-25 to -30%) is not in line with a 1.5°C pathway.

In 2030, global GHG emissions need to be 45% below 2010 levels and reach net zero by 2070.

1.5°C[6]

Source: IPCC SR1.5 2018

Total GHG emissions across sectors[2]



Source: PRIMAP 2018; CAT 2019

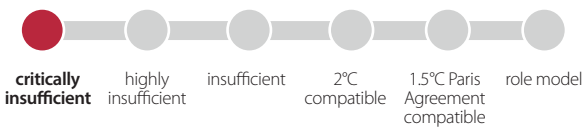
Russia's emissions (excl. land use) dropped by 41% between 1990 and 1998, but increased by 19% between 1998 and 2016. Emissions are projected to continue to rise until at least 2030. Despite rising emissions, Russia is on track to meet its NDC, indicating significant potential for the government to scale up its climate action and strengthen its NDC. Much greater emission reductions will be required to become 1.5°C compatible.

Nationally-determined contribution (NDC): Mitigation

Targets	Limiting anthropogenic greenhouse gases in Russia to 70-75% of 1990 levels by the year 2030 might be a long-term indicator, subject to the maximum possible account of absorbing capacity of forests
Actions	Not mentioned

Source: UNFCCC, NDC of respective country

Climate action tracker (CAT) evaluation of NDC[2]



Source: CAT 2019

Russia's NDC is due to be revised soon.

Long-term strategy (LTS) to be submitted to the UNFCCC by 2020

Status	Under development
2050 target	–
Interim steps	–
Sectoral targets	–

Source: UNFCCC, LTS of respective country

MITIGATION ENERGY

RUSSIA

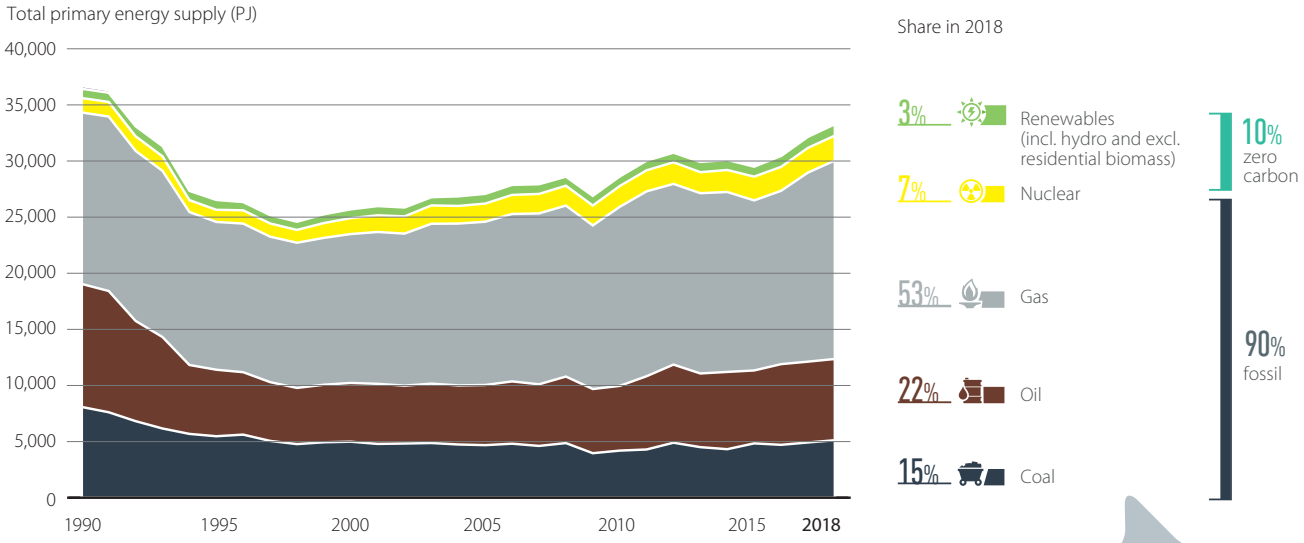
Fossil fuels still make up around 90% of Russia's energy mix (including power, heat, transport fuels, etc). The carbon intensity of the mix has remained almost unchanged, and energy production from gas and oil has been increasing in the past decade.

The share of fossil fuels globally needs to fall to 67% of global total primary energy by 2030 and to 33% by 2050 and to substantially lower levels without Carbon Capture and Storage.

1.5°C[6]

Source: IPCC SR1.5 2018

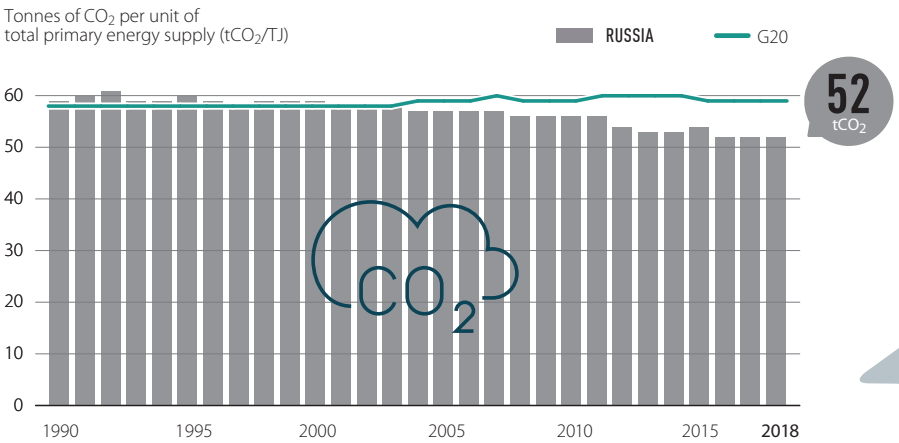
Energy mix[7]



Source: Enerdata 2019

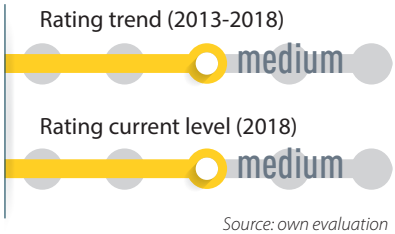
This graph shows the fuel mix for all energy supply, including energy used for electricity generation, heating, cooking, and transport fuels. Fossil fuels (oil, coal and gas) still make up 90% of Russia's energy mix, which is well above the G20 average. There has been a small rise in energy supply from renewables, but gas and oil use are also increasing.

