How Russia approaches the environment, peace and security

Conflict and Environment Observatory

Cover photo: Forest fires occur each year in Siberia but the duration, extent and intensity has been growing as the Arctic has warmed. The Arctic region is at the frontline of climate change and is critical as a carbon sink and store. © Julia Petrenko / Greenpeace

This report seeks to understand Russia's longstanding objections to addressing the environmental dimensions of peace and security in international fora and policy debates.

To do so it explores Russia's domestic approach to environmental protection, its environmental conduct during and after armed conflicts, how it conceptualises and utilises environmental security in its domestic and foreign policies, and its views on environmental security in international policy debates and in its regional relationships.

It concludes with recommendations to different stakeholders on potential opportunities for engaging Russia on the environment, peace and security.

Executive summary

How Russia views environmental protection domestically and internationally

Environmental governance in Russia has developed broadly in line with that of the wider international community. Russia is party to the main multilateral environmental agreements, and follows their commitments but is generally unwilling to pursue amendments to them. However, in spite of extensive environmental legislation, which appears quite progressive at the strategic level, enforcement is poor. There are also ongoing efforts to weaken public participation in environmental decision-making, access to environmental information and to justice, and the regulation of the energy sector. State funding for environmental protection has been increased, but stood at just 1% of GDP in 2016.

Air and water pollution are mainly addressed through a system of fines, with few incentives to introduce clean technologies or preventive approaches. Environmental monitoring systems are deteriorating, leading to inadequate response measures and regulations. The strategically and economically important petrochemical, mining and energy sectors remain the biggest polluters. This restricts efforts to limit their activities for environmental reasons. The government is currently undertaking waste management reforms aiming to increase waste recycling and introduce a waste-to-energy approach. However, due to a lack of economic incentives, infrastructure, an effective waste segregation system, and intensive lobbying from landfill owners and pro-incinerator companies, the reforms have proved largely ineffective to date. Nevertheless, public pressure has led to a range of private, corporate and municipal initiatives to reduce single-use plastics.

Russia's domestic climate policy has evolved from a complete rejection of climate change and its anthropogenic causes to quite well-developed regulations, and the integration of climate change risks in its national development strategies. Because Greenhouse Gas (GHG) emissions declined steeply with the collapse of the USSR in 1991, rather than through mitigation measures, Russia has been under little pressure to reduce emissions.

This lack of pressure has contributed to the wider climate change agenda mainly being used to attract investment for development projects, rather than emissions reductions. This looks set to continue with the government promoting the vast sequestration potential of its boreal forest, even as fossil fuel extraction continues. However, the recent EU Carbon Border Tax regulation provides solid incentives for the Russian government to reduce emissions

The Arctic region is viewed as important because of its transport capacity, fisheries, mineral resources and military bases. However, underinvestment in development instead sees it promoted as a region of "research and environmental cooperation". But even so, there has been a dramatic decline in funding for research centres, and institutional capacity to ensure environmental safety at the most polluting mining, oil and gas, and nuclear facilities. This has contributed to the severity of recent pollution incidents, such as 2020's Norilsk oil spill.

Biodiversity conservation began in Soviet times so institutional capacity, strategic planning and funding are well developed. More recently, raising awareness about the biodiversity and unique landscapes of Russia, as well as the promotion of particular species, has become part of the unofficial national pride development programme.

Since the late 1990s, when the economy began to recover, the government began to deliberately exclude environmental NGOs and activists from opportunities to participate in and influence environmental decision making. During the last decade, legislative changes have cemented this policy. However, increasing environmental problems and access to social media have resulted in the development of a large grassroots environmental movement. This now covers far more regions and social groups than any single environmental NGO could ever reach. This grassroots process is transforming the entire environmental movement in Russia, making environmental issues even more popular.

Russia's environmental conduct during and after armed conflicts

Russia's past and current conduct during conflicts suggests that it routinely ignores the environmental consequences of its operations. Historically, it has also utilised the environment as a weapon of war, as was the case in Afghanistan with scorched earth policies. That similar conduct has not been used or confirmed in subsequent conflicts may reflect the justification for the conflict – territorial recovery or control – or acknowledgment of the unacceptability of these policies.

Russia is cognisant of the health risks for its soldiers or civilians located in close proximity to technological hazards, which may trigger mitigation measures. Environmental impact assessment and rapid response may be conducted by Russian military forces during armed conflicts but only in high risk situations, such as radioactive contamination. Pre-conflict, Russia addresses environmental security issues through international cooperation in the field of natural resource management and transboundary environmental monitoring.

Russia has addressed environmental issues in post-conflict assistance where they threaten the economic recovery of a region, as has been the case in Ukraine and Chechnya, or may use them as an opportunity to enhance its presence – and business interests - in a strategic region, as is the case in Syria. Russia has, at times, viewed environmental protection as an instrument for peacebuilding but has also taken advantage of it for propaganda purposes, as it has in Ukraine. In the cases of Afghanistan, Chechnya and Ukraine it has allocated significant budgetary resources to address natural resource management and other environmental issues.

How Russia views the concept of environmental security

The notion of environmental security is a relatively recent addition to Russia's economic and political policies and practices. Its emergence appears to have been triggered by technological hazards, the need to address the environmental legacy of the Cold War military build-up, the intensive development of international environmental law, and increasing political tension around countries with abundant natural resources. All recently developed or updated strategies for social, economic and regional development refer to environmental security.

The most dominant environmental security narratives focus on pollution elimination and resource-efficiency, in both its national and foreign policies. The development of clean technologies, establishment of protected areas and environmental cooperation are the most important mechanisms through which the country addresses environmental security issues. Transboundary pollution, ecoterrorism, dual use environmental technologies and Western sanctions on imports of environmental technologies are seen as threats to Russia's environmental security. At the national level, environmental security has a higher priority for the government in regions of strategic interest such as the Arctic, Lake Baikal and in its Far East, which may be explained by a wish to prevent social tension and maintain access to natural resources.

Russia's armed forces have implemented environmental policies since the Soviet era. National regulations assigning responsibilities to the military authorities for preventing environmental harm are therefore well-developed, but only applicable during peacetime. National environmental legislation considers any military activity during peacetime as akin to any other business activity that may pose a threat to the environment. The legislation covers military facilities and operations, but rarely specifies any additional responsibilities, while armed conflicts are recognised by the government as a threat to environmental security

Russia's role in international initiatives and debates on environmental security during the last 20 years

For Russia, climate change is communicated as a threat in the national context, for example the disruption of oil and gas infrastructure due to melting permafrost, but as an opportunity in the international context, for example, improved Arctic transport routes, or income generation thanks to the carbon sequestration capacity of Russia's boreal forest.

Russia purports to be highly sceptical of the effectiveness of the UN Security Council (UNSC) due to what it views as its politicisation. It actively opposes the mainstreaming of environmental security themes within the Council, arguing that they should be dealt with elsewhere. This includes in the universal membership but weaker bodies of the UN General Assembly (UNGA) or Environment Assembly (UNEA), or within the specialised UN Framework Convention on Climate Change (UNFCCC). Statements within the UNSC suggest that it fears that environmental security issues could be used as a pretext for military interventions in countries rich in natural resources.

Russia takes a largely fatalistic approach to environmental protection during armed conflicts, arguing that the existing legal framework providing protection is sufficient and that damage is inevitable. It also views attempts to link environmental damage to harm to people or the enjoyment of their rights as undesirable. Nevertheless, Russia regularly takes the opportunity to criticise the interventionist policies of Western governments on the basis of the environmental harm that they have caused.

Russia's approach to environmental security issues in its regional back yard contrasts notably with its positions in international fora. In the Central Asian region, water and food security issues exacerbated by climate change, and transboundary pollution risks, have triggered opportunistic environmental cooperation between Russia and neighbourhood countries. This has been undertaken through development assistance for disaster prevention and preparedness, and climate change mitigation measures. Russia has also made environmental cooperation a must-have element of partnerships with politically strategic countries such as the BRICS (Brazil, Russia, India, China, South Africa). In this respect, Russia uses elements of the environmental security agenda for peacekeeping and economic cooperation. Nevertheless, national sovereignty of natural resources continues to underpin its economic and security cooperation strategies for the Eurasian region.

Key findings

- Russia has rarely initiated global environmental initiatives and primarily seeks to maintain the status quo. However, it has joined the majority of multilateral environmental agreements when the issues became mainstream, while typically opposing progressive amendments to them.

- Russia has always viewed environmental protection as a complex combination of measures, often requiring technological solutions. For example, to limit pollution, rather than to prevent it. This may be due to its historic resource abundance. As a result, internal policy-making in the field of environmental protection was, and remains, highly responsive, and characterised by relatively short-term planning and system thinking.

- Since the Soviet era, and due to the Cold War, Western sanctions and now underfunding, Russian science has at times developed in isolation from the international community. This has led to a lack of awareness and expertise in addressing environmental problems at the global scale. Limited access to information has contributed to a lack of understanding of the complexity of environmental issues and solutions among Russian scientists.

- Russia has experienced a range of economic and political sanctions in recent years, including in the fields of environmental cooperation and technical assistance. Moreover, environmental NGOs, often funded by Western countries, have been perceived by the government as arguing for environmental protection at the expense of economic development. This has helped create a perception of "environmental *insecurity*" that has been caused by Western governments.

- Russia is highly self-sufficient in natural resources. This abundance has meant that domestic and foreign environmental issues have often had a lower profile than might otherwise have been the case. As a result, the dominant motivation for addressing domestic environmental problems in contemporary Russia is societal demand, while internationally it tends to be the need to attract foreign investment and build political influence.

- Because of the state's oversimplified problem/solution approach, there has been a recent tendency for environmental issues in Russia to be classified as economic rather than political problems, the activities of environmental NGOs notwithstanding. Because of this, any actual or perceived politicisation of environmental issues is likely to be interpreted by Russian policy-makers as a threat to national sovereignty. This mindset may also influence views on preventative diplomacy around armed conflicts.

Recommendations

This report has documented the extent to which the concept of environmental security has been integrated into Russian development policies and strategies, particularly those concerning climate change. Its inclusion in domestic and regional policies suggests that Russia could meaningfully engage in international debates and initiatives on climate and water security, if its interests and sensitivities are properly addressed.

For civil society organisations:

- Explore how Russian scientists and experts can be formally engaged to conduct joint studies on environmental security issues at the global scale, with a particular focus on preventive cross-sectoral measures.
- Mainstream the environmental security agenda at international fora, which makes it more attractive for Russian policy-makers wishing to maintain and promote their voice in global decision-making.
- In communicating potential environmental security threats to Russia, focus on the short to medium term, rather than benefits that may accrue in the far future from preventative actions. Russia mainly adheres to responsive environmental policy-making.

For governments and international organisations:

- To address Russian concerns regarding the UNSC's role in environmental security issues, and to increase global understanding of environmental security threats, encourage greater reporting of measures taken to mitigate environmental security risks in relevant frameworks, such as the UNFCCC and overseas development assistance. Engage Russia on environmental security initiatives in international fora beyond the UNSC, including the UNGA and UNEA, in order to facilitate their engagement and ownership of the topic.
- Promoting a broader environment, peace and security agenda in fora such as the UNSC – as opposed to narrower agendas on climate security alone – would create more scope for engaging with Russia on environmental security issues that it feels are relevant to its national interests.
- Enhance environmental cooperation with Russia and its neighbourhood countries, for example through environmental investments, technological assistance and information exchange, in order to address Russian perceptions of environmental insecurity.
- Publish studies written in Russian on climate change security risks in the neighbourhood countries of Central Asia that face heightened climate risk, with a particular focus on migration, transboundary pollution and resources jointly managed with Russia.

For the Russian government:

- Acknowledge that all states seek to enjoy environmental security and support international initiatives intended to support that objective.
- Implement in full the 2020 International Committee of the Red Cross *Guidelines on the Protection of the Natural Environment in Armed Conflict* as a baseline of conduct for the Russian armed forces during conflicts.
- Support and implement in full the International Law Commission's principles on the *Protection of the environment in relation to armed conflicts* following their completion.
- Initiate the development of a climate change mitigation and adaptation strategy for the Eurasian Economic Union and Shanghai Cooperation Organisation.
- Support Russian scientists in collaborative work with Western civil society experts and researchers on studies into the role that the environment may play in regional and neighbourhood security risks, how it has been affected by conflict in these areas, and how it has and could be utilised for post-conflict peacebuilding.
- Join the Extractive Industries Transparency Initiative.

Contents

3 How Russia views the concept of environmental security

4 Russia's role in international initiatives and debates on environmental security during the last 20 years

Reference list

About the Conflict and Environment Observatory (CEOBS)

CEOBS is a UK charity that was launched in 2018 with the primary goal of increasing awareness and understanding of the environmental and derived humanitarian consequences of armed conflicts and military activities. In this, we seek to challenge the idea of the environment as a 'silent victim of armed conflict'.

We work with international organisations, civil society, academia and communities to: monitor and publicise data on the environmental dimensions of armed conflicts; develop tools to improve data collection and sharing; monitor and scrutinise developments in law and policy that could contribute towards the reduction of humanitarian and environmental harm; and promote environmental mainstreaming in humanitarian disarmament.

CEOBS' overarching aim is to ensure that the environmental consequences of armed conflicts and military activities are properly documented and addressed, and that those affected are assisted.

About the author

Nina Lesikhina holds a Masters degree in Environmental Policy from the Central European University. She has worked with environmental NGOs in Russia for more than 15 years, with five years at Greenpeace Russia. She is a co-author of the Bellona Foundation's report on the environmental risks of oil and gas development in the Arctic, and the UN FAO's study on a new climate economy. She is an environmental advocate in the field of renewable energy, waste and chemicals management, with extensive experience in applying the mechanisms of the UNFCCC, HELCOM, EBRD, and Eurasian Economic Union to influence policy-making in Russia.

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Contact CEOBS

CEOBS, The Chapel, Scout Rd, Hebden Bridge,
West Yorkshire, UK. HX7 5HZ +44 (0) 300 302 1130
www.ceobs.org contact@ceobs.org @detoxconflict

Introduction

International attention on environmental security, and in particular, climate and water security, has increased markedly during the last decade. Debates addressing elements of environmental security have taken place within the UN's Security Council (UNSC), General Assembly (UNGA) and its Environment Assembly (UNEA). Yet in spite of the increasing number of statements and resolutions that have accepted the importance of the environment throughout the cycle of conflicts, a number of states remain reluctant to support measures to address its implications for peace and security, one of which is Russia.

As a permanent member of the UNSC, a vocal actor in international fora, and with a role in the conflicts in Libya, Syria and Ukraine, Russia's position on environmental security is significant. Russia has often impeded Western-backed initiatives to address the environmental dimensions of peace and security, or has played an obstructive role in those negotiations where it is unwilling to block consensus. Given the growing urgency of international measures to address environmental security risks, this report aims to explore the roots of Russia's position, and in so doing, provide recommendations on how different stakeholders can engage with Russia on environmental security.

The report consists of four sections. The first provides an overview of how Russia has approached the protection of the environment for the last fifty years, both domestically and internationally. The second reviews Russian environmental conduct in the conflicts in Afghanistan, Chechnya, Ukraine and Syria. The third section examines how the Russian state has conceptualised environmental security by analysing security factors in its domestic environmental policy, and environmental factors in its foreign and security policies.

Section four studies Russia's role in international policy initiatives on environmental security, analysing official statements, its participation in multilateral agreements, and its international development assistance priorities.

The report utilises official government documents on socio-economic development, on foreign and security policies, and on environmental legislation. The statements of Russian delegates at international fora, and joint declarations made by the member countries of the environmental security initiatives that Russia's participates in. Section two draws on historical reviews of the armed conflicts in Afghanistan and Chechnya, and the recent assessments by NGOs and researchers for the conflicts in Syria and Ukraine. Research for this report faced two limiting factors. The first is the declarative character of Russia's official environmental security policies, the second is the subjectivity of how data on the environmental consequences of armed conflicts has been interpreted.

1 How Russia views environmental protection, domestically and internationally

This chapter provides an overview of the development of environmental legislation in Russia from the collapse of the USSR until the present day. In doing so it analyses governmental priorities in the field of environmental protection based on state policies, nationally determined commitments, research and development programmes and financial flows.

Its primary focus areas are: air and water pollution, waste management, climate change, the Arctic and biodiversity. Attention is also paid to the development of civil society in Russia, as well as to the environmental footprint of Russian military forces. An annex detailing multilateral environmental agreements to which Russia is a party can be found at the end of the report.

1.1 Environmental legislation

Russia's first environmental legislation was developed in the USSR in the early 1920s after the nationalisation of its natural resources.[1] Until the 1970s, environmental problems were generally considered as a threat to human health, rather than to the environment itself.

During the 1970-80s, the discourse changed to become more environmentally focused, leading to new legislation including the Law on Air Protection (1982)[2] and Law on Wildlife (1982). The ninth Five-Year Plan (1971–75) included expenditures for environmental protection in the state budget for the first time.[3] In 1972, the USSR declared environmental protection and sustainable resource management as one of its national priorities by accepting a Decree on the 'Enhancement of environmental protection and improvement of resource management'. Moreover, in spite of its boycott of the 1972 Stockholm meetings, the Soviet Union signed a range of bilateral agreements on environmental protection including with the US, Great Britain, Sweden, and France.[4]

In 1978 the Russian meteorological service, which also undertook environmental protection, was officially renamed as the USSR National Committee on Hydrometeorology and Environmental Control.[5] In 1988, the USSR State Committee on Nature Protection was established, followed by a new Law on Environmental Protection, which was in part a result of pressure from the USSR's emerging environmental and social movements. The economic development strategy of the country for 1981-85 contained a range of measures to protect agricultural lands, to improve air and water quality control, to expand efforts on forest protection and to increase the numbers of reserves and parks.[6] In the early 1990s, Russia established a Ministry of Natural Resource Management and Environmental Protection, although its powers would fluctuate between 1994 and 2008.[7] In 1995, a "Concept of Environmental Security" was adopted, leading to the establishment of a federal system of environmental security.[8] By 1996, Russia had announced its transition to sustainable development and developed an action plan.

1 Land Code (1922), Forest Code (1923), Law on Subsoils (1920), Law on Fishery (1924), Law on Hunting (1920), Law on Protected Areas (1921), and Law on Housing Sanitary Control (1919)

2 RIA News. 2010. History of environmental legislation in Russia. https://ria.ru/20100604/239700725.html

3 Josephson, P., Dronin, N., Cherp, A., Mnatsakanian, R., Efremenko, D. and Larin, V. 2013. An Environmental History of Russia. Cambridge University Press: New York.

4 Josephson, P., Dronin, N., Cherp, A., Mnatsakanian, R., Efremenko, D. and Larin, V. 2013. An Environmental History of Russia. Cambridge University Press: New York

5 Russian Hydrometeorological Service. http://www.meteorf.ru/about/history/325

6 Isakov, Y. The Protection of Nature in the U.S.S.R.: Scientific and Organizational principles. Geoforum, vol. 15, no. 1 (1984), pp. 89–94.

7 Kommersant. 2000. History of environmental protection in Russia. https://www.kommersant.ru/doc/148696

8 Serov, G. 1999. Environmental Audit. Training Manual. https://ru-ecology.info/term/25466/

1.1 Environmental legislation

Since 1990, and the introduction of the Regulation on Environmental Impact Assessment, all projects have had to undergo state environmental review, including public consultation. The process provides a legal opportunity to arrange a public review. However, this regulation has been severely weakened in recent years, with a reduction in the range of projects obliged to pass them. This has included offshore oil and gas projects. Meanwhile, from 1993 onwards, a range of environmental laws and regulations were passed to ensure the health and environment safety of goods, services and facilities.[9]

In the early 2000s, a keystone Law on Environmental Protection (2002) was developed. This was followed by the Environmental Doctrine,[10] and the establishment of the Russian Federal Service for Ecological, Technical and Atomic Supervision, under the Russian government.[11] Since the 1990s, the Federal Service for Hydrometeorology and Environmental Monitoring, and the Ministry of Natural Resource Management and the Environment have issued annual reports on water, air and soil pollution, and on protection measures. These contain some data on emissions, discharges and waste, and more recently have begun including Greenhouse Gas (GHG) emissions. [12, 13]

Between 2008-10, a range of environmental strategies were developed, which framed the direction of Russian state environmental policy. These included its Transport Strategy (green mobility);[14] its Arctic Development Strategy (research and transport development, resource exploitation and ecosystem conservation);[15] an Energy Strategy (resource efficiency, green energy development, including nuclear power);[16] an Agriculture, Forestry and Land Melioration Strategy (sustainable agriculture);[17] a Water Strategy (water efficiency);[18] as well as a National Biodiversity Conservation Strategy,[19] a Climate Doctrine,[20] and a Food Security Doctrine.[21]

9 Law on Environmental Review (1995), Law on Radiation Safety (1996) and on Nuclear Energy (1997), Law on Industrial and Households Waste (1998), Law on Endangered Species (1996), etc.

