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## CLIMATE CHANGE IN RUSSIA

### ■ ANALYSIS

Climate Policy Constraints: Yet Another Negative Reverberation of Russia's War in Ukraine?

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Climate Change, Desertification, and Water Stress in Kalmykia

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### Abstract

Prior to Russia's invasion of Ukraine in February 2022, the Russian government was taking modest but meaningful steps to develop its domestic climate policy, prompted in part by incentives and pressures from the international market. Since then, however, Russia's war in Ukraine has heightened obstacles to addressing climate change: it has reinforced the importance of fossil fuel exports, further stifled climate activism at home, and increased impediments to international cooperation. The war's longer-term impact on decarbonization remains uncertain.

The effects of climate change are being felt across Russia's diverse ecological regions. The year 2020 was the hottest on record in Russia, while Rosgidromet, the country's meteorological service, reported in 2018 that temperatures in Russia are rising 2.5 times faster than the global average (Rosgidromet 2018). In 2020, sea ice along the Northern Sea Route reached a record low; thawing permafrost in Russia's northern regions has caused methane to be released, as well as disease outbreaks (such as anthrax) and sinkholes.

Shortly before Russia's full-scale invasion of Ukraine in February 2022, the Russian government was at last planning some meaningful policy measures to reduce the country's greenhouse gas emissions, prompted in part by pressure from impending policy changes by the European Union. However, the self-induced crisis of the war and Russia's resulting political and economic isolation have disrupted these climate policy plans. While the role of oil and gas exports in the Russian economy is a significant factor shaping the country's climate policy, we argue that a far more multifaceted and complex set of interests shape the Russian government's approach to climate policy. Interests are shaped by short-term thinking about what is economically advantageous and by Russia's desire to regain its position as a great power internationally. These interests are promoted by and channeled through a narrow selectorate in the authoritarian system that establishes policy priorities for the country. Prior to Russia's war in Ukraine, several factors emerged that appeared to have the potential to facilitate a somewhat more ambitious climate policy. However, the war has exacerbated already unfavorable conditions, making it even less likely that the Russian government will make a serious effort to address climate change.

### Climate Policy Prior to Russia's Invasion of Ukraine

In many ways, Russia's weak engagement with domestic climate policy is overdetermined, due to its economic

dependence on fossil fuel exports and significant overlap between political and economic elites in a regime in which a narrow range of actors make key decisions. Prior to 2022, however, Russia had gradually institutionalized some climate policy measures, notably when either the country's material interests or international reputational factors offered incentives for action. Official policy was modestly complemented by the efforts of some economic actors investing in efficiency, risk management, or reputational protection.

In 2021, the Russian government adopted a long-term strategy for diversifying economic development and reducing greenhouse gas emissions by 2050 (Government of Russia 2021). This low-carbon development strategy was more ambitious than observers had expected based on previous drafts. The preferred "intensive scenario" envisioned a reduction in net GHG emissions of 60% from the current level by 2050—a significant improvement over the business-as-usual scenario, which anticipated that emissions would continue to increase beyond 2050. The intensive strategy anticipated that Russia would achieve carbon neutrality by 2060 (Davydova 2021). The strategy also listed a variety of policy measures, ranging from promoting low-carbon technologies to developing green finance to constructing a system of public non-financial reporting. In July 2021, the Russian government also passed a law mandating greenhouse gas emissions reporting for some companies, a decision that was hailed by one government official as "the first step towards carbon regulation in Russia" (Reuters 2021a). Efforts to promote Russia's climate policy from below also advanced incrementally through the work of activists, NGOs, and some regional governments. Over the past ten years, a small grassroots climate movement has emerged in Russia, especially among youth. In addition, even major corporations in Russia's natural resource sector have faced pressure from

international partners, lenders, and shareholders to, at a minimum, disclose—and sometimes reduce or offset—their carbon emissions.

Prior to the war, international economic incentives were a major factor driving attention to climate policy. Importantly, the EU's forthcoming Carbon Border Adjustment Mechanism (CBAM)—initially set to launch in 2023, but now delayed until 2026—was projected to have a greater impact on Russia than on any other exporter to the EU (Reuters 2021b). The policy will impose a carbon price on EU imports from energy-intensive industries. Just prior to Russia's invasion of Ukraine, it was estimated that \$10 billion of Russian exports to the EU, including iron, steel, aluminum, and fertilizers, would be affected by CBAM (Petkova 2022).