Carbon intensity of the energy sector



Source: Enerdata 2019

Rating of carbon intensity compared to other G20 countries[4]



Source: own evaluation

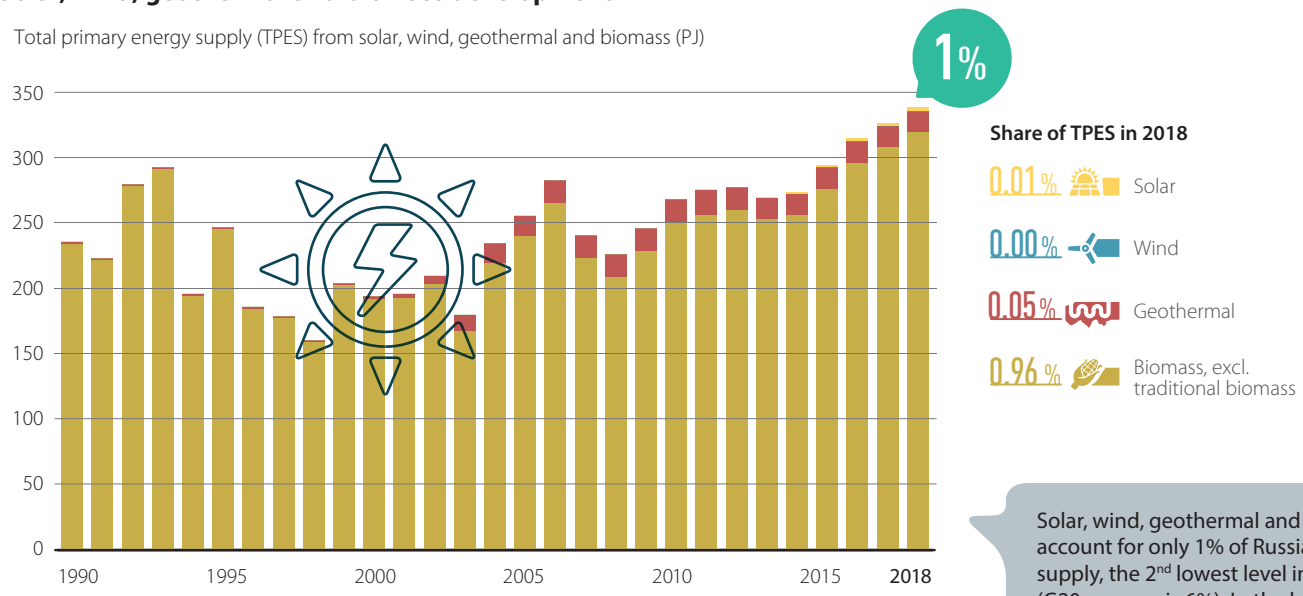
Carbon intensity shows how much CO_2 is emitted per unit of energy supply. At 52 tCO_2/TJ, the carbon intensity of Russia's energy sector is slightly below the G20 average, and has declined by 2.6% from 2013 to 2018 (G20 average: -2.5%).

MITIGATION ENERGY

RUSSIA

Solar, wind, geothermal and biomass development[8]

Total primary energy supply (TPES) from solar, wind, geothermal and biomass (PJ)



Source: Enerdata 2019

Solar, wind, geothermal and biomass account for only 1% of Russia's energy supply, the 2nd lowest level in the G20 (G20 average is 6%). In the last five years, the share of these sources in total energy supply has increased by 15%, less than the G20 average (+29% 2013-2018). Bioenergy (for electricity and heat) makes up the largest share.

Rating of share in TPES compared to other G20 countries[4]

Rating trend (2013-2018): medium

Rating current level (2018): very low

Source: own evaluation

Energy supply per capita

Total primary energy supply per capita (GJ/capita)

231 Russia

98 G20 average

Trend (2013-2018) +11% +1%

Data for 2018 | Source: Enerdata 2019; World Bank 2019

The level of energy supply per capita is closely related to economic development, climatic conditions and the price of energy.

Energy supply per capita in Russia (231 GJ/capita) is with well above the G20 average and has risen more (+11%, 2013-2018) than the G20 average (+1%).

Rating of energy supply per capita compared to other G20 countries[4]

Rating trend (2013-2018): very low

Rating current level (2018): very low

Source: own evaluation

MITIGATION ENERGY

RUSSIA

Russia has the most energy-intensive economy and one of the highest levels of energy supply per capita in the G20 – both continue to increase. This trend needs to reverse for Russia to be compatible with a 1.5°C pathway.

Global energy and process-related CO_2 emissions must be cut by 40% below 2010 levels by 2030 and reach net zero by 2060.

1.5°C[6]

Source: IPCC SR1.5 2018

Energy intensity of the economy

(TJ/PPP US$2015 million)

This indicator quantifies how much energy is used for each unit of GDP. This is closely related to the level of industrialisation, efficiency achievements, climatic conditions or geography. Russia has the most energy-intensive economy and records the highest increase in energy intensity (+10%, 2013-2018) in the G20 – the G20 average is decreasing by 12%.

8.90	4.86
Russia	G20 average

Trend (2013-2018) +10% -12%

Data for 2018 | Source: Enerdata 2019; World Bank 2019

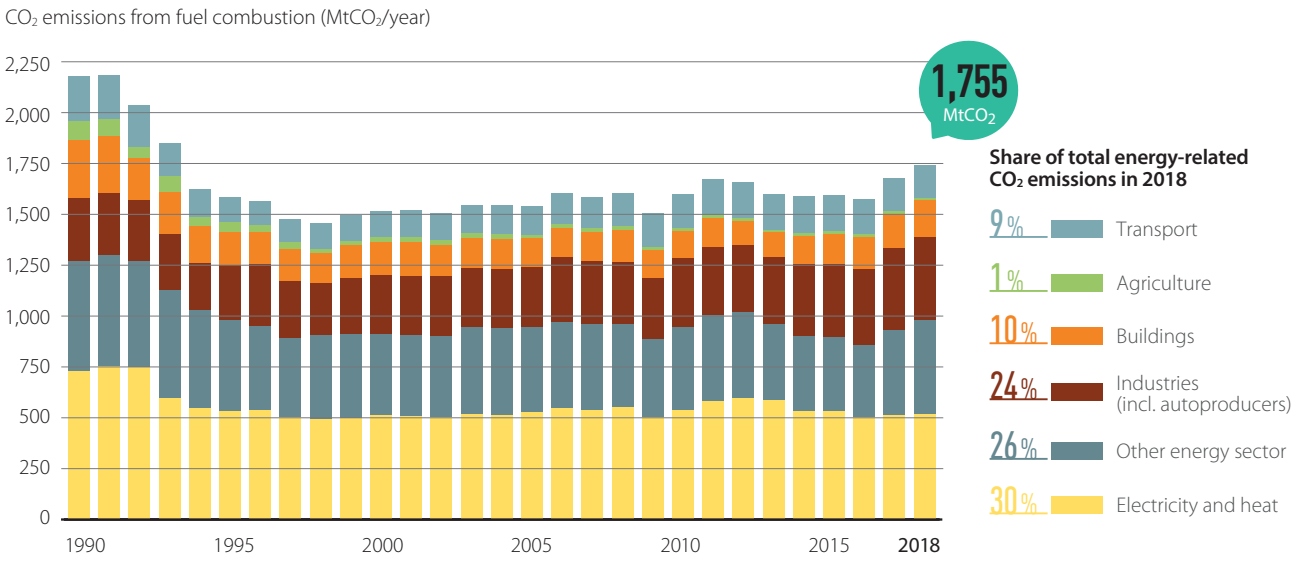
Rating of energy intensity compared to other G20 countries[4]