10 Environmental Doctrine of the Russian Federation. 2002. http://www.scrf.gov.ru/security/economic/document24/

11 RIA News. 2010. History of environmental legislation in Russia. https://ria.ru/20100604/239700725.html

12 Russian Ministry of Natural Resources and Environment. Annual reports on environmental protection. http://www.mnr.gov.ru/docs/gosudarstvennye_doklady/o_sostoyanii_i_ob_okhrane_okruzhayushchey_sredy_rossiyskoy_federatsii/?PAGEN_2=2/

13 Federal Service for Hydrometeorology and Environmental Monitoring. Annual environmental reviews. http://www.meteorf.ru/product/infomaterials/90/

14 Transport Strategy of the Russian Federation. 2008/2014. http://www.scrf.gov.ru/security/economic/document123/

15 Arctic Development Strategy of the Russian Federation, 2008: http://www.scrf.gov.ru/security/economic/document98; Russia's latest Arctic development strategy to 2035 states that climate change and environmental pollution in the Arctic region may pose a threat to the security of Russia and globally https://arctic.ru/news/20201027/985740.html

16 Energy Strategy of the Russian Federation. 2009. https://minenergo.gov.ru/node/1026

17 State Report on Environmental Protection in the Russian Federation in 2017. 2018. http://mnr.gov.ru/docs/o_sostoyanii_i_ob_okhrane_okruzhayushchey_sredy_rossiyskoy_federatsii/gosudarstvennyy_doklad_o_sostoyanii_i_ob_okhrane_okruzhayushchey_sredy_rossiyskoy_federatsii_v_2017

18 Water Strategy of the Russian Federation. 2009. http://www.scrf.gov.ru/security/economic/document120/

19 National Biodiversity Conservation Strategy. 2002. http://www.caresd.net/img/docs/530.pdf

20 Climate Doctrine of the Russian Federation. 2009. http://www.kremlin.ru/events/president/news/6365

21 Food Security Doctrine of the Russian Federation. 2010. http://www.scrf.gov.ru/security/economic/document108/

1.1 Environmental legislation

In 2012, Russia adopted a Policy Framework on Environmental Development.[22] Its 2030 action plan prioritised environmentally sound economic development, biodiversity conservation and sustainable resource management to satisfy the needs of present and future generations. Two years later, state programmes for the coal, metallurgical and chemical industries would include the objectives of increasing resource efficiency while decreasing their environmental impact over the same period. The government agreed its first dedicated Environmental Security Strategy in 2017,[23] adopting its action plan in 2019.[24]

In 2018, the Russian government launched a national project called "Ecology",[25] with overall funding estimated at ₽4tn (£49bn) up to 2024. However, 75% of this was supposed to be covered from non-budget sources. The programme consists of a range of sub-programmes aiming at:

- Effective waste management, including hot-spot remediation and toxic waste disposal;
- The reduction of air pollution by up to 20% in highly industrialised urban areas;
- The improvement of drinking water quality, especially in decentralised areas;
- The environmental rehabilitation of the Volga river, and lakes Baikal and Teletskoe;
- Biodiversity conservation, expanding protected areas to 5m ha, and eco-tourism development;
- Reducing deforestation using conservation actions and addressing losses from forest fires;
- The introduction of the best available environmental technologies.

Since 1946, Russia has joined all the main Multilateral Environmental Agreements (see Annex 1).

22 Policy Framework on Environmental Development in the Russian Federation. 2012. http://kremlin.ru/events/president/news/15177

23 Environmental Security Strategy of the Russian Federation. 2017. http://kremlin.ru/acts/bank/41879

24 Action plan of the Environmental Security Strategy of the Russian Federation. 2019. http://static.government.ru/media/files/8JZnJlTgyjhYA9AyYoDVKBmD9jLi8yGK.pdf

25 Description of the state project "Ecology". 2018. http://static.government.ru/media/files/pgU5Ccz2iVew3Aoel5vDGSBjbDn4t7Fl.pdf

1.2 Air and water pollution

Russia follows the 'polluter pays' principle to address air and water pollution, establishing limits and charging enterprises for exceeding them. However, fines are kept low to incentivise polluters to invest in the use and development of clean technologies. Revenue from fines is partly re-invested by the government in environmental protection measures. Most of the environmental quality standards in use were inherited from the Soviet Union. The system includes the maximum allowable concentration of pollutants in air, water and soil. These vary for the natural environment, urban and rural settlements, and industrialised areas.[26] The range of contaminants measured is rarely updated, which means that new pollutants are excluded from regular monitoring and mitigation.

Air and water pollution are mainly managed through mitigation measures, including treatment technologies, rather than by pollution prevention. The monitoring system consists of the state-run system, which is deteriorating, and a private system, managed by industrial facilities, and highly prone to bias. Strategic environmental assessments are generally absent, leading to intensive pollution in particular regions, and associated health problems, while economic development remains a priority in environmental decision-making. Nevertheless, some significant measures to decrease pollution have been made since Soviet times. These have mainly been due to public or international pressure, such as the closure of a paper and pulp factory by Lake Baikal, or on the grounds of economic efficiency, for example the modernisation of the mining industry in Norilsk and Nikel.

Today, air quality is measured in 221 cities using 613 monitoring stations, but the data is not updated daily in a publicly available format. A number of cities in heavily industrialised regions are afforded priority measures due to intensive air pollution. Russia contributes its air quality data to the European Monitoring and Evaluation Programme, and the Acid Deposition Monitoring Network in East Asia. More than 40,000 business enterprises are obliged by law to report on their emissions, but these data are publicly unavailable. Radiation monitoring is undertaken at 1,275 stations (data from 2017).

25 Thus, in 2015, the government approved the priority list of the pollutants to take environmental measures on, including monitoring, reporting, and regulation. It includes 254 elements for air, 249 elements for water-bodies, and 63 elements for soil.

1.2 Air and water pollution

LEFT: A spill next to the Khoryaga oil pipeline in the Nenets Autonomous Region in Russia in 2014. International and local civil society patrolled the region of the Komi Republic to find and map its numerous oil spills, clean up an oil-contaminated area, and collect case studies and experiences from the local population, bearing witness to the huge scale of the problem. © Denis Sinyakov / Greenpeace

RIGHT: Norilsk is the world's northernmost city with 150,000 inhabitants and is the second largest city (after Murmansk) inside the Arctic Circle, and one of the only three large cities in the continuous permafrost zone. Norilsk is the most polluted city in Russia due to the mining and metallurgical plants owned by Norilsk Nickel. © Elena Sakirko / Greenpeace

According to official data, air pollution declined between 2010-17. However, the permissible levels of some pollutants are regularly raised to achieve this, a fact that has been publicly acknowledged by the Ministry of Environment. More than ₽100bn (£1.2bn) is supposed to be spent between 2019-24 to achieve a 20% reduction in air pollution in 12 of the most industrialised cities,[27] with transport the focus of current priorities.

Water quality is regularly monitored by around 9,000 stations. In 2012, a state programme on water management was enacted for the period up to 2020, with funding estimated at ₽5bn (£61m) - mainly for the construction and repair of water treatment facilities. The quality and volume of discharged wastewater is regulated by law for every business enterprise, however, not all have a treatment facility. Moreover, municipal wastewater treatment facilities are poorly maintained. The government has introduced some incentives for water recycling, but progress is slow. From time to time, there are unsuccessful lobby attempts to amend the Water Code, for example to reduce the protected zones for water bodies, or to legalise the injection of wastewater underground. In 2019, after a massive public campaign by Greenpeace and grassroots initiatives demanding an increase in transparency, the government announced the launch of an online map to track air and water pollution, with free access for the public.[28]

Since 2005, water and air protection, including climate change mitigation measures, have, comparatively speaking, remained the most well-funded environmental protection measures (see Annex 2), with more than ₽100m (£1.2m) of investment, and around ₽350m (£4.3m) of budget funding in 2016.

27 RBC.RU. 2018. Second wind: why Sberbak participates in the national project Ecology. https://www.rbc.ru/business/06/12/2018/5c078eeb9a794777c783bbea

28 RIA News. 2019. Online map of air and water pollution starts in Russia. https://ria.ru/20190905/1558365100.html?in=t

1.3 Waste management

In Soviet times, a system of waste recycling and waste prevention was developed. This generated reusable packaging, or bulk sales of waste. The collection of recyclables (paper, glass, metal) was arranged through the school system and stores, or with mobile, or stationary collection points. Food waste collection was arranged for every household. After the USSR collapsed, this waste management approach changed. In 1998, the State Law on Household and Industrial Waste was enacted, redirecting the entire waste management system towards waste disposal by landfill (87%) and incineration, rather than waste prevention or recycling. As a result, today the majority of landfills are overloaded, and do not meet environmental and safety standards. The policy has created a huge problem for the government because the volume of waste generated has doubled since 1998, reaching 70m tonnes annually.

In 2017, the government announced the need to reform the waste sector, with a particular focus on recycling, incineration and illegal dumpsite remediation, allocating around ₽17.5bn (£213m) for the period up to 2025.[29] Legislation to improve the waste accounting system and the liability of waste facility operators, consumer goods importers, retailers and households was developed, and new waste limits were introduced. In 2014, extended producer responsibility (EPR) was implemented to ensure that the manufacturers or importers of goods must arrange waste disposal or pay an environmental fee. In 2017, the government approved a list of waste types forbidden for disposal by landfill. And since 2018, it has been mandatory for every region to have a waste management roadmap that prioritises waste segregation and recycling. However, of the 200 waste reprocessing facilities that the government plans to build by 2024, 15-25 are large-scale waste-to-energy facilities.

NGOs and grassroots initiatives have been quite successful in arranging the collection of recyclables (musora.bolshe.net,[30] Recycle Map[31]), in promoting less consumption (My Cup Please,[32] Charity Shop project[33]) and in pushing retailers to reduce plastic packaging (Greenpeace Russia[34]). Strong grassroots movements, the so-called "garbage protests", have developed in response to plans to build incinerators or new landfills in recent years, covering 30 regions of Russia, including in Arkhangelsk and Moscow.[35,36] There is also a large coalition of NGOs and local groups opposed to new incinerators.[37]

29 Description of the priority state project on Mitigation of environmental pollution through rehabilitation of the accumulated environmental damage and decrease of solid waste disposal. 2016. http://static.government.ru/media/files/B3JtWzMSWVAHKTd6plVchwnOLWEYmF9f.pdf

30 Russian environmental grassroots movement on waste segregation and recycling "Musora Bolshe Net". http://musora.bolshe.net/

31 Project of the Greenpeace Russia on mapping of the recycling drop off centres in Russia. https://recyclemap.ru/?utm_source=GPR-campaign&utm_medium=P4redirect&utm_campaign=GPR-P4

32 Russian environmental grassroots movement against single use coffee cups "My cup, please". http://mycupplease.ru/

33 Russian charity project on clothes reuse and recycling. https://shop.vtoroe.ru/

34 Greenpeace Russia project on single-use plastic. https://greenpeace.ru/projects/zero-waste/paket-spasibo-net/

35 Russian grassroots movement against the landfill in Arkhangelsk region "Stop Shies". https://stopshies.ru/history/

36 Tass.ru. 2018. Waste landfill "Yadrovo". https://tass.ru/info/5118805

37 Anti-incinerator Declaration of the Russian environmental NGOs. http://m.greenpeace.org/russia/Global/russia/report/2017/Memorandum_Alyansa.pdf

1.3 Waste management

Issues regarding a range of consumer goods also falls under Eurasian Economic Union (EEU) regulations.[38] This includes regulations on the use of hazardous chemicals, the management of electronic waste, and the reduction of plastic packaging. As EEU member states aim to export into the European market, consumer safety regulations are being harmonised with the EU's REACH system.

Russia's extensive economic and industrial development in Soviet times, which included military operations in the Arctic region and chemical weapon production, resulted in the generation of enormous volumes of toxic waste, and hot-spots of pollution. Privatisation in the 1990s excluded corporate responsibility for these legacy sites. Russia's first model-law on Environmental Responsibility, Prevention and Elimination of Environmental Damage (similar to EU Directive 2004/35/CE) was developed by the Interparliamentary Assembly of the CIS Member Nations in 2007. The law was based on recommendations from the World Bank. This was followed by the first National Standard on Environmental Management in 2010, which led to an inventory of pollution hot-spots, revealing that more than 372m tonnes of toxic waste was stored at the sites. A State Programme on the Elimination of Accumulated Environmental Damage for the period 2014-25 was subsequently developed by the Environment Ministry,[39] and allocated ₽151.5bn (£1.85bn). However, a lack of investment, expertise and technologies, as well as a highly bureaucratic project selection mechanism, has hampered implementation.

38 Eurasian Economic Union. http://www.eaeunion.org/?lang=en

39 Russian State Programme on Rehabilitation of Accumulated Environmental Damage in Russian Federation. 2013. https://tinyurl.com/y6zvhgk4

1.4 Climate change

Russia ratified the UNFCCC in 1994, and since 1995 has submitted its sectoral GHG emissions inventory reports; responsibility for which lies with the Federal Service for Hydrometeorology and Environmental Monitoring. It ratified the Kyoto Protocol in 2004, committing to reduce GHG emissions by 25-30% from 1990 levels, which in reality meant an increase in emissions.

In 2009 the Climate Doctrine was developed,[40] with its action plan entering into force in 2011.[41] Action areas include:

- Research and outreach activities;
- The assessment of climate change sensitivity for different regions;
- The development of adaptation strategies in response to the increased spread of diseases;
- Forest fires;
- Melting permafrost;
- The decline of agriculture productivity;
- Increased floods, landslides, and storms;
- The development of mitigation measures such as energy efficiency and renewable energy;
- Reduction of industrial GHG emissions;
- Carbon capture and storage (CCS);
- Green mobility and green building development;
- Forest conservation.

The same year, a governmental order decreed that 4.5% of energy was to be produced from renewable sources by 2020. However, in 2013, this target was reduced to 2.5%.[42]

Between 2010-12, Russia actively participated in the Joint Implementation (JI) Mechanism of the Kyoto Protocol in order to obtain investments for technological modernisation. The JI has not been available for Russian businesses because Russia refused to make any commitments for the second Kyoto Protocol Period (2013-20).[43]

In 2013, the Russian President issued the Decree on Greenhouse Gas Emissions Reduction, which set a short-term goal to reduce GHG emissions by at least 25% below 1990 levels by 2020. A range of documents justifying the assessment methodology for GHG emissions was developed. However, the inventory of GHG emissions remains voluntary, but some regions such as Kaluzhskaya oblast,[44] and Yaroslavskaya oblast successfully implement it,[45] as do some companies.

40 Climate Doctrine of the Russian Federation, 2009. http://www.kremlin.ru/events/president/news/6365

41 Action plan of the Russian Climate Doctrine for the period up to 2020, 2011. http://docs.cntd.ru/document/902275850

42 Zoï Environment Network. 2018. Climate scorecard: Russia. https://zoinet.org/wp-content/uploads/2018/02/CC-Russia-EN-2017.pdf

43 CDP Russia Climate Change Report 2014. https://b8f65cb373b1b7b15feb-c70d8ead6ced550b4d987d7c03fcdd1d.ssl.cf3.rackcdn.com/cms/reports/documents/000/000/863/original/CDP-Russia-climate-change-report-2014.pdf?1472042732&fbclid=IwAR2ep1CSHIkQx-vun6mNhuQOtz4gkddHbj2lR4uhRyoWMLg2sZwfAWPzbMQ

44 Meeting of the task-force group on regional inventory of GHG emissions in Kaluga region. http://admoblkaluga.ru/sub/ecology/news/detail.php?ID=256649

45 Change of the factory work based on inventory of GHG emissions in Yaroslavl region. https://yarreg.ru/articles/na-osnovanii-dannyh-inventarizacii-parnikovyh-gazov-budet-skorrektirovana-rabota-predpriyatiy/

1.4 Climate change

Russia allocated US$10m to a Russia-UNDP Trust Fund in 2016 to finance climate change adaptation projects in Armenia, Belarus, Kyrgyzstan, Tajikistan, Uzbekistan and Cuba.[46] Russia's annual average contribution to major multilateral climate funds was estimated at US$8.87m for 2015-16, divided equally between mitigation and adaptation.[47]

In 2018, an ad-hoc working group on climate change and sustainable development was established under the Presidential Administration.[48] The group promotes Russian climate-related interests within the G8, G20 and BRICS.

In 2019, the Russian government signed the Paris Accord,[49] committing to decrease GHG emissions by 30% by 2030, but with specific remarks regarding the high CO_2 absorption capacity of Russian forests and the 'inadmissibility of using the agreement as a tool to prevent sustainable development'. However, this agreement has been perceived as an investment opportunity for sustainable development projects in Russia, rather than a strong intention to tackle climate change. Nevertheless, a range of climate change regulations are currently under development. These include the Long-term Strategy of Low Carbon Development up to 2050, the Concept of Climate Projects System,[50] and the Law on GHG Emissions Regulation, which might include a carbon tax, mandatory reporting and a carbon trading scheme.[51]

In January 2020, the Russian government approved the first stage of the National Climate Change Adaptation Plan.[52] Moreover, ₽14bn (£170m) of budget funding has been allocated to increase energy efficiency up to 70%,[53] although the government failed to fulfil its initial commitment from 2009 to decrease the energy-intensity of its GDP by 40% by 2020.[54] Based on research by Ernst and Young, Russia has already decreased its GHG emissions by 49% from the 1990 baseline, mainly because of the capacity of its forests as a carbon sink. However, it has also undertaken measures to increase energy efficiency in industry, the oil and gas sector, and in electricity generation and buildings, with around US$380bn spent on these programmes between 1990-2017.[55]

46 Vedomosti.ru. Under Paris sky: what the climate agreement means for Russia. http://plus-one.vedomosti.ru/blog/pod-nebom-parizha

47 Brown to green: the G20 transition to a low-carbon economy. Russia. 2018. https://www.climate-transparency.org/wp-content/uploads/2019/01/BROWN-TO-GREEN_2018_Russia_FINAL.pdf

48 Regulations of task-force group under the Administration of President on climate change and sustainable development in Russian Federation. 2012. http://pravo.gov.ru/proxy/ips/?doc_itself=&nd=102161588&page=1&rdk=1#I0

49 Russian Government Decree on joining the Paris Agreement. 2019. http://static.government.ru/media/files/l0US0FqDc05omQ1VgnC8rfL6PbY69AvA.pdf

50 Kommersant.ru. 2020. Green light for climate projects. https://www.kommersant.ru/doc/4466036

51 Kommersant.ru. 2019. Climate policy becomes more changeable. https://www.kommersant.ru/doc/4087112

52 Russian National Climate Change Adaptation Plan for 2020-2022. http://government.ru/news/38739/

53 Brown to green: the G20 transition to a low-carbon economy. Russia. 2018. https://www.climate-transparency.org/wp-content/uploads/2019/01/BROWN-TO-GREEN_2018_Russia_FINAL.pdf

54 Kommersant.ru. 2020. Updated goals and funding for energy efficiency. https://www.kommersant.ru/doc/4450020

55 Snob.ru. 2019. To join is not enough. Questions which remain unsolved after Russia joined the Paris Agreement. https://snob.ru/entry/183470

1.4 Climate change

Climate change risks have been integrated into national development strategies, such as the Concept of Long-term Socio-economic Development (2008), Food Security Doctrine (2010), Environment Protection Programme (2014), Arctic Development Programme (2014) and Agriculture Land Reclamation Programme (2013). Some regions, mainly in the north-west of Russia, have also announced the development of regional climate change adaptation programmes, including the Murmansk, Arkhangelsk, Nenetsk and Kaliningrad regions, and the Republic of Karelia and Saint Petersburg. However, none of these have been accepted yet.