### **Russia's War in Ukraine: Short-Term Disruption and Long-Term Shock**

Russia's war in Ukraine has already had significant effects on climate policy and these continue to unfold. The war has pushed climate policy off the agenda while significantly increasing both the regime's authoritarianism and impediments to international cooperation. Many preexisting obstacles to developing climate policy have grown more entrenched since February 2022: the regime now relies even more heavily on natural resources for revenue; the selectorate for policy priorities is further narrowed and the space for constructive actors on climate has shrunk; and Russia's image of itself as a beleaguered and disrespected great power has come to dominate the political discourse.

#### *Economic Sanctions and Changing Energy Markets*

Fearing the economic effects of sanctions, the Russian government in March 2022 approved the Plan for the Development of the Economy under External Sanctions, which suspended or postponed a number of environmental standards and reporting requirements (Government Commission on Enhancing the Sustainability of the Russian Economy 2022). The government decided to delay the implementation of some environmental and climate regulations that could have been onerous to business under the conditions of economic sanctions (RSPP 2022). Regional experimentation with climate projects seems to have stalled, possibly due to the lack of pressure from multinational partners and investors. In addition, sanctions may make the EU's CBAM less capable of forcing changes to Russian industry through tariffs.

Due to the complicated dynamics of sanctions on the Russian economy, the significance of fossil fuels for the Russian economy has thus far only grown. A May 2023 document from the Russian Ministry of Finance indicates a more-than-20-percent increase in the ruble value of oil and gas exports in the federal budget (Minis-

try of Finance 2023). In 2022, oil and gas exports played an even more significant role in the Russian economy, in percentage terms, than they had before the war. At the same time, new energy projects involving Western partners are now less likely to move forward (International Energy Agency 2023), as the major multinational oil and gas companies, including BP, Shell, and Exxon, pulled their investments from Russia in the early weeks of the war (De Groot 2022; Wilson and Hume 2022).

At this point, the most significant—and uncertain—way in which Russia's war impacts efforts to address global climate change is its disruption of global energy markets, particularly European ones. European consumption of Russian oil and gas has already dwindled, giving additional impetus to the transition to renewable energy, including nuclear energy, in some places and prompting a search for other sources of fossil fuels or a return to domestic coal in others. In the long run, the rupture between Russia and European states on energy is likely to accelerate the green transition (European Commission 2022). Frans Timmermans, the EU commissioner responsible for the European Green Deal, stated that the war is “helping us understand that we need to move quicker in terms of renewable energy” (Petrequin 2023).

For the first year of the war, Russia successfully made up for the shortfall in its fossil fuel export volumes to the European market—occasioned by the EU price cap on Russian oil and gas (imposed in December 2022) and the ban on Russian refined oil imports (which went into effect on February 5, 2023)—by diverting oil exports to non-Western countries. Initially, these exports went primarily to India, China, and Turkey, but in 2023 those markets have increasingly been replaced by Egypt and other Global South markets, as well as “unknown destinations” (Centre for Research on Energy and Clean Air 2023; Adolfsen et al. 2023). These alternative export destinations notwithstanding, Russian oil and gas revenues may be starting to decline, as the price cap has pushed prices down and there is a growing “glut” of Russian oil products on the market that are struggling to find purchasers (Centre for Research on Energy and Clean Air 2023; Horton and Palumbo 2023).

#### *International Climate Diplomacy*

The international context for climate policy has been destabilized by the war in Ukraine. Global leaders have expressed determination to prevent the war from undermining international efforts to address climate change. In June 2022, UN Secretary-General Antonio Guterres captured this dynamic, stating: “The sense of urgency in the debate on climate has, of course, suffered with the war in Ukraine. ... But I think this war has demonstrated one thing: How fragile is the world in its dependence on

fossil fuels” (Ritter 2022). The Umbrella Group, a coalition of non-EU developed countries operating under the Paris agreement, expelled Russia (Farand and Lo 2022). The Arctic Council, a key venue for cooperation on climate research, suspended operations as member states refused to participate under Russia’s chairmanship, which ended in May 2023 (US Department of State 2022). In March 2022, the Ukrainian government demanded that Russia be excluded from a number of international environmental agreements, including the UNFCCC (Government of Ukraine 2022). International scientific cooperation has likewise been disrupted, and Russian scientists have begun to lose access to the equipment and data necessary for continued climate monitoring (Doose, Vorbrugg, and Davydova 2022).