Rating trend (2013-2018): very low

Rating current level (2018): very low

Source: own evaluation

Energy-related CO_2 emissions[9]



Source: Enerdata 2019

The largest driver of overall GHG emissions are CO_2 emissions from fuel combustion. In Russia, they dropped between 1990 and 1998 but have since increased again. At 30%, the electricity and heat sector is the largest contributor.

MITIGATION POWER SECTOR

RUSSIA

! Russia produces 11% of its electricity from coal. There are no plans to phase out coal. This is not compatible with a 1.5°C pathway.

Share in energy-related CO_2 emissions

30%

Data for 2018 | Source: Enerdata 2019

Coal must be phased out in the EU/OECD no later than 2030, in the rest of the world no later than 2040. Electricity generation needs to be decarbonised before 2050, with renewable energy the most promising option.[5]

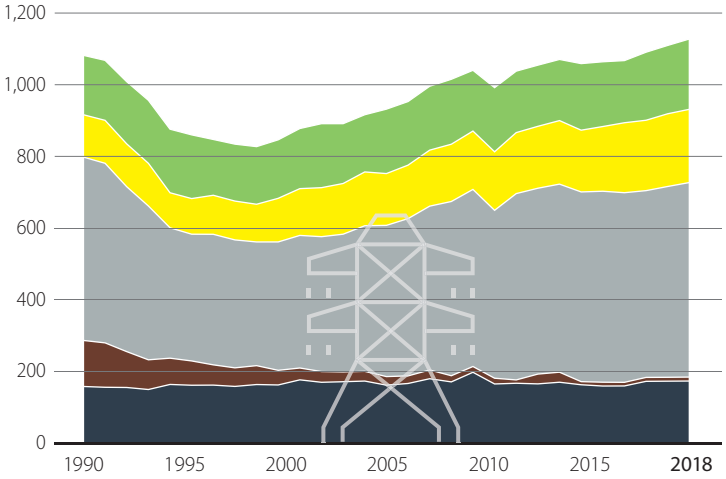
1.5°C[6]

Source: IPCC SR1.5 2018; Climate Analytics 2016; Climate Analytics 2019

STATUS OF DECARBONISATION

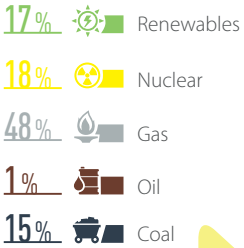
Power mix

Gross power generation (TWh)

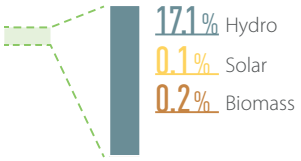


Source: Enerdata 2019

Shares in 2018



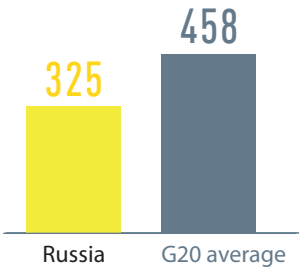
Renewables shares



Renewables account for 17% of Russia's power mix and almost all of it is generated through large hydropower, with many negative environmental and social impacts. The share of renewables has increased by 1% over the last five years, much less than the G20 average (+20%, 2013-2018). While the share of oil has decreased to only 1%, coal power remains stable and gas power has increased considerably over the past two decades.

Emissions intensity of the power sector

(gCO_2/kWh)



Data for 2018 | Source: Enerdata 2019

Trend (2013-2018)

-10% Russia

-11% G20 average

Rating of emissions intensity compared to other G20 countries[4]

Rating trend (2013-2018): medium

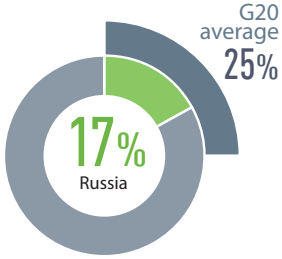
Rating current level (2018): medium

Source: own evaluation

For each kilowatt hour of electricity, 325 gCO_2 are emitted in Russia. This is below the G20 average, and reflects the relatively low share of coal and oil. Emission intensity has dropped by 10% in the past five years.

Share of renewables in power generation

(incl. large hydro)



Data for 2018 | Source: Enerdata 2019

Trend (2013-2018)

+1% Russia

+20% G20 average

Rating of share of renewables compared to other G20 countries[4]

Rating trend (2013-2018): very low

Rating current level (2018): low

Source: own evaluation

MITIGATION POWER SECTOR

RUSSIA

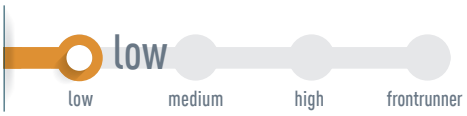
POLICIES[5]

Renewable energy in the power sector

Russia is increasing support mechanisms for renewables such as a law allowing net metering (expected to be adopted by the end of 2019) and for off-grid projects. However, Russia has no renewable targets beyond 2024 and does not yet support the prolongation of its renewable support scheme (initially adopted in 2013) after 2024.

Source: own evaluation

Coal phase-out in the power sector



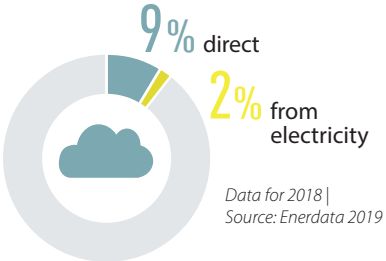
Russia is not considering a coal phase-out but aims to increase coal demand domestically by 15% in the period 2015-2020, and by 30% in the period 2015-2035. The government provides significant support to coal mining and infrastructure for coal exports, for example through preferential rail tariffs.

Source: own evaluation

MITIGATION TRANSPORT SECTOR

In Russia, per capita emissions from transport are close to the G20 average, but are declining more than in most other G20 countries. However, the transport sector is still dominated by fossil fuels. In order to stay within a 1.5°C limit, passenger and freight transport need to be decarbonised.

Share in energy-related CO_2 emissions



Data for 2018 | Source: Enerdata 2019

The proportion of low-carbon fuels in the transport fuel mix must increase to about 60% by 2050.