There has been a visible increase in the number of studies and events on climate change run by leading Russian research institutions, NGOs, governmental bodies and financial organisations. Since 2009, the Federal Service for Hydrometeorology and Environmental Monitoring has regularly published a 'Climate Change bulletin'.[56] Arkhangelsk Pulp and Paper Mill, Novatech, Lukoil, Gazprom and other companies have joined the Carbon Disclosure Project.[57] NGOs WWF-Russia, Greenpeace Russia, the Climate Action Network, Bellona and the Russian Regional Environmental Centre actively work on climate change issues in Russia. And since 2017, the government of Moscow has organised an annual International Climate Forum of Cities.[58]

However, Russia's GHG emissions keep growing, reaching 14.7 tCO2e/capita,[59] or 19.6 tCO2e/capita in 2017.[60] The rise may be explained by the lack of commitment to develop green energy (4.5% by 2024 and ₽143m (£1.7m) of budget funding), while heavily investing in coal production (₽50bn (£609m)), petrochemicals development (₽1.3bn (£15.8m)),[61] and subsidising the oil and gas industry (US$6.5bn in 2016).[62]

56 Climate Change Newsletter published by the Russian Federal Service for Hydrometeorology and Environmental Monitoring. http://www.meteorf.ru/about/smi/503

57 CDP Russia Climate Change Report 2014. URL: https://b8f65cb373b1b7b15feb-c70d8ead6ced550b4d987d7c03fcdd1d.ssl.cf3.rackcdn.com/cms/reports/documents/000/000/863/original/CDP-Russia-climate-change-report-2014.pdf?1472042732&fbclid=IwAR2ep1CSHIkQx-vun6mNhuQOtz4gkddHbj2lR4uhRyoWMLg2sZwfAWPzbMQ

58 III Climate Forum of Cities, 4-5, September 2019. Moscow. http://climate-forum.ru/en/

59 Russian Ministry of Natural Resources and Environment. Report on the state and protection of the environment of the Russian Federation in 2018. https://gosdoklad-ecology.ru/2018/klimat/klimaticheskie-i-antropogennye-vozdeystviya/

60 Zoï Environment Network. 2018. Climate scorecard: Russia. https://zoinet.org/wp-content/uploads/2018/02/CC-Russia-EN-2017.pdf

61 Brown to green: the G20 transition to a low-carbon economy. Russia. 2018. https://www.climate-transparency.org/wp-content/uploads/2019/01/BROWN-TO-GREEN_2018_Russia_FINAL.pdf

62 However, it was lower than the G20 average ($0.001 compared to $0.003) per unit of GDP. Subsidies were provided through direct budget support and tax exemptions, primarily targeting production (91%). In absolute terms, the largest subsidy is oil extraction tax reductions, based on the volume of oil extracted and depletion of subsoil ($2.5bn in 2016). https://www.climate-transparency.org/wp-content/uploads/2019/01/BROWN-TO-GREEN_2018_Russia_FINAL.pdf

1.5 The Arctic

Since Soviet times, the Arctic region has been a government priority due to its fisheries and transport capacities (the Northern Sea Route), its mineral, oil and gas resources, and military activities – it is home to Northern Fleet bases, nuclear weapon testing grounds, nuclear submarines and shipyards. Research institutions were established, such as the Kola Research Centre in Murmansk region (1930),[63] the Centre for Integrated Arctic Research in Arkhangelsk (2001)[64] under the Russian Academy of Sciences, and the research centre on Svalbard but investments in the region have declined dramatically in recent years.

Since 1959, the Northern Fleet has regularly dumped radioactive waste in the Barents Sea and Kara Sea, including solid and liquid radioactive waste, and nuclear reactors - both fuelled and unfuelled. Moreover, between 1949-1990, the Soviet Union performed more than 715 nuclear weapon tests in the Arctic region.[65]

In the early 2000s, a range of oil and gas projects were initiated by the Russian government with the involvement of Russian state-owned companies and western corporations to transport gas to the EU and the USA, for example the Shtokman LNG project.[66] However, political reasons, public resistance and high environmental risks led to all the projects being cancelled. The only offshore oil field to be commissioned in the Arctic by Rosneft - Prirazlomnoye – was established as a flagship-project, rather than for economic reasons. In 2013, Greenpeace organised a non-violent direct action at the rig, which resulted in 30 activists being arrested and held for three months on charges of "piracy".

Since then, only onshore projects have been developed in the Arctic. These have been accompanied by severe land and water pollution due to poorly maintained oil pipelines and accidents,[67] as well as CO_2 emissions from flaring.[68] The pollution of indigenous lands threatens the health and livelihoods of Arctic people. Although the Ministry of Environment has made some changes to oil pipeline regulations to decrease leaks, the overall system of oil spill prevention and elimination remains inadequate. As does the mechanism for holding oil and gas companies accountable for pollution.

63 The Kola Research Centre of the Russian Academy of Sciences https://www.ksc.ru

64 The Federal Centre for Integrated Arctic Research of the Russian Academy of Sciences. http://fciarctic.ru/ing.php?page=main

65 Nils Bøhmer, Aleksandr Nikitin, Igor Kudrik, Thomas Nilsen, Andrey Zolotkov, Michael H. McGovern. 2001. The Arctic Nuclear Challenge. Bellona Foundation. https://bellona.org/publication/the-arctic-nuclear-challenge

66 Nina Lesikhina, Irina Rudaya, Anna Kireeva, Olga Krivonos, Elena Kobets. 2007. Offshore Oil and Gas Development in Northwest Russia: Consequences and Implications. Bellona Foundation. https://bellona.org/publication/offshore-oil-and-gas-development-in-northwest-russia-consequences-and-implications

67 Greenpeace Russia. Why is it profitable to spill oil in Russia? http://www.greenpeace.org/russia/en/press/reports/Why_is_it_profitable__to_spill_oil_in_Russia

68 E. Kutepova, A. Knizhnikov & K. Kochi. 2012. Associated Gas Utilization in Russia: Issues and Prospects: Annual Report, Issue, 4, Moscow: WWF Russia, KPMG. https://wwf.ru/upload/iblock/041/wwf_4_eng.pdf

An indigenous Nenet woman and a child in front of their Chume in Yamal Peninsula. The Nenets people move every three or four days so that their herds do not over graze the ground. The entire region and its inhabitants are under heavy threat from global warming as temperatures increase and Russia's ancient permafrost melts. © Greenpeace / Steve Morgan

The mining facilities operated by Norilsk Nickel Ltd remain the largest polluters of the Arctic region. This includes neighbouring areas in Norway and Finland. However, during recent years the company has begun modernising its technologies and closing or relocating some of its most polluting facilities.

In the late 2000s, the Russian government discourse changed from exploiting the Arctic region to prioritising environmental protection, through the establishment of protected areas, waste clean-ups, and tourism development. In 2009, the Russian Arctic national park was established,[69] with its territory expanded to Franz Josef Land in 2016, covering a further 8.8m ha.

69 Russian National Park "Arctic". http://www.rus-arc.ru

1.5 The Arctic

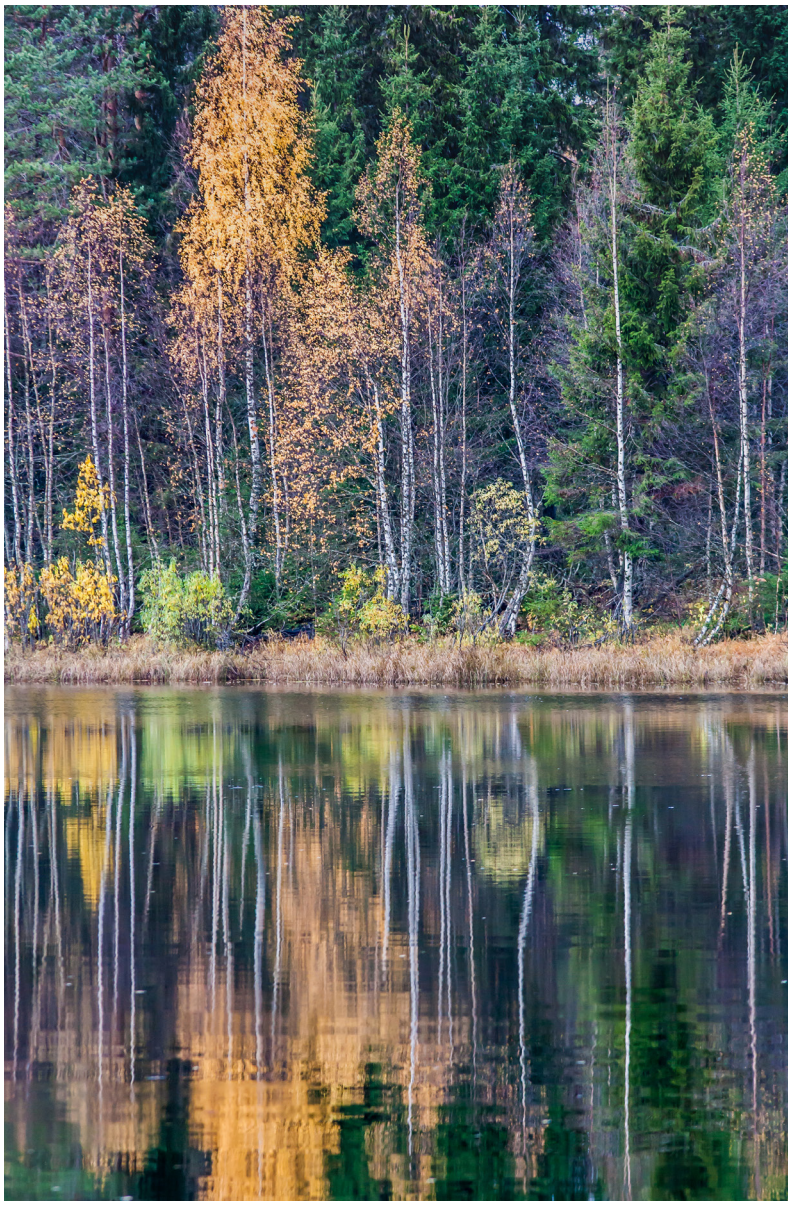
The government's state programme on the elimination of accumulated environmental damage for the period up to 2025, which was agreed in 2014, had a particular focus on the Arctic region. Serious environmental pollution is considered an obstacle for economic development, especially for the Northern Sea Route. With the annual extent of the winter sea ice decreasing, shipping has increased. Moreover, there has been acknowledgment of the risks associated with permafrost melting due to climate change in the Arctic regions, and with it damage to oil and gas infrastructure, leading to water and soil pollution.

Large scale Arctic clean-ups began in 2012 at Franz Josef Land,[70] with a pilot project on waste collection and transportation to the mainland. The military was brought in to oversee the task, with some private oil and gas companies also engaged. By 2019, more than 80,000 tonnes of waste had been removed from the Arctic region.[71] The detailed roadmap on clean-ups was developed in 2017. Murmansk, Arkhangelsk, Nenets, Yakutsk, Karelia and other northern regions are considered as priority areas. The clean-up programme includes measures on oil spill and illegal dumpsite remediation, sunken ships and the disposal of mine tailings.

70 Clean up in the Arctic. Russian National Park "Arctic". http://www.rus-arc.ru/ru/conservation/cleaningarctic

71 Russian Ministry of Natural Resources and Environment. 2019. Putin confirms the development of the national park Arctic. http://www.mnr.gov.ru/press/news/prezident_rossii_vladimir_putin_budem_prodolzhat_razvivat_natsionalnyy_park_russkaya_arktika/?sphrase_id=221058

1.6 Biodiversity



Vodlozero (or Vodlozersky) National Park in the Republic of Karelia, Arkhangelsk District, covers an area close to half a million hectares. In 2001 by decree of the UNESCO, it received the status of biosphere reserve, the first one in the system of national parks of Russia. © Greenpeace / Igor Podgorny

Since the 1980s, the Endangered Species List has been maintained in every region of Russia. Nevertheless, there is current pressure to revise and reduce the national endangered species list, the so-called Red Data Book. This move has faced huge resistance from civil society, which resulted in the exclusion of a range of NGO representatives and independent scientists from the commission justifying the changes to the list.

1.6 Biodiversity

The state Law on Wildlife, and the Law on Protected Areas, were developed in 1995, while the first National Strategy on Biodiversity Conservation was enacted in 2001 as part of Russia's obligations under the Convention on Biological Diversity.[72] Its main goal was to ensure the diversity of biological systems, and domesticated and cultivated animals and plants. In the late 1990s, a range of regulations were enacted in the fields of seed production, animal breeding and selection, while in 2004, the Ministry of Environment developed the Strategy of Endangered Species Conservation, which mainly aimed at developing an inventory and monitoring methods, research and outreach activities.

The establishment of protected areas and reintroduction centres remains the dominant approach to endangered species conservation in Russia, as well as in the prevention of the illegal wildlife trade and poaching. There are also separate state programmes for individual species, including the Amur tiger, polar bear, Sakhalin musk deer, Amur leopard, ibis and Persian leopard.[73] Based on official data, protected area coverage has increased by 3m ha over the last ten years. As of 2017, there were 12,000 protected areas - many with international status - covering 232.7m ha. Nevertheless, mining and timber companies systematically violate the legal regime of protected areas, or lobby to reduce restrictions on environmentally harmful activities. Local activists and NGOs play a crucial role in challenging these cases. In 2017, the 'Wildlife of Russia' project was initiated to incentivise ecotourism in protected areas, with funding of ₽2.4bn (£29.3m).[74]

72 Russian Strategy on Biodiversity Conservation. 2001. http://www.impb.ru/pdf/strategy.pdf

73 List of the Russian State programmes on species conservation. http://www.mnr.gov.ru/docs/strategii_i_doktriny/strategiya_sokhraneniya_redkikh_vidov_zhivotnykh/?special_version=Y

74 Description of the priority national project "Wildlife of Russia: conserve and observe". 2017. http://government.ru/news/27398

1.7 Environmental impact of military activities

In 1996, the Russian military consumed more than 36bn m^3 of water, discharged more than 22bn m^3 of wastewater, and were responsible for 0.8% of national GHG emissions. Russian military bases have also been dogged by pollution, with more than 470 located next to highly polluted industrial sites in the Ural, Kuzbass and Volga regions, and the Kola Peninsula. More than 100 are located in areas contaminated by radiation, for example from the 'Mayak' waste reprocessing plant and the Chernobyl accident.[75] Many ageing bases struggle with wastewater treatment - 70% of facilities need reconstruction - and waste management, with 29,000 tonnes of solid waste awaiting treatment.[76] More than 47,000km^2 of Russia has been contaminated with rocket remnants and toxic rocket fuel due to the operation of military cosmodromes in the Arkhangelsk, Astrakhan and Amur regions, as well as in Kazakhstan.[77] Thousands of tons of chemical weapons were dumped by the Soviet Army after World War II in the Baltic, White, Barents, Kara and Okhta Seas, and in the Sea of Japan.

The world's largest ever nuclear explosion. A hydrogen bomb, carrying the force of 50 million tons of conventional explosives, was detonated during a test in October 1961 at an altitude of 4000 meters above the remote Novaya Zemlya archipelago in the Arctic Circle. Credit: Rosatom/Reuters.

In 1993, a governmental commission issued a report on radioactive waste dumping in the seas of Russia. The so-called 'White book' and its second edition in 2005,[78] included the results of environmental monitoring in the Arctic and the Far East sea areas. In 2001, the Bellona Foundation released a report 'The Arctic Nuclear Challenge', extracts from which are presented below.[79]

75 Grigorov, S. and Rodionov, A. 1994. Environmental security of the Russian armed forces. *Voennaya Mysl:* 2. https://nauet.ru/ekologicheskaya-bezopasnost-vs-rf-ekologiya-voennaya/

76 Tkhorov, V., Shabashov, A., and Kobyakova, T. 2017. Environmental security of the Russian armed forces. https://scienceforum.ru/2017/article/2017030970

77 Yablokov, A. 2004. Environmental Protection. Great Russian Encyclopaedia.

78 Technogenic radionuclides in the seas washing Russia. White Book. 2000. http://elib.biblioatom.ru/text/tehnogennye-radionuklidy-v-moryah-omyvayuschih-rossiyu_2005/go,0/

79 Nils Bøhmer, Aleksandr Nikitin, Igor Kudrik, Thomas Nilsen, Andrey Zolotkov, Michael H. McGovern. 2001. The Arctic Nuclear Challenge. Bellona Foundation. https://bellona.org/publication/the-arctic-nuclear-challenge

1.7 Environmental impact of military activities

Since 1959, the Northern Fleet has dumped radioactive waste in the Barents Sea and Kara Sea regularly, including solid radioactive waste, liquid radioactive waste, and nuclear reactors with and without fuel. Radioactive waste from the civilian state-run Murmansk Shipping Company's (MSCo) fleet of nuclear icebreakers has also been dumped in the Barents Sea and the Kara Sea. According to the most recent estimates the total radioactivity of the dumped material in the Barents and Kara seas is 38,450TBq. The Russian Navy has also dumped radioactive waste in the Japan Sea, Pacific Ocean, the White Sea and the Baltic Sea.

Liquid radioactive cooling water from naval reactors and storage tanks for used fuel assemblies have been dumped at sea since 1959. In the period from 1959-1991, 3.7TBq liquid radioactive waste was dumped in the White Sea, 451TBq in the Barents Sea, and 315TBq in the Kara Sea. Furthermore, 430TBq of radioactive water has leaked into the sea following accidents involving storage of fuel assemblies, submarines, and the civil nuclear icebreaker Lenin. The total radioactivity of the liquid waste dumped in the Barents Sea, Kara Sea, and White Sea totals 880TBq.

The Northern Fleet and MSCo have dumped a total of 17 ships and barges containing radioactive waste in the Barents and Kara seas. There are different types of radioactive waste of varying levels of radioactivity aboard the ships, consisting mainly of containers with radioactive waste, reactor parts, and other contaminated equipment. In addition, 155 larger objects such as cooling water pumps from reactors, generators, and different reactor parts have been dumped. From 1965 to 1991, solid radioactive waste has been dumped in eight different bays off the eastern coast of Novaya Zemlya, as well as into the Kara Sea. 641 containers of radioactive waste were dumped by the Northern Fleet.

A total of 13 nuclear reactors from submarines have been dumped in the Kara Sea. Six of the submarine reactors were dumped with spent nuclear fuel still aboard. The reactors all came from nuclear submarines that have sustained serious radiation accidents.

The Soviet Union performed 715 nuclear weapons tests between 1949 and 1990. Of these, 212 were detonated in the atmosphere between 1949 and 1962. Between 1963 and 1990, 500 underground nuclear tests were performed. Three underwater nuclear tests have been conducted on the western coast of Novaya Zemlya. There were two major sites for nuclear tests in the Soviet Union: Semipalatinsk in Kazakhstan and Novaya Zemlya in the Russian Arctic. In addition, there were three minor nuclear test sites: Azgir and Astrakhan in Kazakhstan, and at Orenburg between the river Volga and the Ural Mountains.

The 715 nuclear explosions include 115 civilian nuclear explosions, some of which were performed on the Kola Peninsula. For the time being, Novaya Zemlya is the only remaining nuclear test site in Russia; but since the demise of the Soviet Union it has only been used for sub-critical nuclear tests. Between 1955 and 1990, 132 nuclear bombs were detonated at Novaya Zemlya. At Semipalatinsk, 467 nuclear bombs were detonated.

The combined explosive force of all the 715 Soviet nuclear detonations from 1949 to 1990, is approximately 500 megatons of TNT. The combined explosive force of the 132 bombs tested at Novaya Zemlya is 470 megatons of TNT, or 94% of the combined explosive force of all Soviet nuclear detonations.

1.8 Civil society

The environmental movement in Russia has its roots in the 1920s, after the government created the first protected areas, which triggered a push for more conservation by activists. Thus, the Central Bureau for the Study of Local Lore was established in 1922 under the auspices of the Academy of Sciences, and the All-Russian Society for the Protection of Nature - in 1924. The latter was the most influential voluntary society devoted mainly to nature protection, and still exists. Dozens of other independent professional organisations disappeared with Stalin's rise to power, but the exiled scientists continued their environmental activities in remote areas of the country.[80] In 1960, students at Moscow State University initiated 'environmental squads'. Other universities across the country joined this initiative and, by 1970, around 30 groups united to form the 'Movement of environmental squads'. The movement primarily focused on the prevention of illegal logging, the establishment of protected areas and environmental education, and was financed by the universities.