While Russia has never been a leader in global climate negotiations, the country has been further marginalized by Western powers at UNFCCC meetings, although it continues to work closely with such states as China, India, and South Africa (RBC 2022; Finmarket 2022). Since 2015, in the wake of Russia’s annexation of Crimea, the Russian delegation has used climate talks to pursue the lifting of sanctions. It has done so, in part, by arguing that “artificial restrictions” such as sanctions are impeding the technology transfer necessary to achieve the country’s climate goals, rhetoric that has only intensified since Russia’s full-scale invasion of Ukraine (Russian Federation Delegation 2022). At the same time, government discourse pointing to Russia’s need for “environmental sovereignty” is becoming more widespread (Gryzlov 2022).

### *Russian Climate Activism*

Despite facing increasing state repression, many environmental NGOs and climate activists issued anti-war statements following the invasion. Greenpeace Russia issued a call for peace (Greenpeace Russia 2022), while Vladimir Sliviyak of Ecodefense supported sanctions against the country (Democracy Now 2022). At the same time, the anti-activist repression that had started

in 2011 increased dramatically. Many climate activists, particularly younger activists, left the country. Arshak Makhichyan, Russia’s most prominent youth climate activist, was stripped of his citizenship in October 2022 (Novaya Gazeta Europe 2023). The WWF was labeled a foreign agent in March 2023, and the Ministry of Justice deemed Greenpeace an “undesirable organization” in May 2023 (The Moscow Times 2023; Meduza 2023; Zerkalo 2022). Despite this unfavorable climate, digital activism remains possible. The Russian Socio-Ecological Union maintains an active stream of press releases on climate science and policy (RSEU 2023a), as well as monitoring pressure on Russian environmental activists (RSEU 2023b).

Internationally, Russia remains a target of international climate activism. Criticism of the country’s weak climate policy and its war intermingled at COP 27 in Sharm-el-Sheik. The Climate Action Network denounced the Russian delegation for lobbying for nuclear power while putting Ukrainian nuclear power plants at risk, for using fossil fuel revenues to finance the war in Ukraine, and for causing almost 34 million tons of GHG emissions as a result of the war (Climate Action Network 2022). In addition, Russian activists in exile continue to place pressure on the regime. In September 2022, a group of plaintiffs—including Ekozashita, the Moscow Helsinki Group, and 18 individuals—initiated a lawsuit at Russia’s Supreme Court over what they see as Russia’s failures to meet its pledge to the 2015 Paris climate agreement (Lebedev 2022).

When we take all of these developments into account, it is clear that in addition to the human devastation directly caused by Russia’s war of aggression in Ukraine, another casualty of the war (at least in the short term) is any hope of Russia developing constructive climate change mitigation policies. Paradoxically, though, as many have observed, the war is likely to result in many Western industrial states—particularly in Europe, but also, to some extent, in North America—hastening their transitions to low-carbon economies.

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### *References*

- Adolfsen, Jakob Feveile, Rinalds Gerinovics, Ana-Simona Manu, and Adrian Schmith. 2023. “Oil Price Developments and Russian Oil Flows since the EU Embargo and G7 Price Cap.” 2/2023. ECB Economic Bulletin. European Central Bank. [https://www.ecb.europa.eu/pub/economic-bulletin/focus/2023/html/ecb.ebbox202302\\_02-59c965249a.en.html](https://www.ecb.europa.eu/pub/economic-bulletin/focus/2023/html/ecb.ebbox202302_02-59c965249a.en.html).
- Centre for Research on Energy and Clean Air. 2023. “Tracking the Impacts of EU’s Oil Ban and Oil Price Cap.” Centre for Research on Energy and Clean Air. May 9, 2023. <https://energyandcleanair.org/russia-sanction-tracker/>.