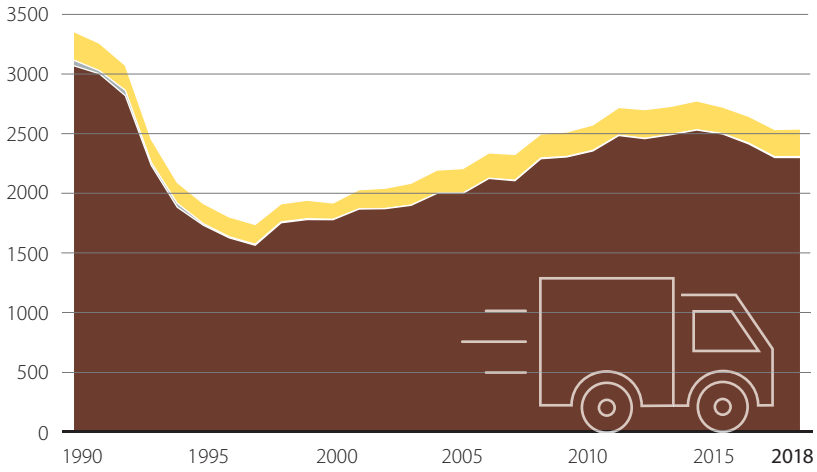
1.5°C[6]

Source: IPCC SR1.5 2018

STATUS OF DECARBONISATION

Transport energy mix

Final energy consumption of transport by source (PJ/year)



Share in 2018

0.0%	Biofuels
9.1%	Electricity
0.3%	Gas
90.6%	Oil
0.0%	Coal

Electricity and biofuels make up 9% of the energy mix in transport (G20 average is 6%).

Source: Enerdata 2019

MITIGATION TRANSPORT SECTOR

RUSSIA

STATUS OF DECARBONISATION (continued)

Transport emissions per capita[10]

(tCO_2/capita, excl. aviation emissions)

Data for 2018
Source: Enerdata 2019; World Bank 2019

Trend (2013-2018)

-10% Russia

+5% G20 average

Rating of transport emissions compared to other G20 countries[4]

Rating trend (2013-2018): high

Rating current level (2018): medium

Source: own evaluation

Aviation emissions per capita[11]

(tCO_2/capita)

Data for 2016
Source: Enerdata 2019; IEA 2018

Trend (2011-2016)

-24% Russia

+10% G20 average

Rating of aviation emissions compared to other G20 countries[4]

Rating trend (2011-2016): very high

Rating current level (2016): medium

Source: own evaluation

Motorisation rate

(vehicles per 1,000 inhabitants)

233

Data for 2009 | Source: Agora 2018

Market share of electric vehicles in new car sales

(%)

no data

Source: IEA 2019

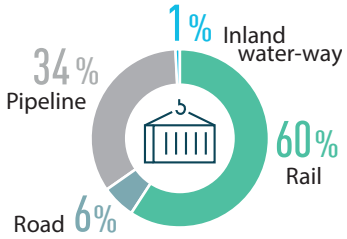
Passenger transport

(modal split in % of passenger km)

Data for 2017 | Source: ITF 2019

Freight transport

(modal split in % of tonne-km)



Data for 2016 | Source: Agora 2018

POLICIES[5]

Phase out fossil fuel cars

low

low | medium | high | frontrunner

Russia has no target to phase out fossil fuel cars. As of 2016, Euro V standards apply to all light-duty vehicle (LDV) sales and registrations. Under the national strategy for automotive development (2018), the government aims to support domestic electric vehicle production by exempting automotive components from custom duties.

Source: own evaluation

Phase out fossil fuel heavy-duty vehicles

low

low | medium | high | frontrunner

There is no target to phase out emissions from freight transport. As of 2016, all vehicle sales and registrations in Russia must meet Euro V standards. Some cities have introduced low-emission zones to ban high-emitting trucks from entering the city centre.

Source: own evaluation

Modal shift in (ground) transport

low

low | medium | high | frontrunner

Russia's 2030 Transport Strategy (2014) includes expansion of public transport infrastructure with focus on the freight cargo fleet and railway system. In 2019, the government approved the Russian Railways 2025 investment programme (US$89.7 billion). While some cities are introducing modal shift policies, there is no long-term strategy for supporting modal shifts at national level.

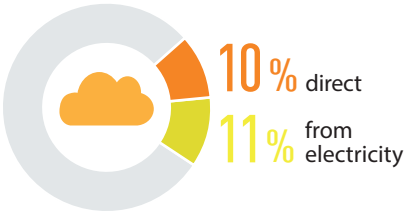
Source: own evaluation

MITIGATION BUILDINGS SECTOR

RUSSIA

Russia's per capita building emissions – including heating, cooking and electricity use – are well above the G20 average and rising. Strategies for reducing energy consumption are largely lacking.

Share in energy-related CO_2 emissions



Data for 2018 | Source: Enerdata 2019

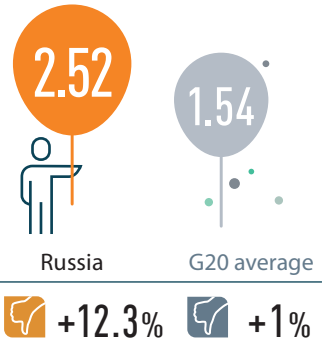
Global emissions from buildings need to be halved by 2030, and be about 80% below 2010 levels by 2050, achieved mostly through increased efficiency, reduced energy demand and electrification in conjunction with complete decarbonisation of the power sector.

1.5°C[6]

Source: IEA ETP B2DS scenario assessed in IPCC SR1.5 2018

STATUS OF DECARBONISATION

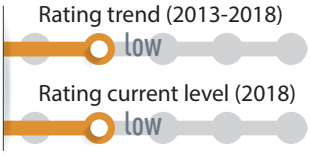
Building emissions per capita
(incl. indirect emissions)
(tCO_2/capita)



Trend (2013-2018)

Data for 2018 | Source: Enerdata 2019; World Bank 2019

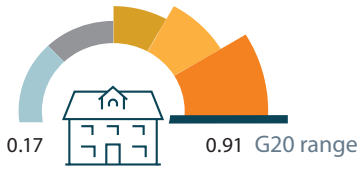
Rating of building emissions compared to other G20 countries[4]



Source: own evaluation

Residential buildings: energy use per m²
(GJ)

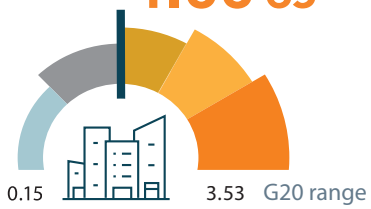
0.91 GJ



Data: year different per country | Source: ACEEE 2018

Commercial and public buildings: energy use per m²
(GJ)

1.80 GJ



Data: year different per country | Source: ACEEE 2018

Building-related emissions per capita are well above the G20 average. In contrast to the largely stable G20 average, the level has increased in Russia by 12% (2013-2018).