After the first democratic reforms in the 1980s, the increasing popularity of green political parties in Europe, the Chernobyl accident, and massive public protests against the diversion of rivers, Russia's environmental movement began to expand, reaching to between 700-1,000 organisations by 1991. By then, a range of social and political movements, as well as political leaders such as Yegor Gaidar and Boris Nemtsov shared and actively promoted their environmental agenda. Greenpeace USSR was established in 1989, later converting to Greenpeace Russia in 1992.

After the USSR collapsed, economic reforms weakened the environmental discourse, leading to a reduction in funding and public support. This led to Russian environmental NGOs becoming reliant on western donors, with their number dramatically declining to between 300-500 by 1998. However, this period also saw an increase in professionalism.[81] Between the 1980-90s, and in the wake of the Chernobyl accident, a range of successful regional environmental referendums were arranged to stop nuclear power plants in Komi, Voronezh and Chelyabinsk.

80 Josephson, P., Dronin, N., Cherp, A., Mnatsakanian, R., Efremenko, D. and Larin, V. 2013. An Environmental History of Russia. Cambridge University Press: New York.

81 Enghest, S. 2004. Development of the environmental movement in Russia. https://bellona.ru/2004/03/31/stanovlenie-ekologicheskogo-dvizheniya

1.8 Civil society

Since the late 1990s, environmental NGOs have come under great pressure from the government. This has included accusations of espionage, the release of confidential information, administrative inspections and financial restrictions. In 2000, the Russian environmental movement pooled its resources to initiate a national referendum in response to the government's decision to abolish its Environmental Committee and to approve radioactive waste imports; the referendum was rejected for formal reasons.

Nevertheless, environmental NGOs and grassroots initiatives have had notable successes. These include rejecting attempts to import nuclear waste from the EU; the establishment of protected areas; shifting an oil pipeline from Lake Baikal, and shutting down the pulp-and-paper mill that was polluting the lake. Representatives from environmental NGOs have also been included in public councils under regional environmental bodies, and have actively participated in decision-making.

Pressure on environmental NGOs increased significantly in 2013, when the government adopted its 'foreign agent' legislation. This obliged NGOs involved in any 'political activity' with the support of foreign funds to label themselves as 'foreign agents'. In practice, it meant additional reporting and limited any interaction with government environmental bodies. It forced more than 20 regional environmental NGOs recognised as "foreign agents" to shut down their activities, change their legal status or appeal against the status. The 'foreign agents' registry currently includes more than 20 environmental NGOs.[82] At the same time, the government increased its support for so-called 'socially-oriented' environmental NGOs that deal mainly with environmental education and outreach.

Today, only representatives of Greenpeace Russia and WWF Russia are members of the public councils under the state environmental and human rights bodies, with minimal ability to influence decision-making. WWF-Russia mainly works on the establishment of protected areas, and on environmental standards for the fishery, oil and gas and timber industries, including on transparency and accountability. Greenpeace Russia focuses mainly on public engagement in waste prevention, climate change mitigation, and forest conservation, including fighting forest fires and tree planting, and the development of the environmental movement.

82 Yakovlev, I. 2016. Environmental NGOs labelled as foreign agents in Russia. https://bellona.ru/2016/10/24/inagent

2 Russia's environmental conduct during and after armed conflicts

To analyse the relationship between armed conflicts and the environment, it is necessary to consider the contribution of natural resources to the outbreak of conflicts, environmental protection during conflicts, and post-conflict impact assessments and technical assistance to address damage. This section studies how Russia has viewed and approached these themes in four relatively recent armed conflicts, in which it has been either officially or unofficially involved. In this, the section primarily focuses on a review of environmental issues, rather than analysis of the political and economic role of Russia in the conflict.

Needless to say, views on Russian policies in these conflicts are rarely neutral, and their environmental policies are no exception. Russian and Soviet narratives tend to focus on success stories, while Western narratives on focus on damage and the failures of the government to address environmental issues.

2.1 Afghanistan (1979-1989)

Studies of contemporary USSR-Afghan relations suggest that access to natural resources played a role in the Soviet invasion of the country. These included access to its mineral and gas reserves, and transit routes to the Persian Gulf, this in addition to increasing the USSR's influence in oil-rich South Asia and the Middle East.[83] The USSR's economic cooperation with Afghanistan from 1979 focused on the joint exploitation of its mineral, oil and gas resources. Investment projects were also implemented in the fields of agriculture, education and healthcare.

In 1979, the USSR and Afghanistan signed an agreement on economic and technical cooperation. This anticipated the construction of the Aynak copper mine complex and an oil refinery, the development of oil fields, power lines, airports, and the supply of seeds and farm machinery.[84] By 1988, the USSR had constructed more than 130 facilities, including hydropower stations, a nitrogen fertiliser factory, irrigation systems in Jalalabad and Sarda, and two farms. Moreover, Soviet experts were actively involved in the geological exploration of oil and gas, and metals such as gold and mercury. The USSR assisted with the development of the Shybergan gas field, and the construction of a gas pipeline between the USSR and Mazar-i-Sharif, with the Soviets taking around 90% of annual gas production.[85] The Soviets were later accused of exploiting Afghanistan's natural resources as the price they paid for the gas was at one-half of the global price. But "geographic proximity involving the saving of internal transportation cost to the northern border" and Iranian disinterest meant that there was nobody else who could buy Afghan gas.[86]

The USSR financed the establishment of the Afghanistan Academy of Science, and a range of institutes, colleges, and hospitals.[87] Export trade agreements were in place, with the USSR exporting consumer goods, cars, some metals and medicines, while Afghanistan exported gas, cotton, wool, and some food products. A give-away programme estimated at ₽10m annually was implemented between 1980-84 and included mainly consumer goods.[88] Some scholars have argued that with the support of the USSR, Afghanistan was better able to cope with diseases including malaria.[89]

However, the Soviet army also employed what amounted to scorched earth strategies towards the Mujahideen fighters opposed to the occupation. These strategies sought to undermine their support among the civilian population, and their sources of supplies.

83 James D. J. Brown. 2013. Oil Fueled? The Soviet Invasion of Afghanistan, Post-Soviet Affairs. https://www.tandfonline.com/doi/pdf/10.1080/1060586X.2013.778543?needAccess=true

84 The cost of Soviet Involvement in Afghanistan. An Intelligent Assessment. 1987. https://www.cia.gov/library/readingroom/docs/DOC_0000499320.pdf

85 The cost of Soviet Involvement in Afghanistan. An Intelligent Assessment. 1987. https://www.cia.gov/library/readingroom/docs/DOC_0000499320.pdf

86 Borer, Douglas A. 1988. Soviet foreign policy toward Afghanistan 1919-1988. p.106. https://scholarworks.umt.edu/cgi/viewcontent.cgi?article=6233&context=etd

87 Nabat, M. Strategy of the USSR economic aid to Afghanistan before withdrawal. 2018. https://doi.org/10.21638/11701/spbu13.2018.110

88 Polyniv, M. and Brachev, V. 2019. USSR and Afghanistan during wartime 1979-1989: economic and humanitarian cooperation.

89 Toporkov, V. 2014. Afghanistan: Soviet factor of the crisis outbreak. https://interactive-plus.ru/e-publications/e-publication-154.pdf

2.1 Afghanistan (1979-1989)

Rusted and decaying T-62 Soviet battle tanks sit side by side in a battle tank graveyard after being discarded by Russian and Afghan forces at the end of the Soviet-Afghan war in the late 1980s. May 19, 2010, Kandahar, Afghanistan. Credit: Kenny Holston/Flickr

The Soviets destroyed crops and grain stores,[90] mined agricultural land, removed irrigation systems and killed livestock.[91] They also cut down vineyards, orchards, and ornamental trees for security reasons.[92] The irrigated land area was reduced from 2.5m ha to 1.5m ha, and the availability of agricultural inputs drastically dropped. The former head of agronomy at Kabul University characterised the Soviet strategy as "...a deliberate and systematic plan to destroy agriculture in the 80% of the country controlled by the Mujahideen."[93] This was backed by a policy of purchasing excess food production to reduce its availability to the Mujahideen.

This strategy resulted in a 20-25% decline in agricultural production, a six to tenfold increase in prices of most commodities, and food shortages with near-famine conditions.[94] In contrast, the Soviets provided Afghans living in areas under their control with seeds and supplies at extremely favourable terms to encourage inward migration from rural areas. Other environmental issues linked to the invasion include the reported dumping of radioactive waste and internationally banned pesticides,[95] and the Soviets centralisation of the water distribution system.[96]

The Soviet choice of weapons was as problematic as their wider strategies, employing carpet bombing, "free-fire" zones and chemical weapons, including nerve agents, phosgene and mustard gas. Anti-personnel landmines were utilised as area denial weapons, displacing civilians and, by 1989, 30-50m mines remained in place, together with large volumes of abandoned military vehicles and waste.[97,98,99]

90 The Soviet Afghanistan Experience as a Reflection of Soviet Strategic Culture. https://apps.dtic.mil/dtic/tr/fulltext/u2/a209189.pdf

91 Levin, A. Agriculture and stability in Afghanistan. School of Advanced Military Studies United States Army Command and General Staff College Fort Leavenworth, Kansas. 2009. http://citeseerx.ist.psu.edu/viewdoc/download?doi=10.1.1.618.6861&rep=rep1&type=pdf

92 Living on Earth. War's Toll on Afghanistan's Environment. 2011. http://www.loe.org/shows/segments.html?programID=11-P13-00027&segmentID=5

93 Levin, A. Agriculture and stability in Afghanistan. School of Advanced Military Studies United States Army Command and General Staff College Fort Leavenworth, Kansas. 2009. http://citeseerx.ist.psu.edu/viewdoc/download?doi=10.1.1.618.6861&rep=rep1&type=pdf

94 Kelly, T. J. 1989. The Soviet Afghanistan Experience as a Reflection of Soviet Strategic Culture. Army War College, Carlisle Barracks PA. https://apps.dtic.mil/dtic/tr/fulltext/u2/a209189.pdf

95 Formoli, T. 1995. Impacts of the Afghan–Soviet War on Afghanistan's Environment. Environmental Conservation, 22(1), 66-69. https://www.cambridge.org/core/journals/environmental-conservation/article/impacts-of-the-afghansoviet-war-on-afghanistans-environment/049E7271790D217CA4C48874038E6DD4

96 Living on Earth. War's Toll on Afghanistan's Environment. 2011. http://www.loe.org/shows/segments.html?programID=11-P13-00027&segmentID=5

97 Kelly, T. J. 1989. The Soviet Afghanistan Experience as a Reflection of Soviet Strategic Culture. ARMY WAR COLLEGE CARLISLE BARRACKS PA. https://apps.dtic.mil/dtic/tr/fulltext/u2/a209189.pdf

98 Borer, Douglas A. 1988. Soviet foreign policy toward Afghanistan 1919-1988. Graduate Student Theses, Dissertations, & Professional Papers. https://scholarworks.umt.edu/cgi/viewcontent.cgi?article=6233&context=etd

99 U.S. Department of State, Chemical Warfare in South Asia and Afghanistan, p.23

2.2 Chechnya (1994-2000)

The primary drivers for the conflict between Russia and the Republic of Chechnya were political and ethnic. Nevertheless, Chechnya's oil resources played an essential role in fuelling the rebels' attacks. Chechnya's existing oil refinery infrastructure, and the planned construction of a pipeline for Caspian oil, were also viewed as significant factors in Russia's efforts to block its secession.

It has been reported that the Russian Security Council received a note from the Commission on Environmental Security about the potential risks that the conflict posed for the regional environment. Oil pollution, radioactive contamination and anthrax burial sites were identified as the most significant threats.[100] Reports published after the conflict highlighted the fact that the nature of environmental damage changed with the tactics employed. Between 1994-96, the use of heavy vehicles and tanks damaged soils and landscapes, this shifted to oil pollution later in the conflict with the Russian air force targeting energy infrastructure. The Head of the Department of Environmental Security of the Russian Armed Forces would later argue that only 3% of the environmental damage caused by the hostilities was the result of direct damage by the military, with the majority caused by artisanal oil production and efforts to extract oil from Chechnya's transit pipeline.[101]

An assessment made in 1995 by the Russian Ministry of Defence and the Ministry of Nuclear Energy, showed the destruction of 36 sites and facilities dealing with radioactive materials. Between 1997-99, more than 30 highly radioactive objects were discovered and moved to the storage site of Grozny's 'Radon' factory. During the hostilities in 1999-2000, 19 sites dealing with radioactive materials were damaged. In 2000, 63 highly radioactive objects from factories and research centres were moved to the city of Saratov for safe storage. However, because of the lack of equipment to measure radiation levels in the environment and food, there was no clear picture of the contamination level. Between 1997-2001, two highly contaminated areas were identified and remediated, one on the Grozny-Argun road, another at a Grozny chemical factory. Military units were responsible for monitoring at the environmentally risky areas and sites.[102]

100 Zonn, S. and Zonn, I. 2002. Final chapter of the book "Nature and society of the Chechnya Republic". Energy 6-7. https://portalus.ru/modules/warcraft/rus_readme.php?subaction=showfull&id=1096300781&archive=777&start_from=&ucat=&

101 Based on the data from the Russian Ministry of Finance, the Chechnya Republic received over ₽65mln (around £800,000) to compensate the expenses of the Chechnya oil company for interrupted oil transition.

102 Korbut, A. 2000. Chechnya: increasing environmental threat. Independent Military Review. http://nvo.ng.ru/wars/2000-01-28/2_ecohazard.html

2.2 Chechnya (1994-2000)

By August 1995, the fighting in Chechnya had caused an estimated 250,000 people to flee to the neighbouring autonomous republics of North Ossetia, Daghestan and Ingushetia. A similar number of people were displaced inside Chechnya. Between 20,000 and 30,000 inhabitants of Grozny had died and the city centre is destroyed. [c. 1997] Credit: UN Photo/ UNHCR/T Bolstad

When the conflict drew to an end in 2000, the Russian government developed a 'State Programme on the Elimination of Environmental Pollution and Remediation of Areas in the Republic of Chechnya for the Period 2000-2001', allocating ₽35m (around £875,000) to the programme.

Its main objectives included:

- The identification of pollution sources, environmental impact assessment, and development of rehabilitation measures;
- Water pollution assessment and the development of measures to curb and prevent it in future by repairing the Tereck River dam;
- The elimination of oil pollution, including from the longstanding man-made oil reservoirs, and the development of recommendations for the further exploitation of oil resources;
- Environmental impact assessment of radioactive sites in Grozny, including the radioactive waste storage site at its 'Radon' factory, and development of recommendations for its further use;
- The reconstruction of environmental monitoring.

2.2 Chechnya (1994-2000)

A further state programme was undertaken in 2001, this time on the 'Societal and Economic Development of the Republic of Chechnya', and which included measures on environment remediation. With further work on a number of the same priorities, as well as environmental impact assessments for artisanal oil reprocessing units and efforts to determine the levels of pollution in drinking water.[103]

In 2003, the government of the Republic of Chechnya, as a region of Russia, developed its 'Concept of Environmental Remediation'.[104] It included an overview of the environmental problems the Republic faced before and after the conflict, as well as an environmental impact assessment of the military operations:

Before the warfare started in 1994, the city of Grozny was ranked as one of the ten most polluted cities in the post-Soviet area. Environmental pollution became even worse since the conflict began even despite the closure of all the industrial factories. It was mainly triggered by the following factors: ongoing hostility, presence of radioactive sources under debris, accidents at radiological and chemical sites, flaring oil wells, artisanal oil exploitation (over 15,000 facilities), etc. At the same time, environmental issues were not acknowledged

The primary sources of air pollution since the warfare started in 1994, were flaring oil wells which numbered around 28-40 between 1999 and 2001. Besides oil spills, huge dumpsites, water pollution, and lack of green planting deepened the problem. Levels of background air pollution in Grozny significantly exceeded that permissible for xylol (190 times), ammonia (10 times), nitrogen, sulphur, and black carbon. Later on, it resulted in acid rain in the northern Caucasus.[105]

In some areas, the soil was heavily polluted with petrochemicals to a depth of 17m, causing underground water pollution. The number of petrochemicals accumulated underground in one of the areas of Grozny was estimated at 15m tonnes. The total area of polluted land in the Republic by 2002 was over 1,000 ha. Moreover, the artisanal oil exploitation resulted in damage of 2,000 ha. Underground water in the Republic was polluted with phenol, ammonia, sulphates, and pesticides, with concentrations 10-20 times above the allowable levels.[106]

Based on data from the Health Ministry, only 20% of the population was considered healthy, over 80% of children struggled with some pathology at birth. The assessment made in 1997-98 showed a significant increase in blood cancer in comparison with 1990.

The military activity led to the destruction of 118,000 ha of the forest cover in the Republic. Forest, and management was challenged due to landmines. However, an increase in population size of some species (i.e., wild boar, wolf, fox, etc.) was registered.

It should be noted that Chechnya's 'Concept of Environmental Remediation' was relatively progressive for its time. It prioritised the introduction of resource and energy efficient-technologies, closed-loop approaches, and the integration of the environmental agenda in the education and management system of the republic. Other specific measures included renewable energy development, the introduction of clean fuels, recycling, organic agriculture, the development of an early warning system to prevent oil spills, the establishment of protected areas and development of recreational tourism, and urban green planting.

103 Government of the Russian Federation. 2001. State program of economic and social recovery of the Chechnya Republic. http://docs.cntd.ru/document/901781102

104 Government of the Chechnya Republic. 2003. Concept of environmental rehabilitation in the Chechnya Republic. http://docs.cntd.ru/document/906802236

105 Razumov, V. Impact of war on the environment in Chechnya. SouthInfo.ru. http://southru.info/1148145175-pejjzazh_vo_vremja_bitvy.html

106 Korbut, A. 2000. Chechnya: increasing environmental threat. Independent Military Review. http://nvo.ng.ru/wars/2000-01-28/2_ecohazard.html

2.3 Syria (2015-pd)

Russia has long had close economic relations with Syria, and was a major supplier of wheat. Some studies have argued that the reduction of Russian wheat exports to Syria, in combination with long-lasting droughts, led to price increases that contributed to the 2010 uprising.

Russian oil and gas companies were active in Syria prior to the conflict, for example 'Stroytransgaz' was engaged in the construction of gas infrastructure.[107] In 2010, the Russian Ministry of Natural Resource Management and Environment, and the Environment Ministry of the Syrian Arab Republic signed an agreement on environmental cooperation.[108] The agreement included protected areas management and biodiversity conservation; efficient water resource utilisation and water treatment; eco-tourism development; tackling climate change, desertification and air pollution; education and outreach activities; and environmental disaster management.

The agreement included the exchange of information and best practices, support for research activities, the development of joint education programmes, and coordination of both countries views at international environmental events. The parties also agreed to establish a joint technical commission as an executive body to develop action plans and to monitor their implementation.

In 2016, after Russia officially joined the military campaign, Syria offered Russia the option of exploring and developing oil and gas on land and offshore, as well as to construct a refinery with Iran and Venezuela.[109] In 2017, the Syrian government granted 'Stroytransgaz' the right to extract and sell 2.2m tonnes of phosphate per year, for 50 years, from the Sharqya mine. It also provided control over the country's only fertiliser plant, which is located near Homs.