- Climate Action Network. 2022. "Fossil Day 7: From Russia with Love (and Smoke!)." Climate Action Network. November 16, 2022. <https://climatenetwork.org/resource/from-russia-with-love-and-smoke/>.
- Davydova, Angelina. 2021. "России назначили дату углеродной нейтральности." October 6, 2021. <https://www.kommersant.ru/doc/5018693>.
- De Groot, Michael. 2022. "Western Oil Companies Ditching Russia Is a New Twist on a Familiar Pattern." *Washington Post*, March 7, 2022. <https://www.washingtonpost.com/outlook/2022/03/07/western-oil-companies-ditching-russia-is-new-twist-familiar-pattern/>.
- Democracy Now. 2022. "Russian Environmentalist Speaks Out on Putin's Attack on Antiwar Protesters & Independent Media." Democracy Now! March 4, 2022. [https://www.democracynow.org/2022/3/4/russia\\_antiwar\\_protests\\_protesters\\_crackdown\\_ukraine](https://www.democracynow.org/2022/3/4/russia_antiwar_protests_protesters_crackdown_ukraine).
- Doose, Katja, Alexander Vorbrugg, and Davydova, Angelina. 2022. "Russian Climate Action and Research Is Collateral Damage in Putin's War on Ukraine." Climate Home News. May 26, 2022. <https://www.climatechangenews.com/2022/05/26/russian-climate-action-and-research-is-collateral-damage-in-putins-war-on-ukraine/>.
- European Commission. 2022. "Commission Steps up Green Transition Away from Russian Gas." Text. European Commission – European Commission. November 9, 2022. [https://ec.europa.eu/commission/presscorner/detail/en/ip\\_22\\_6657](https://ec.europa.eu/commission/presscorner/detail/en/ip_22_6657).
- Farand, Chloé, and Joe Lo. 2022. "UN Climate Change Negotiating Bloc Ejects Russia, Condemning Its Invasion of Ukraine." Climate Home News. March 10, 2022. <https://www.climatechangenews.com/2022/03/10/un-climate-change-negotiating-bloc-rejects-russia-condemning-its-invasion-of-ukraine/>.
- Finmarket. 2022. "Торосов: На COP27 Мы Отстояли Принцип Недопустимости Дискриминации Технологий Снижения Выбросов." Finmarket.Ru. November 23, 2022. <http://www.finmarket.ru/interview/Default.asp?id=5846530>.
- Government Commission on Enhancing the Sustainability of the Russian Economy. 2022. "ПЛАН Первоочередных Действий По Обеспечению Развития Российской Экономики в Условиях Внешнего Санкционного Давления (Plan of Initial Actions to Develop the Russian Economy under Conditions of External Sanctions)." Government of the Russian Federation. <http://government.ru/rugovclassifier/901/events/>.
- Government of Russia. 2021. "Strategy for the Socio-Economic Development of the Russian Federation with Reduced Greenhouse Gas Emissions until 2050."
- Government of Ukraine. 2022. "Cabinet of Ministers of Ukraine – Ministry of Ecology and Natural Resources: Ukraine Demands to Exclude Russia from International Environmental Bodies and Agreements." March 5, 2022. <https://www.kmu.gov.ua/en/news/mindovkilliya-ukrayina-vimagaye-viklyuchiti-rosiyu-z-mizhnarodnih-prirodzahisnih-organiv-ta-ugod>.
- Greenpeace Russia. 2022. "Гринпис призывает к миру." *Greenpeace в России* (blog). February 28, 2022. <https://greenpeace.ru/news/2022/02/28/grinpis-prizyvaet-k-miru/>.
- Gryzlov, Boris. 2022. "Борис Грызлов – Об Экологическом Суверенитете России." Российская Газета. January 21, 2022. <https://rg.ru/2022/01/21/boris-gryzlov-ob-ekologicheskoy-suverenitete-rossii.html>.
- Horton, Jake, and Daniele Palumbo. 2023. "Russia Sanctions: What Impact Have They Had on Its Oil and Gas Exports?" *BBC News*, January 26, 2023, sec. Reality Check. <https://www.bbc.com/news/58888451>.
- International Energy Agency. 2023. "Gas Market Report, Q2-2023." OECD. <https://doi.org/10.1787/c49341fc-en>.
- Lebedev, Filipp. 2022. "Russia's First Climate Lawsuit Filed over Greenhouse Emissions." *Reuters*, September 13, 2022, sec. Europe. <https://www.reuters.com/world/europe/russias-first-climate-lawsuit-filed-over-greenhouse-emissions-2022-09-13/>.
- Meduza. 2023. "Russian Ministry of Justice Declares World Wildlife Fund, Economist Sergey Guriev 'Foreign Agents.'" Meduza. March 10, 2023. <https://meduza.io/en/news/2023/03/10/russian-ministry-of-justice-declares-world-wildlife-fund-economist-sergey-guriev-foreign-agents>.
- Ministry of Finance. 2023. "Svedeniia o formirovanii i ispol'zovanii dopolnitel'nykh neftegazovykh dokhodov federal'nogo byudzheta v 2018-2023 godu." minfin.gov.ru. May 4, 2023. [https://minfin.gov.ru/ru/document?id\\_4=122094-svedeniya\\_o\\_formirovanii\\_i\\_ispolzovanii\\_dopolnitelnykh\\_neftegazovykh\\_dokhodov\\_federalnogo\\_byudzheta\\_v\\_2018-2023\\_godu](https://minfin.gov.ru/ru/document?id_4=122094-svedeniya_o_formirovanii_i_ispolzovanii_dopolnitelnykh_neftegazovykh_dokhodov_federalnogo_byudzheta_v_2018-2023_godu).
- Novaya Gazeta Europe. 2023. "Family of Climate Activist Makichyan Stripped of Russian Citizenship, Ordered to Leave Country within 3 Days." Novaya Gazeta Europe. February 2, 2023. <https://novayagazeta.eu/articles/2023/02/02/family-of-climate-activist-makichyan-stripped-of-russian-citizenship-ordered-to-leave-country-within-3-days-en-news>.