Building emissions are largely driven by how much energy is used in heating, cooling, lighting, household appliances, etc. Russia has the highest energy use per m² for residential buildings in the G20 and is in the middle range for commercial and public buildings.

POLICIES[5]

Near-zero energy new buildings

There is no strategy for near-zero energy buildings. The Federal Law on Energy Efficiency (2009) established mandatory building codes for residential and commercial buildings. In 2018, the government tightened energy efficiency requirements and adopted a target to reduce heat consumption in multi-compartmental houses by 15% from 2016 to 2030.

Source: own evaluation

Renovation of existing buildings

Russia has no retrofitting strategy for existing buildings. Mandatory national building energy codes apply to renovation projects undertaken for residential buildings.

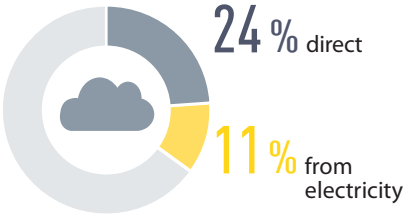
Source: own evaluation

MITIGATION INDUSTRY SECTOR

RUSSIA

Industry-related emissions make up more than a third of CO_2 emissions in Russia. Emissions from this sector increased by 26% from 2011 to 2016.

Share in energy-related CO_2 emissions (not including process emissions)



Data for 2018 | Source: Enerdata 2019

Global industrial CO_2 emissions need to be reduced by 65–90% from 2010 levels by 2050.

1.5°C[6]

Source: IPCC SR1.5 2018

STATUS OF DECARBONISATION

Industry emissions intensity[12]
(tCO_2e/US$2015 GVA)

Data for 2016 | Source: Enerdata 2019; PRIMAP 2018; World Bank 2019

+13.7% -10.2%

Trend (2011-2016)

Rating of emissions intensity compared to other G20 countries[4]

Rating trend (2011-2016)

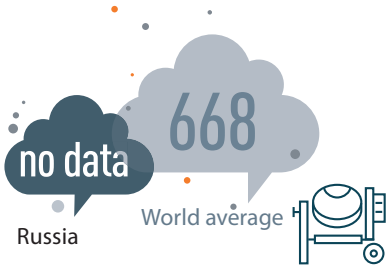
very low

Rating current level (2016)

very low

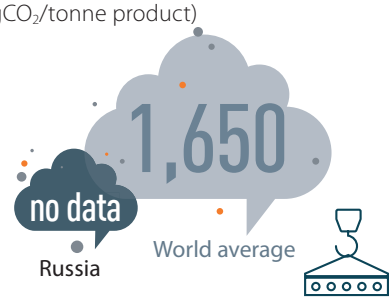
Source: own evaluation

Carbon intensity of cement production[13]
($kgCO_2$/tonne product)



Data for 2015 | Source: CAT 2019

Carbon intensity of steel production[13]
($kgCO_2$/tonne product)



Data for 2015 | Source: CAT 2019

When comparing industrial emissions with the gross value added (GVA) from the industry sector, Russia performs comparatively poorly within the G20. Russia's industry is the most emissions intensive and shows the 2nd highest increase in intensity in the G20.

Steel production and steelmaking are significant GHG emission sources, and are challenging to decarbonise. No data are available for Russia.

POLICIES[5]

Energy efficiency

low

low | medium | high | frontrunner

Mandatory energy efficiency policies in Russia cover only 0-10% of total energy use (as of 2017). A draft bill for the establishment of a GHG cap-and-trade system with scheduled sectoral GHG limits for some sectors of the economy is under consultation and may be passed by parliament in 2019.

Source: own evaluation

MITIGATION LAND USE

RUSSIA

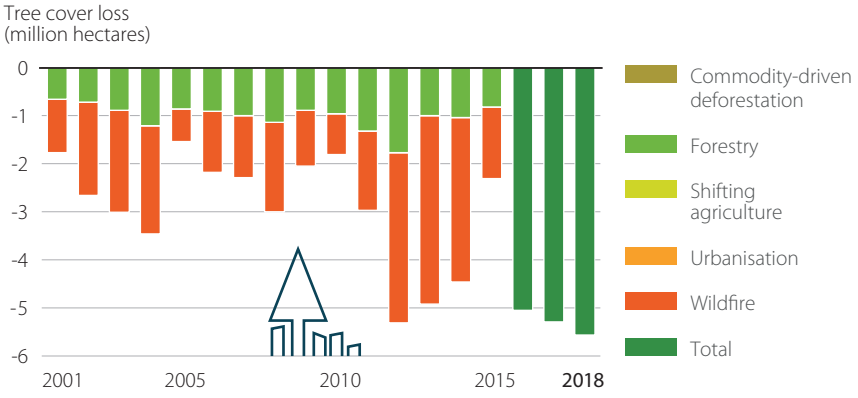
In order to stay within the 1.5°C limit, Russia needs to make the land use and forest sector a net sink of emissions, eg by halting the expansion of residential areas, stopping prescribed burning as part of forest management, and creating new forests.

Global deforestation needs to be halted and changed to net CO_2 removals by around 2030.

1.5°C[6]

Source: IPCC SR1.5 2018

Gross tree cover loss by dominant driver[14]



Source: Global Forest Watch 2019

Note: 2000 tree cover extent | >30% tree canopy | these estimates do not take tree cover gain into account

POLICIES[5]

(Net) zero deforestation

There are a complex set of forest regulations in Russia, but no long-term strategy for reducing deforestation to zero. While forest fires continue to be a major threat, forest management still includes prescribed burnings.

Source: own evaluation

From 2001 to 2018, Russia lost 60.4Mha of tree cover, equivalent to a **7.9% decrease since 2000**. This does not take tree-cover gain into account. Wildfires and the forest industry are the main causes of forest loss.

MITIGATION AGRICULTURE

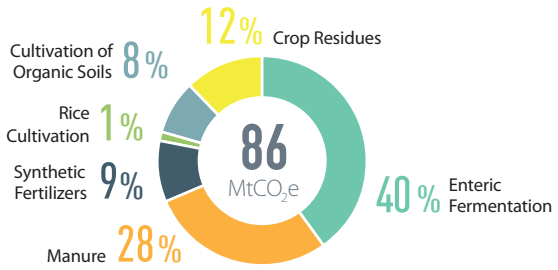
Russia's agricultural emissions come mainly from digestive processes in animals, livestock manure, and the use of synthetic fertilizers. A 1.5°C pathway requires dietary shifts, increased organic farming, and less fertilizer use.