107 BBC News. 2017. Two years of war in Syria: what Russia achieved and at what cost. https://www.bbc.com/russian/features-41429448

108 Agreement between the Russian Ministry of natural resource management and environment and the Syrian Ministry of Environment. 2010. http://docs.cntd.ru/document/902230470

109 Russia Today. 2016. Russia sets up free trade zone with Syria. https://www.rt.com/business/367810-russia-syria-free-trade-deal

2.3 Syria (2015-pd)

In 2017, Russian exports to Syria were worth around US$280m and included food and agricultural goods, timber, pulp and paper, chemicals and transport.[110] In 2018, the Russian government allocated more than US$3m through UN funding for agricultural development in Syria,[111] with Syria also receiving more than US$36m from Russia in direct aid during that year.[112] In 2019, the Russian government proposed cooperation with Syria in the field of geological exploration.[113] Russia remains the leading supplier of wheat to Syria.[114] The same year, Russia contributed US$14m to UNICEF, UNFPA and the WHO for projects in some regions, including on restoring health facilities in Syria.[115]

Russian military tactics in Syria have included the deliberate targeting of environmentally risky and civilian infrastructure. Russian forces have bombed water treatment facilities,[116] in 2015, the al-Khafsa water treatment facility in Aleppo, which supplied more than 3.5m people with drinking water, was damaged by the Russians.[117] They have also deliberately targeted oil infrastructure. In 2016, the Russian air force damaged 32 oil refining complexes, 11 oil refineries, 23 oil pumping stations and destroyed 1,080 oil tankers.[118] In 2017, more than 174 oil production facilities were targeted in order to 'destroy the rebels' financial sources'.[119] The Russian military has also used cluster munitions,[120] and has undertaken indiscriminate attacks on civilians and civilian objects.[121]

110 Russian Trade. 2018. Review of trade between Russia and Syria in 2017. https://russian-trade.com/reports-and-reviews/2018-02/torgovlya-mezhdu-rossiey-i-siriey-v-2017-g

111 RIA News. 2018. Russia allocated $3mln for agriculture in Syria. https://ria.ru/20181001/1529732342.html?in=t

112 BBC News. 2017. Two years of war in Syria: what Russia achieved and at what cost. https://www.bbc.com/russian/features-41429448

113 RIA News. 2019. Russia suggested Syria its assistance in exploration. https://ria.ru/20190123/1549747933.html

114 Adopt a revolution. 2018. Reconstructing Syria: risk and side effects. Strategies, actors, interests. https://adoptrevolution.org/wp-content/uploads/2019/01/Reconstruction_Web-EN_Final.pdf

115 Permanent Mission of the Russian Federation to the UN. 2019. On signing of Memoranda with UNICEF, UNFPA and WHO on granting Russia's financial contributions. https://russiaun.ru/en/news/unfpa_2312

116 Triebert, C. 2015. Syria's Bombed Water Infrastructure: An OSINT Inquiry. https://www.bellingcat.com/news/mena/2015/12/11/syrias-bombed-water-infrastructure

117 Water Conflict Chronology. http://www.worldwater.org/conflict/list

118 PAX. 2016. Scorched Earth and Charred Lives. https://www.paxforpeace.nl/publications/all-publications/scorched-earth-and-charred-lives

119 Petrov, I. 2017. American B-52 bombed the Syrian village. Russian Newspaper. https://rg.ru/2017/01/10/amerikanskij-b-52-razbombil-mirnuiu-derevniu.html

120 Human Rights Watch. 2015. Russia/Syria: Extensive Recent Use of Cluster Munitions. https://www.hrw.org/news/2015/12/20/russia/syria-extensive-recent-use-cluster-munitions

121 Human Rights Watch. 2018. Syria/Russia: International Inaction as Civilians Die. https://www.hrw.org/news/2018/02/22/syria/russia-international-inaction-civilians-die

2.4 Ukraine (2014-pd)

While there is some speculation around the role of natural resources in the outbreak of the conflict they would appear to be secondary contributing factors. Considerations of natural resource scarcity at the larger sub-regional scale could be of relevance. For example, Ukraine's highly fertile cropland and abundance of energy resources could be considered by the EU as one of a number of factors incentivising closer cooperation.[122] In turn this might have partly influenced Ukraine's decision to shift from a pro-Russian to a pro-EU discourse, which contributed to grievances among the population in its eastern regions. For Ukraine, the potential loss of its Donbas region, its most resource-rich and industrialised, may have accelerated the military response.[123]

As a result of their proximity and intertwined history, Russia and Ukraine had a long history of environmental cooperation prior to the current conflict. In 1992, the governments signed a bilateral agreement as part of the Water Convention.[124] In 1995, a further agreement on environmental cooperation was signed that remains valid today, and which covers:

- The development of environmental legislation, including quality standards and certification;
- Joint ecological monitoring of the Azov and the Black seas;
- Sustainable agriculture in the border areas;
- The establishment of transboundary protected areas;
- Control over the transboundary transfer of toxic waste;
- The exchange of environmental information;
- And agreed actions in the field of climate change adaptation, water protection, sustainable forest management, biodiversity conservation, soil pollution remediation and environmental education.[125]

122 Arable land of Ukraine, 70% of which is made up of the most fertile soil in Europe (Magocsi, P.R. 2010. *A history of Ukraine: the land and its peoples.* Toronto: University of Toronto Press). It sounds particularly reasonable in a situation of the continuing decline of the utilized agricultural area in the EU over the past few years mainly due to increasing urbanization. This trend is supposed to continue up to 2030, with a decline from 106.5mln ha in 2017 to 104mln ha in 2030 (EU 2017). Moreover, Ukraine is one of the biggest producers of electricity in Europe (Hungary, Slovakia, Poland, and Romania). In addition, Ukraine has significant natural gas resources to develop (Shymylo-Tapiola, O. 2013. *Why does Ukraine matter to the EU?* Carnegie Europe. https://carnegieeurope.eu/publications/51522).

123 Donetsk and Luhansk regions located in Eastern Ukraine constitute the most industrialized (25% of GDP) and populated (5 mln people) area of the country (Tretyakova, S. and Averina, G. 2009. *Zemlya trevogi nasheiy. Po materialam dokladov o sostoyanii okruzhauscheyi sredy v Donetskoy oblasty v 2007-2008* [The land of our anxiety. Based on information from the state environmental reports in Donetsk region in 2007-2008]. Donetsk: Ukrainian Ministry of Environment).

124 UNECE. 1992. Agreement between the governments of Russian Federation and Ukraine on joint management and protection of cross-border water bodies. https://www.unece.org/fileadmin/DAM/env/water/cwc/legal/Russian-Ukraineagreement.pdf

125 Agreement between the governments of Russian Federation and Ukraine on environmental cooperation. 1995. http://docs.cntd.ru/document/902377829

2.4 Ukraine (2014-pd)

OSCE staff inspect the water filtration station in Yasynuvata, in the Donetsk region of Ukraine in 2016. The organisation has facilitated ongoing repairs to water installations along the line of contact throughout the conflict, many of which have been repeatedly damaged by the fighting. OSCE/Evgeniy Maloletka

In 1998, the governments signed an agreement on the environmental security of the naval bases of the Russian Black Sea Navy Fleet in Ukraine, which aimed to ensure that Russian military forces complied with Ukraine's environmental regulations.[126] And between 1999 and April 2019, the Treaty on Friendship, Cooperation, and Partnership between Ukraine and the Russian Federation was in operation. The treaty included environmental cooperation and information exchange, with a particular focus on the Azov-Black Sea region to ensure international environmental security.[127]

There has been significant domestic and international concern over environmental issues in the contested areas; many of which are linked to its 200-year history of coal mining and heavy industry. Numerous parties have sought to document these threats, often remotely.[128]

Heavy weaponry has been used close to industrial facilities, often directly against them,[129] and both sides have at times located troops in proximity to them. Insecurity, power cuts and deliberate policies have shut down groundwater pumping at abandoned coal mines, and fighting has also taken place in proximity to critical water infrastructure.

126 Government of the Russian Federation. 1998. Decree No 247 on environmental cooperation between the Russian Federation and Ukraine in the locations of the Russian Black Sea fleet in Ukraine. http://docs.cntd.ru/document/901703157

127 Agreement on friendship, cooperation and partnership between the Russian Federation and Ukraine. 1999. Expired on 1, April 2019. http://docs.cntd.ru/document/1902220

128 Weir, D, Denisov N, 2017. Monitoring the monitors studying the Ukraine conflict's environmental impact, CEOBS. https://ceobs.org/monitoring-the-monitors-studying-the-ukraine-conflicts-environmental-impact

129 Zwijnenburg, W. 2017. Donbas: A Ticking Toxic Time Bomb. https://www.bellingcat.com/news/uk-and-europe/2017/03/30/donbas-ticking-toxic-time-bomb

2.4 Ukraine (2014-pd)

The Water Conflict Chronology project has documented multiple cases of water facilities being damaged during the conflict, which include:[130]

- 2014, damage to the water pumping stations of the city of Donetsk, gunmen fire at a water filtration centre, landmines planted at a dam in Bakhmut (the attack was attributed to the Donetsk People's Republic), water reservoirs hit in rebel-controlled Horlivka;
- 2015, damage to the water filtration station in the city of Shchastya (attacks were attributed to the Luhansk People's Republic);
- 2017, a series of attacks on the Donetsk Filtration Plant, the South Donbas Water Pipeline, energy plants that supply power to water treatment and distribution systems, and the Carbonit Water Pumping Station;
- 2018, damage to the Donetsk Filtration Station from shelling resulted in water shortages;
- 2019, damage to the pipeline in the Siverski Donetsk-Donbas channel near Horlivka resulted in a limited water supply for 3m civilians on both sides.

In light of Russia's backing for the self-proclaimed administrations in Luhansk and Donetsk, their environmental policies can be viewed as being backed or endorsed by Russia. As such, these policies may reflect the way that Russia addresses these issues. Ukraine's views on these threats have been more prominent in the Western media and what follows instead examines the activities and perspectives of the self-proclaimed administrations in the non-government-controlled areas of Donetsk and Luhansk oblasts.

In the Luhansk People's Republic (LNR), the Ministry of Natural Resources and Ecological Safety has been established, and implements state policy and makes proposals to improve legislation in the field of environmental protection and safety. In the Donetsk People's Republic (DNR), the State Committee for Environmental Policy and Natural Resources undertakes a similar role. Other key institutions in the DNR include the Committee of Land Resources, the State Committee on Forest and Hunting, and the State Committee for Water and Fisheries. The de-facto authorities claim that ecological inspections of enterprises and the enforcement of regulations have been resumed, as well as environmental monitoring.

130 Worldwater. Water Conflict. http://www.worldwater.org/water-conflict

2.4 Ukraine (2014-pd)

According to the DNR web-page, an overarching environmental policy framework for the area is under development, while a Policy for Forest Recovery and Regreening for 2018-23 already exists, and can be consulted online. The LNR recently approved its 'National Environmental Plan' which outlines a mid-term policy framework and plan of action for 2019-23 across 13 sectors. Among the priority actions, there is the development of compensation claims addressed to Ukraine for environmental damage; and unification of the LNR's legal framework with Russia's.[131]

In 2016 and 2017, the Donetsk Ministry of Education and Science conducted a range of conferences on the 'State of the environment in Donetsk region: challenges for security provision and areas remediation for economic development.'[132] These events were arranged in cooperation with the International Independent Environmental Politological University, which is based in Russia but was deprived of its permission for running educational activities in 2017.[134] The participants, who included representatives of the Russian Science Academy and the Human Rights Council under the President of Russia, discussed the incompatibility of sustainable development and warfare, environmental security as a priority for the self-proclaimed Donetsk government, the environmental impact of military activity in the region, and the need to involve international scientists due to the scale of the problem. The Ukrainian government was accused of "eco genocide" against the people of the Donbas and of intentionally creating an environmental catastrophe by bombing chemical facilities.

In Luhansk oblast in 2018, representatives of the self-proclaimed people's republics arranged a public meeting to discuss environmental risks at industrial facilities located in the government-controlled areas of the Donbas. The Donbas Committee of Environment and Natural Resource Management underlined the fact that the Ukrainian government rejected an invitation to establish joint environmental monitoring groups.[134] In 2017,[135] and 2019,[136] environmental conferences were arranged in Luhansk with a particular focus on urban areas. Participants from the self-proclaimed republics and Russia took part, and included academics, NGOs, municipalities and industry.

131 Shashkina, O. 2020. CEOBS, Exploring environmental governance in eastern Ukraine. https://ceobs.org/exploring-environmental-governance-in-eastern-ukraine

132 Regnum. Environmental problems of Donbass reached territory of Russia. 2017. https://regnum.ru/news/2282278.html

133 Wikipedia. International Independent Environment and Policy University. https://tinyurl.com/y3evr4kd

134 Lugansk.Info. Environmental risks of the occupied part of Donbass were discussed at the joint briefing of LPR and DPR. 2018. https://lugansk1.info/53818-riski-ekologicheskih-katastrof-na-okkupirovannoj-vsu-chasti-donbassa-obsudili-na-sovmestnom-brifinge-predstaviteli-lnr-i-dnr

135 Lug.Info. The LPR and DPR representatives discussed environmental issues at the conference in Lughansk. 2017. http://lug-info.com/news/one/predstaviteli-lnr-dnr-i-rf-na-konferentsii-v-luganske-obsudili-problemy-ekologii-foto-28612

136 Ministry of Education and Science of Lugansk People's Republic. 2019. IV International Conference "Revival, ecology, resource saving and energy efficiency of the engineering infrastructure of the urbanised territories of Donbass: traditions and innovations". https://minobr.su/news/5747-ivmezhdunarodnaya-nauchno-prakticheskaya-konferenciya-vozrozhdenie-ekologiya-resursosberezhenie-i-energoeffektivnost-inzhenernoy-infrastruktury-urbanizirovannyh-territoriy-donbassa-tradicii-.html

2.4 Ukraine (2014-pd)

The Donetsk People's Republic's website highlights that its state committee on environmental policy and natural resource management has developed a programme on 'Environmental protection and mineral resources management'.[137] Moreover, the Humanitarian Programme for the Reunification of the Donbas People, which was developed in 2017, contains environmental measures. These include the establishment of a joint inspection group with the participation of NGOs and international public organisations, and joint environmental monitoring of the industrial facilities in the Donbas.[138] Media outlets in the republic complain that the Ukrainian government has refused to join the inspection group.

A detailed environmental assessment of 40 industrial facilities, urban and protected areas located in the government-controlled area of Donetsk has been undertaken. These include analysis of Ukrainian government policies that have triggered problems and possible scenarios for the future. Statistics have also been published on environment quality and health conditions in these areas. At the same time, according to the public statements, environmental monitoring has been resumed in the LNR and the DNR. It is also claimed that multiple interactive maps of air pollution, surface water, and the coal industry have been developed but with no reference to online access.[139] A few exceptions include an interactive map of the DNR's protected areas.[140]

Russian humanitarian aid for the Donbas region includes food, drinking water, medicines, generators and fuel.[141] Based on the official data from the Russian Ministry of Emergency, more than 70,000 tonnes of humanitarian aid was delivered to the Donbas between 2014-17. Information has been circulated about a secret Russian governmental decree on the allocation of resources to subsidise the reconstruction of damaged infrastructure in the east of Ukraine. In 2017, the Russian State Reserves Agency confirmed 'humanitarian aid' to the metal manufacturers of Donbas estimated at ₽10bn (£122m),[142] in the form of energy and gas.[143]

137 Donetsk People's Republic. Programme "Environmental protection and mineral resources management". http://gkecopoldnr.ru/resource-protection

138 Humanitarian Program of Donbass people reunion. Environmental protection program. http://gum-centr.su/environmental-safety

139 Shashkina, O. 2020. CEOBS. Exploring environmental governance in eastern Ukraine. https://ceobs.org/exploring-environmental-governance-in-eastern-ukraine

140 DNR's protected areas. http://gkecopoldnr.ru/nrf-dpr

141 Russian Emergency Ministry. Humanitarian Aid to Donbass region. https://www.mchs.gov.ru/deyatelnost/mezhdunarodnoe-sotrudnichestvo/okazanie-gumanitarnoy-pomoshchi/dostavka-gumanitarnoy-pomoshchi-dlya-otdelnyh-rayonov-doneckoy-i-luganskoy-oblastey-ukrainy

142 RBC. 2017. Crimea instead of DPR: the government discusses a refusal for Donbass aid. https://www.rbc.ru/economics/15/09/2017/59b84cc99a7947ce896ad25c

143 Meduza. 2017. What Russia provides Donbass with and how much it costs. https://meduza.io/feature/2017/04/27/chem-rossiya-obespechivaet-donbass-i-skolko-eto-stoit

3 How Russia views the concept of environmental security

This chapter presents an overview of official Russian policies on environmental protection, security and foreign affairs, and how they integrate environmental security.

It should be noted that these policies are declarative and do not necessarily reflect implementation.

Where they could be identified, references to specific projects, research initiatives and investments that demonstrate some degree of policy implementation are included.

3.1 How Russia defines environmental security

The notion of environmental security first emerged in the USSR in the early 1980s. Gorbachev was the first to have used it, in an article for *Pravda* entitled *Reality and guarantee of peace*, interpreting it as an 'organic part and a key element of the international security system'.[144] Since the 1990s, the concept of 'environmental security' has been widely used in Russian policy-making.[145]

The Russian Environmental Protection Law, which was developed in 2002, defined the notion of environmental security as:

> *'a state of security of the environment and vital interests of human-beings from the potential negative impact of business and other activities, natural and man-made emergencies, and its consequences'.*[146]

How this definition should be interpreted is still open to interpretation, mainly because of its failure to reference prevention or the role of human responsibility.[147] Elsewhere, the concept for the long-term socio-economic development of Russia contains the separate notions of 'environmental security of economy' and 'ecology of human beings'.[148] Whereas the model environmental law developed within the Commonwealth of Independent States (CIS), defines environmental security as:

> *'A system of political, economic, technological, legal and other measures to ensure protection of the environment and vital interests of human and citizen from the potential negative impact of business and other activity, and threats of natural and man-made disasters emerged at present and future times.'*

Thus, the notion of environmental security developed under the CIS includes an operative component ("measures to ensure protection") while in Russian law the notion is presented simply as "a state of security", with the actions necessary to ensure it absent. However, a clear division between "the environment and vital interest of human-beings" remains consistent, which may reflect an overall legal perception of the interlinkage between the environment and security.

144 Gorbachev, M. Reality and guarantee of a safe world. 1987. Pravda

145 In Russian one word (безопасность) is used for both safety and security, and traditionally the first meaning dominated health and environmental narratives, which were often connected. In the context of national security, it is primarily the security of the national environment that is the concern, not the security implications of environmental issues.

146 Russian State Law No 7 on Environmental Protection. 2002. http://www.consultant.ru/document/cons_doc_LAW_34823

147 Seyranyan, A. 2008. Environmental policy of Russia as a factor of national security. Dissertation, State Moscow Regional University.

148 Concept of long-term socio-economic development of the Russian Federation for the period up to 2020. 2008. http://www.consultant.ru/document/cons_doc_LAW_82134/28c7f9e359e8af09d7244d8033c66928fa27e527

3.1 How Russia defines environmental security

The term environmental security is widely used in both recent and updated strategies on socio-economic development in Russia, and regional cooperation programmes, while environmental regulations instead contain the notion of environmental protection. However, environmental protection is considered as a way to ensure environmental security. There is also a strict distinction between environmental security and food security, energy security, nuclear security, biological and chemical security, with environmental security more often linked to disaster management, resource scarcity and resource management. Moreover, health and environment issues tend to be treated separately, often with little correlation.

It should of course be noted that there is no globally agreed definition of the term "environmental security".[149]

149 "Environmental Security". In obo in Environmental Science, https://www.oxfordbibliographies.com/view/document/obo-9780199363445/obo-9780199363445-0012.xml

3.2 Russia's environmental security priorities, and how they are addressed

The Russian Security Council has identified environmental security and climate change, water, food and energy security as among its national security priorities, highlighting the Arctic as a region of particular importance. Chemical, biological, nuclear and radiation safety were also on the list. As a result of the COVID-19 pandemic, the issue of biological safety has come to feature heavily at Council meetings.

The Council established a Special Commission on Environmental Security.[150] It assesses internal and external environmental threats, develops recommendations on national and international environmental policy, and on environmental security provision in the country. Its work includes the elimination of chemical and nuclear weapons. Permanent members of the commission include representatives of the Defence Ministry, Security Ministry and Russian Foreign Intelligence.

Analysis the Commission's work between 2010-19 indicates the following priority issues: taking waste management services out of the hands of organised criminal gangs, biological terrorism, environmental risks from oil and gas activities, accumulated environmental damage, climate change, water scarcity, deforestation, energy-efficiency, radioactive, chemical and biological protection for the military and population, peacekeeping and environmental cooperation. Its domestic priority regions were the Baikal, Ladoga and Onega lakes, the Arctic, Volga and Ural regions, and Kaliningrad and Siberia. Whereas its focus areas for international cooperation were the BRICs. Interestingly, the number of meetings has doubled in recent years.[151]

The position of Special Presidential Envoy on Environment and Transport was also created. The postholder is a permanent member of the Council. The current envoy is Sergey Ivanov, who is a former Minister of Defence, Secretary of the Russian Security Council and Head of the Presidential Administration.[152] Moreover, in August 2020 the Council established a special Commission on National Interests in the Arctic, which aims to identify internal and external threats to national interests, and to promote socio-economic development.[153]

150 Russian Security Council. 2011. Provision of the Commission on Environmental Security under the Russian Security Council. http://www.scrf.gov.ru/about/commission/MVK_ecol

151 Publicly available at the Russian Security Council web-page: http://www.scrf.gov.ru

152 Wikipedia. Sergei Ivanov. https://en.wikipedia.org/wiki/Sergei_Ivanov

153 Russian Security Council. 2020. Establishment of the Commission on National Interests in Arctic under the Russian Security Council. http://www.scrf.gov.ru/news/allnews/2825

The same month, Dmitry Medvedev, vice-chairman of the Russian Security Council (former president and prime-minister of Russia) arranged a separate meeting on the proposed EU Carbon Tax. He underlined that it might threaten the Russian economy (with an estimated financial loss of around €3bn annually) while accusing the EU of protectionism under the cover of climate change mitigation.[154]

The Russian government sets a range of priorities for the provision of domestic environmental security. These can be found in various national strategies and policies, some of the which are summarised below:

154 Russian Security Council. 2020. D.Medvedev arranged a meeting on the EU Carbon Tax. http://www.scrf.gov.ru/news/allnews/2826

Table 1. Domestic strategies and instruments that address environmental security

Document	Environmental security focus area
Russian National Security Strategy (2015)	Ensuring food, energy and environmental security are priority actions for the government. In particular, it suggests addressing environmental security threats through the development of clean technologies, recycling and landfill improvement, the construction of treatment facilities, rehabilitation of contaminated areas, the mitigation of environmental risks posed by the extraction of mineral resources, the establishment of protected natural areas, and by environmental monitoring and cooperation.
Concept of Long-term Socio-economic Development of Russia for the Period up to 2020 (2008)	Recognises the following factors as challenges for development: the increased impact of environmental problems, water scarcity and climate change, and the depletion of resource-based economic development potential. However, it states that it might also create opportunities for the country due to its abundance of water resources and environmentally safe areas. In it, Russia declared a transition to an innovative society-based model of economic development. This was to be realised by expanding and diversifying the supply of energy to the world market, by the development of renewable sources of energy, by sustainable forest management in order to increase Russia's share of the world timber market, by the development of water resources, and by an increase in agriculture exports.
Russian Policy Framework on Arctic Development (2008)	Identifies the conservation of the Arctic ecosystem as one Russia's national interests, alongside the development of its resources to support the country's socio-economic development. National priorities for the region include cross border cooperation in the field of environmental protection and natural resources management, and indigenous peoples. Measures proposed included the establishment of protected natural areas – after considering national interests; the enhancement of state control over fishing activity, including the suppression of smuggling; the development of ecotourism and traditional resource management in indigenous regions; the disposal of ships with nuclear power units and the rehabilitation of contaminated areas.

3.2 Russia's environmental security priorities, and how they are addressed

Document	Environmental security focus area
Russian Energy Strategy (2009)	Aims to ensure the environmental security of energy, as well as energy security itself, by increasing the efficiency of the Russian economy and its energy sector, mainly through energy-conservation technologies. In spite of the significance of energy security for national security, there is an understanding of the considerable environmental impact of this sector – around 70% of GHG emissions. The development of renewable energy is seen as a mechanism to decrease the impact on the environment and tackle climate change, as well as to contribute to health protection and energy security.
Russian Transport Strategy (2008)	Declares environmental factors as important for the development of the transport system, rather than constraints. The strategy is to be reached through developing environmental infrastructure for routes, transition to eco-standards for fuel, modernisation of vehicles, the promotion of green and smart mobility in urban areas, the development of environmental infrastructure for the Arctic's transport system, and stricter environmental standards for aviation. The Commonwealth of Independent States and the Eurasian Economic Union are identified as priority regions for transport integration.
Russian Water Strategy (2009)	Highlights sustainable water management as a critical factor for ensuring economic well-being, social stability, national security and the human right for a safe environment. Strengthening Russia's role in global water management has been seen as a priority action. Central Asia is its main focus area, with programmes proposed on enhancing cooperation on joint water management, and financial and technical assistance to water scarce states in the development of water supplies.
Food Security Doctrine (2010)	Recognises the risks associated with climate change and biodiversity loss. Its priority measures to ensure food security include control over the proliferation of genetically modified organisms, increases in soil productivity and crop yield, reconstruction of irrigation systems, increases in aquaculture development, technological modernisation and resource-efficiency.
Russian Marine Doctrine (2015)	Considers the following as national interests: the exploitation and conservation of natural resources, protecting the marine environment, and the use of the high seas for military purposes. Among its long-term objectives are the establishment of a system of mandatory environmental insurance, the development of environmental standards for investment projects, the enhancement of environmental monitoring, tidal, thermal, offshore wind and algae-biomass energy development, and environmental research activities.
Russian Naval Doctrine (2017)	States the following objectives among others: providing favourable conditions for the development and efficient use of the high seas' natural resources; the development of environmentally friendly renewable energy sources for warships, ships, weapons, military and special equipment; and ensuring environmental safety and the rational use of natural resources during the operation of warships and vessels, weapons and naval infrastructure facilities in peacetime.

3.3 Security factors in environmental policy

Just as environmental factors are present in a range of Russian security policies, a number of environmental policies also contain references to security issues, examples of which can be found below.

Table 2. Domestic environmental strategies and instruments that address environmental security

Document	Environmental security focus area
Law on environmental protection (2001)	States that the requirements for environmental protection during the design, construction, operation, and decommissioning of military facilities, munitions and equipment are applicable at all times, except during emergencies as determined by the legislation. According to the law, the operation of nuclear facilities requires an environmental review to confirm their environmental security. The law states that public consultations are part of the state environmental review. However, in practice, they have never been applied for nuclear submarines, for example. The same law prohibits any importation of nuclear waste, with an exception for spent nuclear fuel. In this case, the project must justify any decrease in environmental security to pass the review. But in practice this rarely happens.
Russian Environmental Doctrine (2002)	Underlines armed conflicts and terrorist acts as among the factors that can lead to environmental degradation, alongside climate change, increased consumption, population growth and biodiversity loss. The overall goal of Russia's environmental policy is the conservation of ecosystems to ensure sustainable development, enhance the quality of life, health and demographics, and environmental security. A number of policy principles in the doctrine are relevant to environmental security, including the fair distribution of, and access to, the profits gained from the management of natural resources; transparency and public participation; and preventing the illegal exploitation and trade in natural resources. It also contains a range of directions to reduce and address threats to environmental security: • Preventing and mitigating the environmental impact of armed conflicts and the Russian armed forces, including from missile tests, and the destruction of weapons and munitions. • The remediation of areas contaminated due to the activities of the Russian armed forces and the operation of the aerospace and nuclear industries, including the manufacturing, testing, stockpiling and disposal of weapons of mass destruction. • Preventing acts of terrorism that may pose a threat to the environment, such as sabotage and man-made disasters, the deliberate use of toxic chemicals, intentional fires to destroy agriculture and ecosystems, and the importation and proliferation of alien species that pose a risk to local ecosystems.

3.3 Security factors in environmental policy

Document	Environmental security focus area
	• The development of a science-based methodology to estimate environmental damage resulting from economic activities, man-made and natural disasters, and any other environmentally risky activities, including military activities; and ensuring environmental and health compensation. • The development of civil society by providing the legal basis for public participation in environmental decision-making (i.e., polls, public consultations, public environmental reviews, and referenda), and supporting traditional sustainable livelihoods of indigenous people. • Introducing environmental components into the strategic forecast for the development of Russia. • Proactive influence on globalisation through the active participation of Russia in international negotiations regarding the use of natural resources, and the transboundary movement of technologies, goods and services that can cause environmental damage.
Forest Code (2006)	Requires remediation measures for lands assigned to the Russian armed forces, and the establishment of specialised bodies to ensure sustainable forest management on them.
Russian Climate Doctrine (2009)	Calls for the consideration of climate change as one of the critical factors for national security, including for its defence capacity, and for prioritising it in national and international policymaking. Climate change migration, both internal and external, is recognised as a potential threat. However, the notion of gains from climate change is still in place. The overall approach to address climate change at international fora is based on prevailing national interests, the significance of independent and reliable assessments, including those made by Russian scientists, general but differentiated responsibility and the engagement of all stakeholders.
Russian Policy Framework on Environmental Development (2012)	Explicitly underlines the need for actions advocating national interests during international environmental negotiations, as well as 'parrying threats' related to transboundary pollution. The Far East, Arctic, Siberian and Baikal regions are identified as a priority for environmental development.
Report on Climate Risks in Russia by the Federal Service of Russia on Hydrometeorology and Monitoring of the Environment (2017)	Its research on climate change risks identified increased chances of climate migration from Central Asian countries (Tajikistan, Uzbekistan, Kyrgyzstan), mainly due to water scarcity, rather than internal redistribution. Moreover, the climate-related risk assessment for nuclear power plants has shown that Voronezh and Rostov regions are under the most significant threat. Additional risks to oil and gas infrastructure in the Arctic region due to permafrost melting was also highlighted, with particular stress on the dangers for the resource-based economy of Russia.

Document	Environmental security focus area
Russian Environmental Security Strategy (2017)	Reaffirmed that environmental security is part of national security specifying that the international community's 'containment policy' towards Russia may restrict access to foreign clean technologies. The strategy also identified the following external threats to environmental security: transboundary air pollution, forest fires, redistribution of runoff from transboundary watercourses, obstacles to wildlife migration, including aquatic wildlife, the illegal catch of marine biological resources and shooting of migratory species, and the introduction of infected organisms capable of causing epidemics. Moreover, due to increasing global trade competition, Russia may be threatened with the placement of environmentally-risky economic activities, and waste dumped by foreign companies or transnational corporations. The overall goal of the strategy is conservation and the rehabilitation of the environment, enhancing the quality of environment required for well-being and economic development, and remediation of accumulated environmental damage. The strategy's action plan includes measures on environmental rehabilitation of the areas assigned to the Defence Ministry as well as the launch of a pilot project on waste disposal at military facilities and units. The National Security Council uses information on the implementation of this strategy for its annual national security report submitted to the Russian president.

3.4 Environmental factors in Russian security and foreign policy

3.4.1 The Russian military and the environment

Since 1978, the Environmental Security Authority has been in operation under the Russian Federation Armed Forces (AFESA).[155] Among the factors that triggered its establishment were growing awareness among the international community of the environmental impact of military operations, and the need to consider environmental threats during military operations. Since then, it has changed names and scope, reflecting the evolution of the notions of environmental security and environmental protection.

Today, the goal of AFESA is to decrease the negative impact of military facilities, weapons and machinery on military personnel and social infrastructure, including preventing and remediating the environmental consequences of man-made and natural disasters at military facilities during operations.[156] AFESA consists of the environmental security services of the navy (Baltic Navy,[157] Black Sea Navy,[158] and Northern Navy[159]), military command regions, and regional environmental centres of military units. It undertakes duties at military facilities, at areas where forces are deployed, and during operations. AFESA undertakes environmental impact assessments, environmental education, the implementation of environmental procurement policy, develops recommendations on environmental policy, prevention and mitigation measures, and undertakes environmental reporting, with a particular focus on compliance with national and international environmental regulations.

The Russian government has developed a range of regulations to improve the environmental safety of its military forces.[160] These include the means of environmental monitoring,[161] pollution response and environmental management standards; developing less environmentally harmful weapons; environmental education for military personnel; and environmental protection manuals for the military, covering themes including environmental audit, certification and insurance for military facilities.[162] The duty to protect the environment has been set out in law by the Defence Ministry – in 1998,[163] and 2004,[164] - and integrated into military manuals.[165] The Defence Ministry has also established an Environmental Security Department.[166] The 1996 Russian Law on Defence states that defence operations during military emergencies include actions to protect facilities that may pose a threat to human health and the environment. However, this only relates to defence activities on Russian territory.[167]

155 Grigorov, S. and Rodionov, A. Environmental safety of the military forces. 1994. Voennaya mysl. https://nauet.ru/ekologicheskaya-bezopasnost-vs-rf-ekologiya-voennaya

156 Russian Ministry of Defence. Decree No 530 on Establishment of the Environmental Security Authority under Military Forces of the Russian Federation. 2015. http://docs.cntd.ru/document/456054588

157 Russian Ministry of Defence. 2011. Environmental safety at the Baltic Fleet is under control. https://function.mil.ru/news_page/country/more.htm?id=10369741@egNews

158 Russian Ministry of Defence. 2012. System of environmental safety at the Black Sea Fleet. https://function.mil.ru/news_page/country/more.htm?id=10869893@egNews

159 Regional Environmental Center of the Russian Northern Fleet. https://rec-sf.nethouse.ru

160 A.A.Zotov. Ecological Environment Monitoring in the Naval Bases Area. 1998. Navigation and Hydrography: 7. State Navigation Hydrographic Research Institute. http://www.gningi.ru/images/journal/nig7.pdf

161 Action plan on provision of environmental safety of the Russian military forces in 1997-2000. 1996. http://www.pravo.gov.ru/proxy/ips/?docbody=&nd=102044022&rdk=&link_id=14

162 Russian Defence Ministry, Decree #222, 2004 (edition 2008). Manual on military management in the Russian armed forces.

163 Provision on the Russian Defence Ministry. 1998. http://kremlin.ru/acts/bank/13104/print

164 Provision on the Russian Defence Ministry. 2004. http://www.consultant.ru/cons/cgi/online.cgi?req=doc&base=LAW&n=330938&fld=134&dst=100029,0&rnd=0.22504865887579872#07248273433036383

165 Russian Defence Ministry. Decree No 333 on approval of the Manual on military (ship) economy in the Armed Forces of the Russian Federation (Draft). 2014. https://www.garant.ru/products/ipo/prime/doc/70647768

166 Russian Ministry of Defence. Department of Environmental Security. https://structure.mil.ru/structure/ministry_of_defence/details.htm?id=9748@egOrganization

167 State Law of the Russian Federation on Defence. 1996. http://base.garant.ru/135907

The military has pursued a range of environmental initiatives over the years, including the development of a concept of environmental security for the Russian armed forces in 1993.[168] Other examples include research by the Russian State Navigation Institute in the field of environmental security for the Russian armed forces in both 1993 and 1995,[169] an international conference on environmental problems caused by the defence industry and Russian armed forces (1995, St. Petersburg); the establishment of protected natural areas at former military grounds, e.g. 'Plesetsk', and others in the Kaliningrad, Orenburg and Arkhangelsk regions), and sanitary zones for military facilities.[170]

Since 2016, the Army International Forum has arranged annual sessions on environmental aspects of the armed forces and military operations. In 2016 this focused on methods of chemical pollution control; in 2017, energy-efficiency and the environmental security of military facilities;[171] in 2018, food security and soil protection; and in 2019, energy and resource-efficiency for military infrastructure. In 2020, several environmental issues were discussed during the forum - environmental protection of Arctic and in particular the Northern Sea Route, and diversification of the military industrial sector for the purpose of the governmental project "Ecology".[172]

3.4.2 Nuclear power and weapons of mass destruction

The 1995 Law on nuclear energy, banned the dumping of nuclear materials from ships and other floating facilities at amounts exceeding permissible limits. It also introduced controls on the export and import of nuclear facilities and equipment, atomic materials and fuel, in line with Russia's non-proliferation commitments.[173]

Between 1995-96, the Russian government developed state programmes on radioactive waste and spent fuel management,[174] the enhancement of nuclear weapon safety, and chemical weapon destruction.[175] The 1997 State Law on Chemical Weapon Destruction prioritises health and environmental protection during the storage, transportation and destruction of the weapons. Moreover, it states that destruction technologies must avoid or minimise negative impacts on health and the environment. It also affirms the importance of environmental monitoring and rehabilitation measures for contaminated areas.

168 Document unavailable to author during research.

169 Zotov, A. Ecological Environment Monitoring in the Naval Bases Area. 1998. Navigation and Hydrography: 7. State Navigation Hydrographic Research Institute. http://www.gningi.ru/images/journal/nig7.pdf

170 Petrov, G. Legal regulation of environmental safety in the implementation of military defence activities of the Russian Federation. 1999. https://www.dissercat.com/content/pravovoe-regulirovanie-ekologicheskoi-bezopasnosti-pri-osushchestvlenii-voenno-oboronnoi-dey

171 Russian Ministry of Defence. 2017. At the forum "Army-2017" energy-efficiency and environmental safety of military infrastructure issues were discussed. https://function.mil.ru/news_page/country/more.htm?id=12139552@egNews

172 International army business forum. https://www.rusarmyexpo.ru/business_program

173 State Law of the Russian Federation on Nuclear Energy. 1997. http://docs.cntd.ru/document/9014484

174 State Programme on Management, utilisation and disposal of radioactive waste and spent nuclear materials in 1996-2005. 1995. https://base.garant.ru/2108558/1eeb855bc1ca9cb25f383e8330145ed9

175 State Programme on Disposal of chemical waste in the Russian Federation. 1996. http://base.garant.ru/10108237

3.4 Environmental factors in Russian security and foreign policy

Radioactive, chemical and biological safety are recognised as core elements of national security. Recently, the Russian government has made amendments to some key policies, which may be explained by a wider process of revision to national strategic priorities due to increasing political, economic and military tensions between Russia and the West.