Global methane emissions (mainly enteric fermentation) need to decline by 10% by 2030 and by 35% by 2050 (from 2010 levels). Nitrous oxide emissions (mainly from fertilzers and manure) need to be reduced by 10% by 2030 and by 20% by 2050.

1.5°C[6]

Source: IPCC SR1.5 2018

GHG emissions from agriculture (not including energy)



Data for 2016 | Source: FAOSTAT 2019

In Russia, the largest sources of GHG emissions in the agricultural sector are digestive processes in animals (enteric fermentation), livestock manure, and synthetic fertilizers. A shift to organic farming, more efficient use of fertilizers, and diet changes could help reduce emissions.

ADAPTATION

RUSSIA

- **Russia is vulnerable to climate change and adaptation actions are needed.**
- **On average, 126 fatalities and losses amounting to US$2 billion occur yearly due to extreme weather events.**
- **With global warming, society and its supporting sectors are increasingly exposed to severe climate events, such as a reduction in crop duration for wheat.**

ADAPTATION POLICIES

Nationally-determined contribution: Adaptation

Targets	Not mentioned
Actions	Not mentioned

Source: UNFCCC, NDC of respective country

National adaptation strategies

Document name	Publication year	Fields of action (sectors)													M&E process (reporting frequency)
		Agriculture	Biodiversity	Coastal areas & fishing	Education & research	Energy & industry	Finance & insurance	Forestry	Health	Infrastructure	Tourism	Transport	Urbanism	Water	
Adaptation plan to be published this year															

Source: own research

The National Adaptation Plan for Russia has been elaborated and is currently being submitted to the government.

RUSSIA

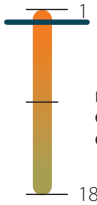
ADAPTATION NEEDS

Climate Risk Index for 1998-2017

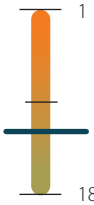
Impacts of extreme weather events in terms of fatalities and economic losses that occured

Global Climate Risk Index 2019 | All numbers are averages (1998-2017)

Weather-related fatalities	Per 100,000 inhabitants	Annual average losses (PPP US$ mn)	Per unit GDP (%)
2944	2.0	2058	0.1



9 rank out of 181 countries



129 rank out of 181 countries

Source: Germanwatch 2018

Russia has already been struck by extreme weather events such as storms, strong rains, floods, fires and heat waves. In July 2017, a storm in Moscow with intense thunder and strong winds killed 16 people. As highlighted by the numbers from the Climate Risk Index, such extreme weather events result in fatalities and economic losses. Climate change is expected to worsen the intensity, frequency and impacts of such events.

Exposure to future impacts at 1.5°C, 2°C and 3°C

		1.5°C	2°C	3°C
Water	% of area with increase in water scarcity			
	% of time in drought conditions			
Heat & Health	Heatwave frequency			
	Days above 35°C			

Source: own research

Overall, with rising temperatures, all sectors are adversely affected. In the water sector, water scarcity increases and time spent in drought conditions slightly increase. The frequency of heat waves increases, together with a high increase in the number of days with temperatures above 35°C.

			1.5°C	2°C	3°C
Agriculture	Maize	Reduction in crop duration			
		Hot spell frequency			
		Reduction in rainfall			
	Wheat	Reduction in crop duration			
		Hot spell frequency			
		Reduction in rainfall			

Source: Based on Arnell et al 2019

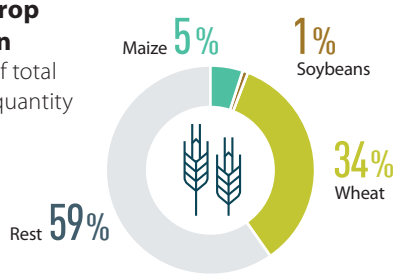
Impact ranking scale

- Very low
- Low
- Medium
- High
- Very high

Blank cells signify that there is no data available

National crop production

(share in % of total production quantity in tonnes)



Data for 2017 | Source: FAOSTAT 2019

Wheat and maize represent the largest proportions of crop production out of the four crops analysed (maize, rice, soybeans, wheat). Both crops experience a slight reduction in rainfall and a drastic reduction in crop duration. Wheat is affected by an increase in hot spell frequency; for maize this increase is drastic.

FINANCE

RUSSIA

Russia's fossil fuel subsidies totalled more than US$8 billion in 2017, largely for petroleum. The country has no explicit carbon pricing scheme. There are no financial policies or regulations for supporting the shift from brown to green.

Investment into green energy and infrastructure needs to outweigh fossil fuel investments by 2025.

1.5°C[6]

Source: IPCC SR1.5 2018

Nationally-determined contribution: Finance

Conditionality	NDC not conditional on international financial support
Investment needs	Not specified
Actions	Not mentioned
International market mechanisms	The target is to be achieved with no use of international market mechanisms

Source: UNFCCC, NDC of respective country

Financial policy and regulation supporting a brown to green transition

Through policy and regulation governments can overcome challenges to mobilising green finance, including: real and perceived risks, insufficient returns on investment, capacity and information gaps.

Category	Instruments	Objective	Under discussion/ implementation	Not identified
Green Financial Principles	N/A	This indicates political will and awareness of climate change impacts, showing where there is a general discussion about the need for aligning prudential and climate change objectives in the national financial architecture.	x	

			Mandatory	Voluntary	Under discussion	Not identified
Enhanced supervisory review, risk disclosure and market discipline	Climate risk disclosure requirements	Disclose the climate-related risks to which financial institutions are exposed				x
	Climate-related risk assessment and climate stress-test	Evaluate the resilience of the financial sector to climate shocks				x
Enhanced capital and liquidity requirements	Liquidity instruments	Mitigate and prevent market illiquidity and maturity mismatch				x
	Lending limits	Limit the concentration of carbon-intensive exposures				x
		Incentivise low carbon-intensive exposures				x
	Differentiated Reserve Requirements	Limit misaligned incentives and canalise credit to green sectors				x

Source: own research

Although the Russian Federation held an international conference on 'Green Financing for Sustainable Development' in May 2017, and the Central Bank of Russia conducted a review of financial market regulation on green bonds, there is otherwise no evidence of green financial policy or regulation, or formal engagement with initiatives compliant with Task Force on Climate-related Financial Disclosures.