The 'Policy framework in the field of nuclear and radiation safety for the period until 2025' sets out a range of objectives. These include: ensuring the safety of nuclear facilities and minimising their impact on workers' health and the environment; the gradual decommissioning of 'nuclear heritage assets'; prioritising nuclear safety in governmental regulation; increasing accountability and responsibility; the prevention of nuclear accidents; and mitigating risks to the population. It also highlights challenges, such as accumulated nuclear waste and spent fuel; the misuse of new technologies, including for terrorist acts at nuclear facilities, and the illegal construction of nuclear weapons; the threat of terrorist acts at nuclear facilities or by using radioactive materials; and the risks of transboundary radioactive contamination due to accidents or nuclear weapons testing.[176] Information on the full range of Russian state programmes for the demilitarisation and disposal of nuclear weapons, military equipment, nuclear submarines and ships, the development of nuclear weapons, and the remediation of nuclear-contaminated sites is not publicly available. Although there is a state programme for the 'Sustainable development of the nuclear weapons complex in the Arctic region',[177] whose budget is estimated at ₽137.5bn (£1.7bn) for the period 2020-2022.[178]

Finally, the 'Policy framework in the field of chemical and biological safety for the period up to 2025' flags risks including: the possible use of chemical and biological agents for terrorist attacks against Russia; dual-use technologies and weapons manufactured with chemical and biological agents that are outside international regulations; and the transboundary movement of genetically-modified organisms.[179]

176 State Policy of the Russian Federation on Nuclear and Radioactive Safety for the period up to 2025. 2018. http://www.kremlin.ru/acts/bank/43631

177 "Ensuring the production, technological and socio-economic processes of sustainable development of the Russian nuclear weapons complex and Russia's strategic presence in the Arctic zone"

178 Interfax Russia. 2019. The government will allocate ₽60.5bln in 2020-2022 for construction of the new generation icebreakers. http://www.interfax-russia.ru/NorthWest/print.asp?id=1068067&sec=1679&type=news

179 State Policy of the Russian Federation on Chemical and Biological Security for the period up to 2025 and beyond. 2019. http://kremlin.ru/acts/bank/44066

3.4.3 The environment as a component of national security

The notion of environmental security has steadily evolved in line with the development of national security policies in Russia. In 2001 the State Law on Emergencies identified man-made, natural and environmental disasters that result in damage to human health and the environment, economic development and livelihoods as a reason to impose a state of emergency.[180] The 2010 State Law on Security declared environmental security to be a part of national security.[181]

The 2001 'Concept of cross-border cooperation in Russia' underlined the need for collaboration in the fields of natural resource management and environmental protection. It specified the following directions: mutual assistance in emergencies; animal disease information exchange and the implementation of emergency measures to eliminate it in border areas; the joint management of cross-border natural resources including water and minerals, and prevention of transboundary pollution; joint cross-border environmental monitoring; and the establishment of protected natural areas.[182]

The 2013 Concept of Public Security stated that increasingly unpredictable flooding and droughts caused by climate change may pose a threat to the population and economy.[183] However, 2015's National Security Strategy saw a shift whereby the notion of 'environmental disaster as security threat' became 'resource scarcity as a security threat'. Its preamble reaffirms that environmental security is a component of national security, as well as energy security. The strategy argues that the establishment of a new polycentric world order has been accompanied by increased competition for natural resources and access to transport routes, environmental and food security problems, water scarcity, epidemics, and climate change. Natural and man-made disasters caused by climate change, as well as a scarcity of mineral, water and biological resources, are recognised as the main threats to national security.[184] In 2017, the Russian Naval Doctrine underlined that the depletion of natural resources, environmental pollution, climate change, and migration are all threats to Russia's national security.[185]

180 State Law of the Russian Federation on Emergencies. 2001. http://www.consultant.ru/document/cons_doc_LAW_31866

181 State Law of the Russian Federation on Security. 2010. http://www.scrf.gov.ru/security/docs/document111

182 Concept of cross-border cooperation in the Russian Federation. 2001. http://docs.cntd.ru/document/901780926

183 Concept of Public Security in the Russian Federation. 2013. http://kremlin.ru/acts/news/19653

184 Strategy of the Russian Federation on National Security. 2015. http://www.consultant.ru/document/cons_doc_LAW_191669

185 State Policy of the Russian Federation on Naval Activity for the period up to 2030. 2017. http://kremlin.ru/acts/bank/42117

The 'Russian Foreign Policy Concept' amplifies this, citing increasing competition for natural resources, climate change, and threats to energy, food, health and environmental security among the leading global challenges. Moreover, it affirms Russia's will to enhance international cooperation to ensure environmental security and address climate change, highlighting the global significance of forest conservation. The Paris Agreement is to remain a foundation for cooperation. Nevertheless, there is a separate statement against the 'fake' politicisation of the environmental agenda, and its use to limit state sovereignty in the field of natural resources, or to enhance unfair competition.[186]

The 'Concept of Russian state policy in the field of international development assistance' prioritises environmental protection, food and energy supply, the development of health and education systems, and human rights protection. Two of its main priorities are assistance for poverty alleviation and sustainable development in post-conflict states, with the Commonwealth of Independent States, Republic of Abkhazia and Republic of South Ossetia prioritised for assistance.[187]

186 Concept of Foreign Policy of the Russian Federation. 2016. http://kremlin.ru/acts/bank/41451

187 State Policy of the Russian Federation on International Development Assistance. 2014. http://kremlin.ru/acts/bank/38334

4 Russia's role in international initiatives and debates on environmental security during the last 20 years

This final section provides an overview of Russia's participation and positions in regional and international debates and policy initiatives, and its stance on environmental security issues in them.

It covers debates at the UN level, as well as relationships with organisations established for economic cooperation between Russia and its neighbourhood countries, or strategic political partners.

The section utilises official statements, declarations, cooperation programmes and multilateral agreements in which Russia participates.

It concludes with official data on Russia's international development assistance priorities, and their relevance to environmental security.

4.1 UN Security Council debates

In 2020 Siberia suffered from the consequences of climate change: heat waves, oil spills caused by permafrost thawing and raging forest fires. It is a clear evidence of a climate emergency: the northern landscape is being transformed by heat and fire, contributing to climate change. © Julia Petrenko / Greenpeace

The USSR and Russia have voted in favour of at least five UNSC resolutions covering environmental security issues: on Iran and Iraq (540 (1983)) - affirming a threat to marine life in the Gulf region resulting from armed conflict);[188] Kuwait (687 (1991)) - reaffirming responsibility for environmental damage caused by military actions, and the right to compensation);[189] Central African Republic (2121 (2013),[190] 2127 (2013))[191] - recognising environmental destruction and the illegal exploitation of natural resources as factors fuelling the crisis, and imposing sanctions to address this issue - 2134 (2014).[192] In 2009, Russia also supported UNGA resolution 63/281 on 'Climate change and its possible security implications',[193] but explained this to be a compromise rather than a deliberate action.

188 UN Security Council, Resolution No 540.1983. https://undocs.org/S/RES/540(1983)

189 UN Security Council, Resolution No 687. 1991. https://undocs.org/S/RES/687(1991)

190 UN Security Council, Resolution No 2121. 2013. https://undocs.org/S/RES/2121(2013)

191 UN Security Council, Resolution No 2127. 2013. https://undocs.org/en/S/RES/2127%20(2013)

192 UN Security Council, Resolution No 2134. 2014. https://undocs.org/en/S/RES/2134%20(2014)

193 UN General Assembly, Resolution 63/281. 2009. https://undocs.org/en/A/RES/63/281

4.1 UN Security Council debates

Analysis of Russian statements made at the UNSC debates devoted to environmental security, and in particular climate security, reveals that Russia has consistently opposed the idea of expanding the UNSC's mandate to include climate change and the wider environmental security agenda, or environmental protection during armed conflicts. Russia has based its objections on the following arguments:

- Natural resource sovereignty, and the right or duty of every state to define their management strategy based on national legislation and international commitments;
- That natural resource abundance or scarcity does not contribute to the outbreak of conflicts, while poor resource management does;
- Placing climate change under the UNSC misleads states on the council's capacity to address the root cause of the problem, and distracts the Council from more important problems;
- The UNSC has no funding, expertise, tools or capacity to address climate change issues, while the specialised UN agencies like UNEP or the UNFCCC do;
- That climate change is not a universal challenge to international security, so it should be addressed on a case-by-case basis;
- That the securitisation of natural resources and climate change is used to avoid development assistance and constructive cooperation;
- The protection of civilians is a high priority during armed conflicts, but environmental protection is not; however, the impact of military operations on the environment is recognised by Russia;
- The politicisation of climate change leads to imposing one-sided standards, no real actions, the substitution of concepts, and the artificial creation of linkages, finally ending up with conflict escalation;
- The "environmentalisation" of security issues misleads states and the international community, oversimplifying problems and potential solutions.

However, these arguments have been inconsistent at times. In 2011, Russia rejected the notion that climate change could lead to security risks,[194] while in 2015 recognising the potential threats to the economy, traditional lifestyle and overall existence of the Small Island States.[195] In 2013, Russia highlighted the fact that the abundance or scarcity of natural resources itself can't contribute to the outbreak of conflicts,[196] while in 2018 it referred to armed conflicts in Syria, Libya, Iraq and Yemen as triggered by increasing global competition over energy resources.[197]

194 UN Security Council, Resolution No 6587. 2011. https://undocs.org/en/S/PV.6587

195 UN Security Council, Resolution No 7499. 2015. https://undocs.org/en/S/PV.7499

196 UN Security Council, Resolution No 6982. 2013. https://undocs.org/en/S/PV.6982

197 UN Security Council, Resolution No 8372. 2013. https://undocs.org/en/S/PV.8372

4.2 UN General Assembly Sixth Committee

Since 2013, the UN's International Law Commission has been developing legal principles intended to increase the protection of the environment in relation to armed conflicts – provisions that would apply before, during and after armed conflicts, and in situations of occupation. The principles have been informed by international humanitarian, human rights and environmental law, as well as by the practice of states and international organisations. States, including Russia have had an opportunity to comment on the principles during annual debates in the UNGA's Sixth Committee. Analysis of Russia's statements since 2013 reveals the following views:

- Sufficient regulation to protect the environment already exists under international humanitarian law;[198]
- The period before and after an armed conflict is considered to be peacetime;[199]
- The topic has no apparent link to "inalienable human rights" as well as the issue of refugees, displaced persons and indigenous people;[200]
- The protection of the environment relating to widespread, long-term and severe damage is already integrated into military manuals (based on the ICRC study);[201]
- General norms relating to environmental protection should be applicable for the periods before and after a conflict;[202]
- The safety of civilians is a priority over the protection of the environment;
- The concept of a "protected zone" to protect a natural protected area is seen as an unwarranted expansion of the concept of "safety zone";
- It would be inappropriate to use the law protecting cultural heritage for the protection of the environment in armed conflict;
- Issues that required further analysis: the protection of the environment in situations of occupation, issues of responsibility and liability, the responsibility of non-state actors, and overall application of the draft principles to armed conflicts of a non-international character;
- The regulation of environmental protection during conflicts shall be shaped as general guidelines rather than be legally binding;
- The provision of liability and accountability for corporations shall be different, depending on whether the company operates in its own country affected by conflict (national regulation), or in an occupied territory (international regulation but beyond the environmental security discourse);
- The proposed expansion of the Martens clause to include environmental protection may weaken its initial aim of protecting people;
- Provision of basic conditions for the survival of displaced people takes priority over mitigating the environmental impact of displacement.

198 Jacobsson, M.G. 2014. Preliminary report on the protection of the environment in relation to armed conflicts. UN General Assembly. International Law Commission, 66 Session. https://legal.un.org/docs/?symbol=A/CN.4/674

199 Statement by the Representative of the Russian Federation in the Sixth Committee of the 68th session of the UN General Assembly. 2013. https://undocs.org/A/C.6/68/SR.25

200 Agenda item 78: Report of the International Law Commission on the work of its sixty-sixth session. Six Committee. Summary record of the 25th meeting. 2014. UN General Assembly, 69 Session. https://undocs.org/A/C.6/69/SR.25

201 Jacobsson, M.G. 2015. Second report on the protection of the environment in relation to armed conflicts. UN General Assembly. International Law Commission, 67 Session. https://legal.un.org/docs/?symbol=A/CN.4/685

202 Agenda item 82: Report of the International Law Commission on the work of its seventieth session. Six Committee. Summary record of the 29th meeting. 2018. UN General Assembly, 69 Session. https://undocs.org/en/A/C.6/73/SR.29

4.3 Regional environmental security initiatives and development assistance

4.3.1 Multilateral environment and security initiatives

ENVSEC was founded in 2003 as a platform for the partnership of the OSCE, NATO, UNDP, UNEP, UNECE and REC. It promotes transboundary co-operation for the environmentally sound management of shared natural resources, although it does not deal with transboundary issues and participation of member countries is voluntary. It operates in Eastern Europe, south-eastern Europe, the south Caucasus and Central Asia.[203] However, Russia has never applied to become a participating member and remained cautiously neutral, or openly or covertly hostile to its activities, during its main years of operation.

In 2003, Russia became a member-country of the Kimberly Process Certification Scheme, which aims to ensure that diamonds come from conflict-free sources.[204] The country has been a chair of the scheme in 2005 and 2020, and vice-chair in 2004 and 2020.

4.3.2 Commonwealth of Independent States

The Interparliamentary Assembly of Member Nations of the Commonwealth of Independent States (CIS) was established in 1992 mainly for settling regional conflicts and for law-making on a range of issues, including environmental protection.[205,206] Its regional convention on collective environmental security, which was developed in 1992, affirms state sovereignty over their natural resources and responsibility for the prevention of transboundary pollution.[207] Its agreement on environmental cooperation also developed a model-law on environmental security.[208]

However, in 2013 the agreement was updated, excluding language recognising a human right to a clean environment. It also lost language on the 'significance of joint development and implementation of the intergovernmental projects and programmes in the field of natural resource management, environmental protection and environmental security, including the programmes on chemical and nuclear weapons destruction, and toxic and radioactive waste disposal'.[209]

Between 1992-97 the Assembly established an Intergovernmental Environmental Council,[210] a Commission on agriculture, natural resource and environmental

203 OSCE. Environment and Security Initiative. https://www.osce.org/secretariat/ENVSEC

204 Kimberley Process Certification Scheme. https://www.kimberleyprocess.com/en/kp-action

205 Member-countries: Azerbaijan, Armenia, Belarus, Kazakhstan, Kyrgyzstan, Moldova, Russia, Tajikistan, Uzbekistan, Afghanistan (observer). Georgia left it in 2009. Ukraine de jure remains a member-country, while de facto does not.

206 The Interparliamentary Assembly of Member Nations of the Commonwealth of Independent States (IPA CIS). https://iacis.ru/About_IPA_CIS/Mandate

207 The concept of the convention on collective environmental security. 1998. IPA CIS. http://docs.cntd.ru/document/901901210

208 The CIS agreement on environmental cooperation. 1992. IPA CIS. http://www.cis.minsk.by/reestr/ru/index.html#reestr/view/text?doc=19

209 The CIS agreement on environmental cooperation. 2013. IPA CIS. http://www.cis.minsk.by/reestr/ru/index.html#reestr/view/text?doc=3874

210 The Intergovernmental Environmental State Council of the CIS. IPA CIS. https://e-cis.info/cooperation/3196/77664

211 Commission on agriculture, natural resources and environment of the CIS. IPA CIS. https://iacis.ru/structure/komissii_mpa/postoyannaya_komissiya_po_agrarnoy_politike_prirodnym_resursam_i_ekologii

212 The Intergovernmental Council for the Exploration, Use and Protection of Mineral Resources. IPA CIS. https://cis-geology.org/about/history

protection,[211] and an Intergovernmental Council on Resource Extraction.[212] These authorities have developed a range of model laws for implementation by member countries. These include model laws on environmental security (1992/2003),[213] social guarantees for people affected by nuclear accidents (2005),[214] environmental emergency zones (2009),[215] environmental audits (2013),[216] GMO regulation, and environmental policymaking (2018).[217] Since 2010, the Assembly has arranged the annual Neva International Environmental Congress in St. Petersburg, Russia.[218]

The CIS's economic development strategy, which was signed in 2008, declares ensuring environmental security, alongside energy and food security, as one of its overall goals. It also features a range of measures to increase the environmental orientation of member state economies. These include economic incentives for environmental protection, resource and energy efficiency technologies, eco-labelling for goods, the protection of water resources and environmental standards.[219] Meanwhile the Convention on Regional Cooperation, ratified by CIS members in 2016, provides for joint actions in the fields of environmental monitoring, sustainable resource management and environmental security.[220]

In 1992, some states of the CIS, including Russia, signed the Collective Security Treaty.[221] This committed CIS states to the following actions: nuclear weapons non-proliferation, the environmental rehabilitation of contaminated areas, use of nuclear energy to tackle climate change,[222] not to assert a claim for compensation for environmental damage caused by military operations (with the exception of violations of international humanitarian law during armed conflicts), to take responsibility to ensure environmental security in areas where military forces are located,[223] and to prevent terrorist acts against environmentally risky facilities.[224]

4.3.4 Eurasian Economic Union

In 2000, Armenia, Belarus, Russia, Kazakhstan and Kyrgyzstan established the Eurasian Economic Union (EEU) to enhance market integration. In 2016, the Eurasian Economic Commission approved the Environmental Development Technological Platform, whose objectives included joint environmental monitoring, knowledge exchange and the rehabilitation of contaminated areas, and ensuring environmental security.[225]

213 The SCI Model Law on Environmental Security. 1992. IPA CIS. https://iacis.ru/mod_file/p_file/2

214 The SCI Model Law on social protection of people affected by the radioactive accidents and nuclear weapon testing. 2005. IPA CIS. https://iacis.ru/public/upload/files/1/195.pdf

215 The SCI Model Law on Environmental Disaster Areas. 2009. IPA CIS. https://iacis.ru/public/upload/files/1/253.pdf

216 The SCI Model Law on Environmental Audit. 2013. IPA CIS. https://iacis.ru/public/upload/files/1/526.pdf

217 The SCI Recommendations on Environmental Policy. 2018. IPA CIS. https://iacis.ru/public/upload/files/1/732.pdf

218 The Neva International Environmental Congress. https://ecocongress.info/congress/docs.php

219 The Strategy of CIS Economic Development for the period up to 2020. 2008. IPA CIS. http://cis.minsk.by/reestr/ru/index.html#reestr/view/text?doc=2533

220 The Convention on Regional Cooperation of the CIS. 2016. IPA CIS. http://cis.minsk.by/reestr/ru/index.html#reestr/view/text?doc=5474

221 The CIS Agreement on Collective Security. 1992. IPA CIS. https://odkb-csto.org/documents/documents/dogovor_o_kollektivnoy_bezopasnosti/

222 Statement by Member States of the Collective Security Treaty Organisation on the problems of the Treaty on the Non-Proliferation of Nuclear Weapons. 2012. https://odkb-csto.org/documents/statements/zayavlenie.-gosudarstv-chlenov-organizatsii-dogovora-o-kollektivnoy-bezopasnosti-po-problematike-dogo/?sphrase_id=62961

223 Agreement on the status of forces of the collective security system of the Collective Security Treaty Organisation. 2013. https://odkb-csto.org/documents/documents/soglashenie_o_statuse_formirovaniy_sil_i_sredstv_sistemy_kollektivnoy_bezopasnosti_organizatsii_dogo/?sphrase_id=62961

224 Statement by the Secretaries of Security Councils of the Member States of the Collective Security Treaty Organisation on Counter-Terrorism. 2013. https://odkb-csto.org/authorized_organs/committee_of_secretaries/komitet_sekretarey_soveto_bezopasnosti_23_sentyabrya_v_sochi_prinyal_zayavlenie_po_kontrterroristich/?sphrase_id=62963

225 Description of the Eurasian Technology Platform "Environmental development Technologies". Eurasian Economic Commission. 2016. https://tinyurl.com/y6mwc3lg

4.3.5 Shanghai Cooperation Organisation

The Shanghai Cooperation Organisation (SCO) was established in 2003.[226] Environmental protection and natural resource management are stated as a priority area for cooperation within the organisation and with the CIS, ASEAN and ECO, the Economic Cooperation Organisation. Analysis of the declarations released by the heads of its member states since 2004, and its joint strategies, reveals that almost every common statement contains environmental issues, many of which are relevant to environmental security, in particular:

- The rational utilisation of water resources;
- The efficient use of water and energy resources "based on the interest of the parties";
- The development of clean energy to mitigate climate change;
- Ensuring energy and food security;
- Agricultural cooperation;
- Cooperation to address the threats of natural and manmade disasters;
- Climate change, food shortages, water scarcity, epidemics and disasters as primary threats.

In September 2020, at the meeting of the SCO's Security Councils under the chairmanship of Russia, the threats associated with biological and toxin weapons, and the proliferation of dangerous infections were underlined in response to the COVID-19 outbreak.[227]

4.3.6 Arctic Council

There are a range of intergovernmental authorities established with Russia's participation in the Arctic region. In 1999, the Arctic Council developed its Environmental Protection Strategy to address the problem of radioactive contamination caused by nuclear-weapons testing in the region.[228,229] In 1996, sustainable development cooperation was launched on two levels in the Barents Euro-Arctic Region: the Barents Euro-Arctic Council,[230,231] and the interregional Barents Regional Council.[232,233]

In 2011, the Russian government signed an agreement allocating €10m to finance a clean-up initiative in the Arctic.[234] In 2013, the Action Plan on Climate Change for Barents Cooperation was adopted,[235] and its Climate Change Mitigation project was launched to develop recommendations for Russian Arctic regions.[236] Between 2015-17, Russia co-led discussions and negotiations on the Agreement on Enhancing International Arctic Scientific Cooperation, which entered into force in 2018.[237]

226 Shanghai Cooperation Organisation members: India, Kazakhstan, China, Kyrgyzstan, Pakistan, Russia, Tajikistan, Uzbekistan with Afghanistan, Belarus, Iran and Mongolia as observers. http://eng.sectsco.org/about_sco

227 Russian Security Council. 2020. Meeting of the SCO's Security Councils. http://www.scrf.gov.ru/news/allnews/2838

228 Arctic Council members: Canada, the Kingdom of Denmark, Finland, Iceland, Norway, the Russian Federation, Sweden and the United States. https://arctic-council.org/en

229 Arctic Environmental Protection Strategy. 1991. http://library.arcticportal.org/1542/1/artic_environment.pdf

230 Member states: Denmark, Finland, Iceland, Norway, Russia, Sweden and the European Commission

231 The Barents Euro-Arctic Council. https://www.barentscooperation.org/en/Barents-Euro-Arctic-Council

232 Participants: four member countries and a representative of the indigenous peoples in the northernmost parts of Finland, Norway and Sweden and north-west Russia

233 The Barents Regional Council. https://www.barentscooperation.org/en/Barents-Regional-Council

234 Melas, M. The Arctic as a Geopolitical Bond among the European Union, Norway & Russia. https://arcticyearbook.com/images/yearbook/2016/Scholarly_Papers/12.Melas.pdf

235 Action Plan on Climate Change for the Barents Cooperation. 2013. Barents Euro-Arctic Cooperation. https://www.barentscooperation.org/en/About/Learn-More/Climate-Change-and-the-Barents-region/Barents-Action-Plan

236 Cooperation in the Area of Climate Change Mitigation in the Barents region. Barents Euro-Arctic Cooperation. https://www.barentscooperation.org/en/About/Learn-More/Climate-Change-and-the-Barents-region/Project

237 Arctic Council. Scientific cooperation agreement enters into force. 2018. https://arctic-council.org/en/news/scientific-cooperation-agreement-enters-into-force

4.3.7 BRICS

In 2019, the ministers of the BRICS countries agreed on environmental cooperation in the fields of urban environmental management, contaminated areas and soil remediation, water quality, circular economy, marine litter and biodiversity. They highlighted the following initiatives: Partnership on Urban Environmental Sustainability Initiative, BRICS Environmentally Sound Technology Cooperation Platform, and the Clean Rivers of BRICS programme.[238] In 2017, Russia put forward the initiative of creating an energy research platform to conduct joint assessments of international energy markets to promote green energy and natural gas.[239]

In September 2020, the issues of biological safety, epidemiological threats and global health were brought to the agenda of the BRICS meetings due to the COVID-19 pandemic. Moreover, the importance of cooperation under UN agencies including the WHO was highlighted.[240]

4.3.8 Organisation of the Black Sea Economic Cooperation

The Organisation of the Black Sea Economic Cooperation (BSEC) came into existence in 1992,[241] and has declared environmental protection and conservation among its main objectives under the BSEC Economic Agenda.[242] A Working Group on Environmental Protection was established, which elaborated the Action Plan for Cooperation in the Field of Environmental Protection and the Climate Change Adaptation Strategy for the Black Sea.[243]

4.3.9 International development assistance

Russia has highlighted the following objectives for its international development assistance: eliminating poverty and promoting the sustainable socio-economic development of recipient states, including post-conflict states; responding to natural or manmade disasters and other emergencies.[244]

238 Infobrics. Ministers of BRICS Countries Agree to Jointly Resolve Environmental Issues. 2019. http://infobrics.org/post/29151

239 Infobrics. Russia Hopes Expert Groups for BRICS Energy Platform to Be Formed in 2019. 2019. http://infobrics.org/post/29783

240 Russian Security Council. 2020. Meeting of the BRICS Security bodies representatives. http://www.scrf.gov.ru/news/allnews/2842

241 Organisation of the Black Sea Economic Cooperation member states: Albania, Armenia, Azerbaijan, Bulgaria, Georgia, Moldova, Russia, Serbia, Turkey, and Ukraine. http://www.bsec-organization.org

242 The BSEC Economic Agenda Towards an Enhanced BSEC Partnership. 1992. http://www.bsec-organization.org/UploadedDocuments/BsecAtAGlance/Economic%20Agenda%2026th%20CMFA%20Belgrade.pdf

243 The BSEC Climate Change Adaptation Strategy. 2017. The Organisation of the Black Sea Economic Cooperation. http://www.bsec-organization.org/UploadedDocuments/AreasOfCooperation/EnvironmentalProtection/StatDecl/09_Annex%20VIII_Attach_2%20Climate%20Change.pdf

244 The 7th National Report of the Russian Federation submitted in accordance with articles 4 and 12 of the Framework Convention United Nations Climate Change and Article 7 of the Kyoto Protocol. 2017. https://unfccc.int/files/national_reports/annex_i_natcom_/application/pdf/20394615_russian_federation-nc7-1-7nc.pdf

In doing so, Russia prioritises the Eurasian region in the provision of assistance: 'Member States of the Commonwealth of Independent States, the Republic of Abkhazia, the Republic of South Ossetia [which remain unrecognised by the international community], and other states pursuing a policy of good neighbourliness and alliance with Russia, as well as individual States participating along with the Russian Federation in international associations and organizations in Eurasia'. In 2017, the primary recipients of development assistance were Kyrgyzstan (US$129.8m), Tajikistan (US$16.1m) and Armenia (US$15.6m).[245]

Among Russia's stated priority areas for international development assistance are:

- Supporting post-conflict peace-building efforts;
- Facilitating the efficient use of natural resources;
- Providing access to water and electricity;
- Promoting efforts to ensure food security and agricultural development;
- Strengthening national health and social protection systems;
- Adopting measures aimed to protect the environment and to solve transboundary environmental problems;
- Developing democratic society institutions, including the protection of human rights.

OECD statistics record a decline in funding allocated through Russia's official Development Assistance through the UN mechanisms for 2016-18 (see Table 3).

Table 3. Official Development Assistance (US$m)[246]

Purpose/year	2016	2017	2018
Water supply and sanitation	-	0.9	-
Conflict, peace and security	5.91	2.19	-
Infrastructure and services: energy	6.7	6.11	4.62
Agriculture	6.6	3.65	3.44
General environmental protection	3.63	8.5	3.44
Development of food assistance	49.94	51.72	42.04
Humanitarian aid	34.03	29.04	15.23
Emergency response	3.28	5	1.4
Reconstruction relief and rehabilitation	5.61	7.87	7.18
Disaster prevention and preparedness	25.14	16.17	6.65

245 RBC.RU. Syria received over 80% of humanitarian aid from Russia. 2018. https://www.rbc.ru/economics/26/11/2018/5bf7db229a7947b3fd400634

246 OECD Statistics. https://stats.oecd.org/Index.aspx?datasetcode=TABLE1#

In 2016, Russia contributed US$10m to the Russia-UNDP trust fund. The funding was used to finance climate change mitigation projects in Armenia, Belarus, Kyrgyzstan, Tajikistan, Uzbekistan, and in the EEU. More than US$7.5m was also invested within a programme to enhance island states' capacity to resist natural disasters linked to climate change.

As part of its cooperation with the UNECE, Russia helped finance the implementation by Central Asian countries of the conventions on transboundary air pollution and on the transboundary effects of industrial accidents. Annually, Russia provides around US$30m as food assistance to the UN World Food Programme (WFP). Tajikistan, Kyrgyzstan, Syria, Palestine, Namibia, Kenya, Iraq, Jordan and North Korea were among the primary recipients in 2017. In 2020, Russia supported the WFP with US$4m for implementing a food assistance programme for Yemen, and the FAO with US$10m to combat a desert locust outbreak in East Africa.[247]

Russia also utilises state debt regulation mechanisms to release financial resources after debt rearrangements, these resources are then invested in development programmes in the fields of environmental protection, education, health, energy and infrastructure development. For the last few years, Russia has used this approach to development financing for Zambia, Mozambique, Tanzania, Cuba, and North Korea.[248]

247 Statement by Dmitry Chumakov, Deputy Permanent Representative of Russia to the UN, at the open VTC of UNSC members on "Protection of civilians in armed conflict: food security risks". 2020. https://russiaun.ru/en/news/foodsecurity_170920

248 Human Development Report for the Russian Federation. 2016. http://ac.gov.ru/files/publication/a/11068.pdf

Reference list

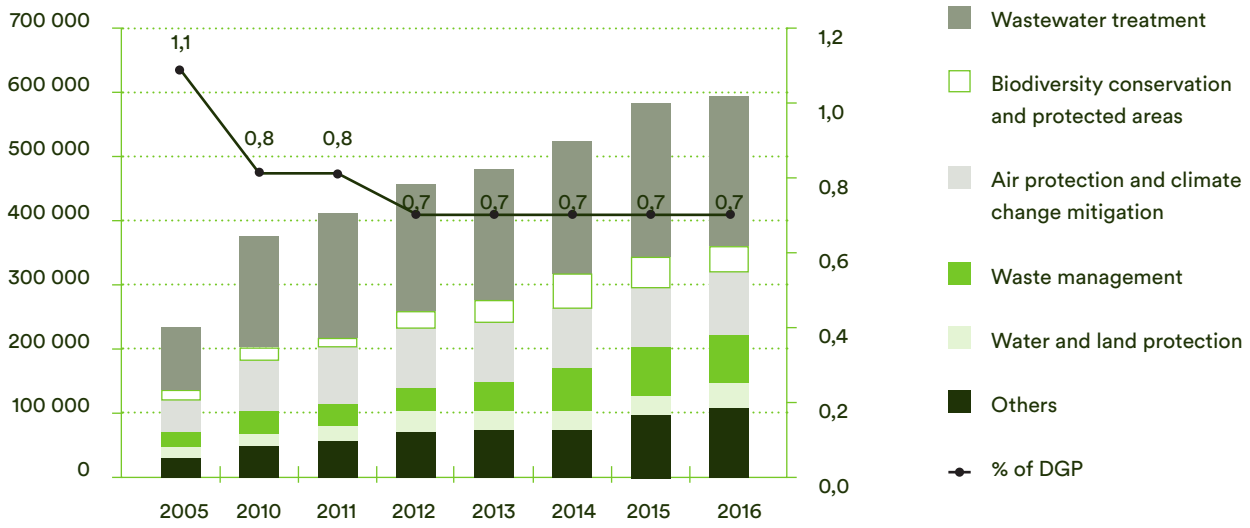
Annex I. Multilateral Environmental Agreements in which Russia participates.

Table 4. List of notable Multilateral Environmental Agreements in which Russia participates.

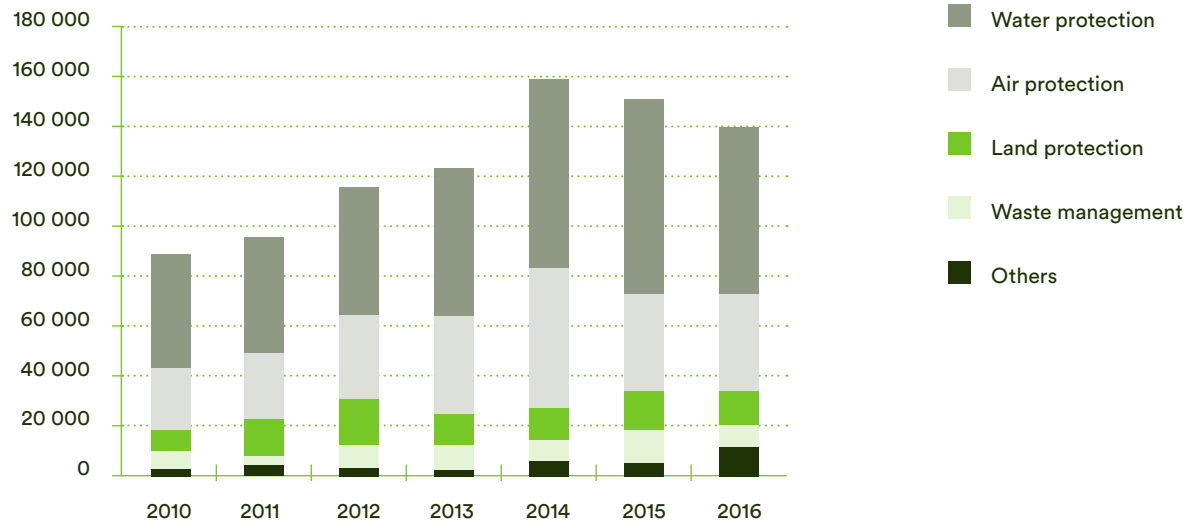
International Convention for the Regulation of Whaling	1946
Ramsar Convention on Wetlands of International Importance Especially as Waterfowl Habitat	1971
World Heritage Convention	1972
International Commission for the Conservation of Atlantic Tunas	1972
Convention on the Prevention of Marine Pollution by Dumping of Wastes and Other Matter	1972
Convention on International Trade in Endangered Species of Wild Flora and Fauna	1973
International Convention for the Prevention of Pollution from Ships	1973
Convention on Long-range Transboundary Air Pollution	1979
Convention on the Conservation of Antarctic Marine Living Resources	1982
Montreal Protocol on Substances That Deplete the Ozone Layer	1985
Basel Convention on the Control of Transboundary Movements of Hazardous Wastes and their Disposal	1989
Convention on Environmental Impact Assessment in a Transboundary Context (Russia signed but not ratified)	1991
United Nations Framework Convention on Climate Change (and Kyoto Protocol, Paris Agreement)	1992
Convention on Biological Diversity	1992
Convention on the Transboundary Effects of Industrial Accidents	1992
UNECE Convention on the Protection and Use of Transboundary Watercourses and International Lakes	1992
Convention on the Protection of the Marine Environment of the Baltic Sea Area	1992
Convention on the Protection of the Black Sea against Pollution	1992
Convention to Combat Desertification	1994
Agreement on Environment Protection Cooperation of the Commonwealth of Independent States	1999
Agreement on Environmental Monitoring Cooperation of the Commonwealth of Independent States	1999
Stockholm Convention on Persistent Organic Pollutants	2001
Framework Convention for the Protection of the Marine Environment of the Caspian Sea	2003
Rotterdam Convention on the Prior Informed Consent Procedure for Certain Hazardous Chemicals and Pesticides in International Trade	2011
Minamata Convention on Mercury (Russia signed but not ratified)	2013

Annex II. Funding for environmental protection in Russia.[249]

Graph 1. Budget expenses of Russian Federation for environmental protection in 2005, 2010-2016 (₽m) (Source: Rosstat).



Graph 2. Investments by the Russia Federation in environmental protection and natural resource management in 2010-2016 (₽m) (Source: Rosstat).



249 Analytical Center under the Government of Russia. Report on human development in Russia. Environmental priorities for Russia. 2017. http://ac.gov.ru/files/publication/a/15600.pdf

Annex 3 Multilateral agreements in the field of environmental security[250]

Convention	Related regulation	Russia's status
Convention for the Protection of Cultural Property in the Event of Armed Conflict		**Russia ratified in 1957**
Convention on the Prohibition of the Development, Production and Stockpiling of Bacteriological (Biological) and Toxin Weapons and on their Destruction	It obliges each State party to observe all necessary safety precautions to protect populations and the environment in implementing their undertakings and, inter alia, to destroy, or to divert to peaceful purposes, all agents, toxins, weapons, equipment and means of delivery specified in article I of the Convention.	**USSR was one of the depositary governments in 1972**
Ramsar Convention	It allows a Contracting Party to delete or restrict the boundaries of a wetland already included in the List of Wetlands of International Importance, established under the Convention, because of "urgent national interests". Such deletions or restrictions should be compensated for by the designation of another wetland with similar habitat values, either in the same area or elsewhere, as a Ramsar Site.	**Russia ratified in 1977**
Convention on the prohibition of military or any other hostile use of environmental modification techniques		**Russia ratified in 1978**
Conventional Weapons Convention and its Protocols	The fourth preambular paragraph of the Conventional repeats the wording of article 35, paragraph 3, of Additional Protocol I in that it is prohibited to employ methods or means of warfare which are intended, or may be expected, to cause widespread, long-term and severe damage to the natural environment.	**Russia ratified in 1981 (and the protocols afterwards)**

	Additional Protocol I and the Conventional Weapons Convention list prohibited targets by including historical monuments, works of art or places of worship, objects indispensable to the survival of the civilian population, attacks against the natural environment by way of reprisals, and works or installations containing dangerous forces (i.e. dams, dykes and nuclear electrical generating stations), even where they are military objectives. Protocol III to the Convention, on the use of incendiary weapons, states that "it is prohibited to make forests or other kinds of plant cover the object of attack by incendiary weapons except when such natural elements are used to cover, conceal or camouflage combatants or other military objectives, or are themselves military objectives".	
Convention for the Protection of the World Cultural and Natural Heritage	In accordance with article 6.3 of the Convention, each Party "undertakes not to take any deliberate measures which might damage directly or indirectly the cultural and natural heritage" of another Party (i.e. the objects and sites defined earlier in the Convention). The World Heritage Committee has the mandate to enlist objects and areas under the List of World Heritage in Danger. This is a special list of objects and areas which require major operations and for which assistance has been requested under this Convention. Many of the areas listed are in conflict zones.	**Russia ratified in 1988**
Protocol Additional to the Geneva Conventions and relating to the Protection of Victims of International Armed Conflicts (Protocol I)	Article 55. Protection of the natural environment 1. Care shall be taken in warfare to protect the natural environment against widespread, long-term and severe damage. This protection includes a prohibition of the use of methods or means of warfare which are intended or may be expected to cause such damage to the natural environment and thereby to prejudice the health or survival of the population. 2. Attacks against the natural environment by way of reprisals are prohibited.	**Russia ratified in 1989** **In November 2019 Russia revoked the Commission's competence on fact-finding under Protocol 1, Geneva Convention**

Reference List - Annex 3 Multilateral agreements in the field of environmental security

Convention on the Prohibition of the Development, Production, Stockpiling and Use of Chemical Weapons and on their Destruction	It contains a number of environmental safeguard requirements throughout the entire destruction process.	**Russia ratified in 1997**
Convention on the Law of the Non-navigational Uses of International Watercourses (1997)	Article 29 of the Convention on the Law of the Non-navigational Uses of International Watercourses contains an article dealing with international watercourses and installations in times of armed conflict. It provides that such watercourses and related installations, facilities and other works "shall enjoy the protection accorded by the principles and rules of international law applicable in international and non-international armed conflict and shall not be used in violation of those principles and rules". Furthermore, article 31 obliges States Parties to "cooperate in good faith with the other watercourse States with a view to providing as much information as possible" in terms of information and data vital to national security.	**Russia is not a Party**
Convention on the Law of the Sea	Article 32 stipulates that nothing in the Convention shall affect the immunities of warships and government ships operated for non-commercial purposes. Even if a warship or a government ship enjoys immunities, it does not necessarily follow that the flag State can be absolved from its obligation to follow the rules in the Convention. Explicit provisions are often included to make clear that certain provisions are not meant to apply to warships or certain other vessels or aircraft.	**Russia ratified in 1997**
Convention on the Prohibition of the Use, Stockpiling, Production and Transfer of Anti-Personnel Mines and on their Destruction (1997)	It allows a state party that considers that it will be unable to destroy or ensure the destruction of all anti-personnel mines that it has undertaken to destroy or ensure the destruction of to request an extension of the deadline. Such a request should contain information on "the humanitarian, social, economic, and environmental implications of the extension" In addition, and as a matter of transparency, each State party should report to the Secretary-General of the United Nations the environmental standards to be observed when the mines are destroyed.	**Russia is not a Party**

Reference List - Annex 3 Multilateral agreements in the field of environmental security

United Nations Declaration on the Rights of Indigenous Peoples	Article 30 1. Military activities shall not take place in the lands or territories of indigenous peoples, unless justified by a relevant public interest or otherwise freely agreed with or requested by the indigenous peoples concerned. 2. States shall undertake effective consultations with the indigenous peoples concerned, through appropriate procedures and in particular through their representative institutions, prior to using their lands or territories for military activities.	**Russia abstained in 2007**
Convention on Cluster Munitions (2008)	States are obliged to report the environmental standards used in their programme for destruction. Any request for extension of the time frame for destruction should contain an evaluation of the environmental implications of the proposed extension	**Russia is not a Party**
Convention on the prevention of marine pollution by dumping of waste and other matter	Article XII. The Contracting Parties pledge themselves to promote, within the competent specialized agencies and other international bodies, measures to protect the marine environment against pollution caused by: ...agents of chemical and biological warfare; It clearly states that it is not applicable to "vessels and aircraft entitled to sovereign immunity under international law" while placing an obligation on the flag States to "ensure by the adoption of appropriate measures that such vessels and aircraft owned or operated by it act in a manner consistent with the object and purpose of this Convention" and to "inform the [International Maritime] Organization accordingly".	**Russia ratified in 1975**

250 Environmental security refers to the concept of environmental security as including a variety of issues involving the role that the environment and natural resources can play across the peace and security continuum, and their relationship to human wellbeing, development and security, including the environmental causes and drivers of conflict, the environmental impacts of conflict, environmental recovery and post-conflict peacebuilding.