FINANCE

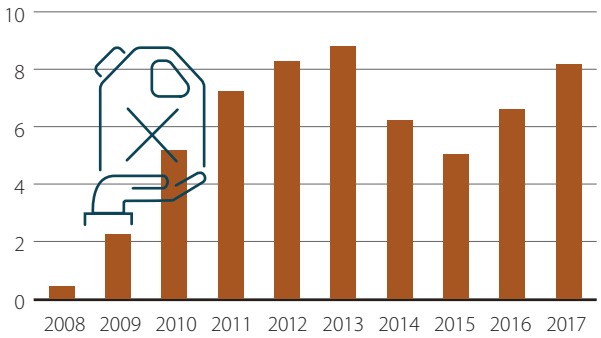
RUSSIA

Fiscal policy levers

Fiscal policy levers raise public revenues and direct public resources. Critically, they can shift investment decisions and consumer behaviour towards low-carbon, climate-resilient activities by reflecting externalities in prices.

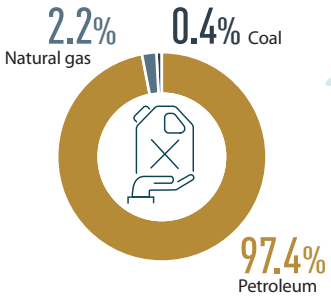
Fossil fuel subsidies

US$ billions



Source: OECD-IEA 2019

Subsidies by fuel type

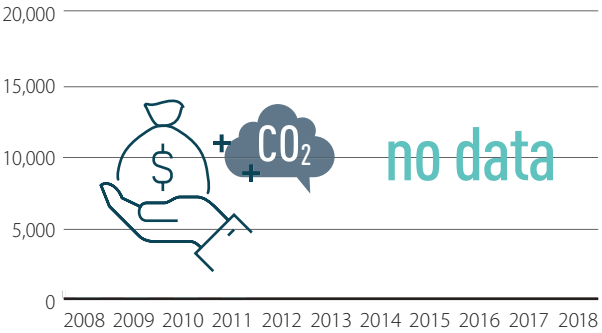


Data for 2017 | Source: OECD-IEA 2019

In 2017, Russia's fossil fuel subsidies totalled US$8.2bn (compared to US$0.4bn in 2008). Of the subsidies identified, 92% were for the production of fossil fuels, with the remainder for consumption. The highest amount of subsidies quantified were for petroleum, at US$7.9bn. In absolute terms, the largest subsidy is oil extraction tax reductions, based on the volume of oil extracted and depletion of subsoil (US$3.8bn).

Carbon revenues

Carbon revenues (US$ millions)
from explicit carbon pricing schemes

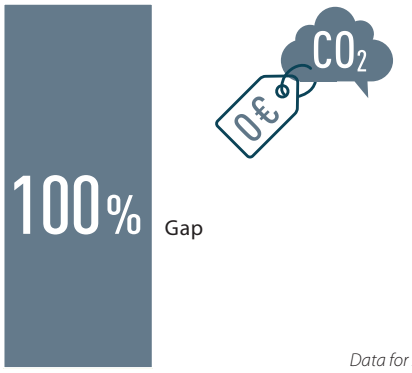


Source: I4CE 2019

Russia does not have a national carbon tax or emissions trading scheme, but the government is currently working on a cap-and-trade scheme. Despite this, 35% of energy-related CO_2 emissions are subject to other taxes.

Carbon pricing gap[15]

% of energy-related CO_2 emissions



Data for 2015 | Source: OECD 2018

0% of Russia's CO_2 emissions are priced at EUR30 or higher (the low-end benchmark), creating a carbon pricing gap of 100%. This is the largest gap in the G20 – the G20 average is 71%. The price covers not only explicit carbon taxes but also specific taxes on energy use and the price of tradable emission permits.

FINANCE

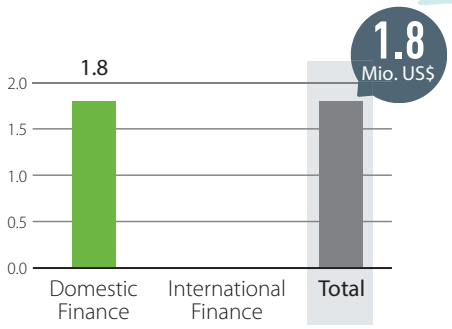
RUSSIA

Public finance

Governments steer investments through their public finance institutions including via development banks, both at home and overseas, and green investment banks. Developed G20 countries also have an obligation to provide finance to developing countries and public sources are a key aspect of these obligations under the UNFCCC.

Public finance for coal[16]

(million US$)



Between 2016-2017, Russia's public finance institution Sberbank provided US$1.8 million for coal extraction domestically. Public finance is also provided through the majority Russia-owned Eurasian Development Bank. However, estimates were not included here as they are not captured by the main database used for this research.

- Domestic Finance
- International Finance

Data year: 2016-2017 average
Source: Oil Change International 2019

Commitments to restrict public finance to coal and coal-fired power[17]

MDB level	National development agencies and banks	Domestic export credit agencies	Export credit restriction in OECD	Comment
–	–	–		No commitments identified

X yes – no ▭ not applicable

Source: own research

Provision of international public support[18]

Russia is not listed in Annex II of the UNFCCC and is therefore not formally obliged to provide climate finance. It is an Annex I country, however, and submits biennial reporting to the UNFCCC. Despite the voluntary nature of contributions, it has provided international public finance to the Global Environment Facility (GEF) Trust Fund focal area climate change mitigation. While Russia may channel international public finance towards climate change via multilateral and other development banks, it has not been included in this report. Russia did not pledge at the Green Climate Fund replenishment in late 2019, though left the door open for future contributions (it contributed US$3 million to the first resource mobilisation).

Obligation to provide climate finance under UNFCCC YES NO

United Nations Framework Convention on Climate Change

Bilateral climate finance contributions

Annual average contribution (mn US$, 2015-2016)	Theme of support			
	Mitigation	Adaptation	Cross-cutting	Other
6.92	0%	0%	100%	0%

Source: Country reporting to UNFCCC

Multilateral climate finance contributions

See Technical Note for multilateral climate funds included and method to attribute amounts to countries

Annual average contribution (mn US$, 2015-2016)	Theme of support		
	Adaptation	Mitigation	Cross-cutting
0	0%	0%	0%

Source: Country reporting to UNFCCC

Core/General Contributions

Annual average contribution (mn US$, 2015-2016)
7.75

Source: Country reporting to UNFCCC

ENDNOTES

1) 'Land use' emissions is used here to refer to land-use, land use change and forestry (LULUCF). The Climate Action Tracker (CAT) derives historical LULUCF emissions from the UNFCCC Common Reporting Format (CRF) reporting tables data converted to the categories from the IPCC 1996 guidelines, in particular separating Agriculture from Land use, land-use change and forestry (LULUCF), which under the new IPCC 2006 Guidelines is integrated into Agriculture, Forestry, and Other Land Use (AFOLU).
2) The 1.5°C fair share ranges for 2030 and 2050 are drawn from the CAT, which compiles a wide range of perspectives on what is considered fair, including considerations such as responsibility, capability, and equality. Countries with 1.5°C fair-share ranges reaching below zero, particularly between 2030 and 2050, are expected to achieve such strong reductions by domestic emissions reductions, supplemented by contributions to global emissions-reduction efforts via, for example, international finance. On a global scale, negative emission technologies are expected to play a role from the 2030s onwards, compensating for remaining positive emissions.

   The CAT's evaluation of NDCs shows the resulting temperature outcomes if all other governments were to put forward emissions reduction commitments with the same relative ambition level.

   The 2030 projections of GHG emissions are from the CAT's June 2019 update and are based on implemented policies, expected economic growth or trends in activity and energy consumption.

   The CAT methodology does not consider GHG emissions from LULUCF due to the large degree of uncertainty inherent in this type of data, and alsoto ensure consistency and comparability across countries.
3) See the Brown to Green 2019 Technical Note for the sources used for this assessment.
4) The Decarbonisation Ratings assess the relative performance across the G20. A high scoring reflects a relatively good efforts from a climate protection perspective but is not necessarily 1.5°C compatible. The ratings assess both the 'current level' and 'recent developments' to take account of the different starting points of different G20 countries. The 'recent developments' ratings compare developments over the last five available years (often 2013 to 2018).
5) The selection of policies rated and the assessment of 1.5°C compatibility are informed by the Paris Agreement, the Special Report on 1.5°C of the International Panel on Climate Change (2018), and the Climate Action Tracker (2016): 'The ten most important short-term steps to limit warming to 1.5°C'. The table below displays the criteria used to assess a country's policy performance. See the Brown to Green Report 2019 Technical Note for the sources used for this assessment.

On endnote 5)	low	medium	high	frontrunner
Renewable energy in power sector	No policy to increase the share of renewables	Some policies	Policies and longer-term strategy/ target to significantly increase the share of renewables	Short-term policies + long-term strategy for 100% renewables in the power sector by 2050 in place
Coal phase-out in power sector	No target or policy in place for reducing coal	Some policies	Policies + coal phase-out decided	Policies + coal phase-out date before 2030 (OECD and EU28) or 2040 (rest of the world)
Phase out fossil fuel cars	No policy for reducing emissions from light-duty vehicles	Some policies (e.g. energy/ emissions performance standards or bonus/malus support)	Policies + national target to phase out fossil fuel light-duty vehicles	Policies + ban on new fossil-based light-duty vehicles by 2035 worldwide
Phase out fossil fuel heavy-duty vehicles	No policy	Some policies (e.g. energy/ emissions performance standards or support)	Policies + strategy to reduce absolute emissions from freight transport	Policies + innovation strategy to phase out emissions from freight transport by 2050
Modal shift in (ground) transport	No policies	Some policies (e.g. support programmes to shift to rail or non-motorised transport)	Policies+ longer-term strategy	Policies + longer-term strategy consistent with 1.5°C pathway
Near zero-energy new buildings	No policies	Some policies (e.g. building codes, standards or fiscal/ financial incentives for low-emissions options)	Policies + national strategy for near zero-energy new buildings	Policies + national strategy for all new buildings to be near zero-energy by 2020 (OECD countries) or 2025 (non-OECD countries)
Retrofitting existing buildings	No policies	Some policies (e.g. building codes, standards or fiscal/ financial incentives for low-emissions options)	Policies + retrofitting strategy	Policies + strategy to achieve deep renovation rates of 5% annually (OECD) or 3% (non-OECD) by 2020
Energy efficiency in industry	No policies	Mandatory energy efficiency policies cover more than 26-50% of industrial energy use	Mandatory energy efficiency policies cover 51–100% of industrial energy use	Policies + strategy to reduce industrial emissions by 75%–90% from 2010 levels by 2050
(Net) zero deforestation	No policy or incentive to reduce deforestation in place	Some policies (e.g. incentives to reduce deforestation or support schemes for afforestation /reforestation in place)	Policies + national target for reaching net zero deforestation	Policies + national target for reaching zero deforestation by 2020s or for increasing forest coverage

ENDNOTES (continued)

6) The 1.5°C benchmarks are based on the Special Report on 1.5°C of the International Panel on Climate Change (2018). See the Brown to Green 2019 Technical Note for the specific sources used for this assessment.
7) Total primary energy supply data displayed in this Country Profile does not include non-energy use values. Solid fuel biomass in residential use has negative environmental and social impacts and is shown in the category 'other'.
8) Large hydropower and solid fuel biomass in residential use are not reflected due to their negative environmental and social impacts.
9) The category 'electricity and heat' covers CO_2 emissions from power generation and from waste heat generated in the power sector. The category 'other energy use' covers energy-related CO_2 emissions from extracting and processing fossil fuels (e.g. drying lignite).
10) This indicator shows transport emissions per capita, not including aviation emissions.
11) This indicator adds up emissions from domestic aviation and emissions from international aviation bunkers in the respective country. Emissions by aircrafts in the higher atmosphere lead to a contribution to climate change greater than emissions from burning fossil fuels. In this Country Profile, however, only a radiative forcing factor of 1 is assumed.
12) This indicator includes only direct energy-related emissions and process emissions (Scope 1) but not indirect emissions from electricity.
13) This indicator includes emissions from electricity (Scope 2) as well as direct energy-related emissions and process emissions (Scope 1).
14) This indicator covers only gross tree-cover loss and does not take tree-cover gain into account. It is thus not possible to deduce from this indicator the climate impact of the forest sector. The definition of 'forest' used for this indicator is also not identical with the definition used for the indicator on page 3.
15) 'Effective carbon rates' are the total price that applies to CO_2 emissions, and are made up of carbon taxes, specific taxes on energy use and the price of tradable emission permits. The carbon pricing gap is based on 2015 energy taxes and is therefore likely to be an underestimate, as taxation has tended to increase in countries over time.
16) The database used to estimate public finance for coal is a bottom-up database, based on information that is accessible through various online sources, and is therefore incomplete. For more information, see to the Brown to Green 2019 Technical Note.
17) See the Brown to Green 2019 Technical Note for the sources used for this assessment.
18) Climate finance contributions are sourced from Biennial Party reporting to the UNFCCC. Refer to the Brown to Green Report 2019 Technical Note for more detail.

For more detail on the sources and methodologies behind the calculation of the indicators displayed, please download the Technical Note at: http://www.climate-transparency.org/g20-climate-performance/g20report2019

CLIMATE TRANSPARENCY

Partners:

Funders:

Supported by:

Federal Ministry for the Environment, Nature Conservation and Nuclear Safety

based on a decision of the German Bundestag

Data Partners:

http://www.climate-transparency.org/g20-climate-performance/g20report2019