- Petkova, Mirela. 2022. "Weekly Data: EU's CBAM to Impact Russia, China and the UK the Most." *Energy Monitor* (blog). February 7, 2022. <https://www.energymonitor.ai/policy/carbon-markets/eus-cbam-to-impact-russia-china/>.
- Petrequin, Samuel. 2023. "EU Climate Czar: Putin's War Accelerated Green Transition." AP NEWS. February 21, 2023. <https://apnews.com/article/russia-ukraine-putin-politics-european-union-europe-b38199c0e8410df19274be163906b36f>.
- RBC. 2022. "COP27: как проходил и чем запомнился климатический саммит ООН." РБК Тренды. November 24, 2022. <https://trends.rbc.ru/trends/green/637f8bf99a79477610d31ce5>.
- Reuters. 2021a. "Russia's Putin Signs Law to Curb Greenhouse Gas Emissions." July 2, 2021. <https://www.reuters.com/business/environment/russias-putin-signs-law-curb-greenhouse-gas-emissions-2021-07-02/>.
- ———. 2021b. "EU's Planned Carbon Border Tax to Impact Russia the Most -Study." *Reuters*, September 1, 2021, sec. Environment. <https://www.reuters.com/business/environment/eus-planned-carbon-border-tax-impact-russia-most-study-2021-09-01/>.
- Ritter, Karl. 2022. "UN Chief Worries Ukraine War Overshadowing Climate Fight." AP NEWS. June 1, 2022. <https://apnews.com/article/russia-ukraine-politics-stockholm-antonio-guterres-adc27e51655120fba959cf96e1e7d643>.
- Rosgidromet. 2018. "Doklad ob osobennostiakh klimata na territorii Rossijskoj Federatsii za 2017 god (A Report on Climate Features on the Territory of the Russian Federation in 2017)." Moskva: Rosgidromet. <https://cc.voeikovmgo.ru/images/dokumenty/2020/o-klimat-rf-2019.pdf>.
- RSEU. 2023a. "Климатические Действия." 2023. [https://rusecounion.ru/ru/klimat\\_actions](https://rusecounion.ru/ru/klimat_actions).
- ———. 2023b. "Review of Episodes of Pressure on Defenders of Nature and Ecological Rights in December 2022 (Обзор Эпизодов Давления На Защитников Природы и Экоправ в Декабре 2022 Года)." January 18, 2023. <https://rusecounion.ru/ru/ehrd-dec2022>.
- RSPP. 2022. "РСПП просит отложить проведение эксперимента по ограничению выбросов парниковых газов в Сахалинской области — Новости РСПП." РСПП. March 25, 2022. <https://rspp.ru/events/news/rspp-prosit-otlozhit-provedenie-eksperimenta-po-ogranicheniyu-vybrossov-parnikovyx-gazov-v-sakhalins-623d91d9d3fdf/>.
- Russian Federation Delegation. 2022. "Russian Federation – High-Level Segment Statement COP 27 | UNFCCC." UNFCCC. November 16, 2022. <https://unfccc.int/documents/623903>.
- The Moscow Times. 2023. "Greenpeace Russia Closes After Being Banned as 'Undesirable' Group – The Moscow Times." May 19, 2023. <https://www.themoscowtimes.com/2023/05/19/greenpeace-russia-closes-after-being-banned-as-undesirable-group-a81208>.
- US Department of State. 2022. "Joint Statement on Arctic Council Cooperation Following Russia's Invasion of Ukraine." *United States Department of State* (blog). March 3, 2022. <https://www.state.gov/joint-statement-on-arctic-council-cooperation-following-russias-invasion-of-ukraine/>.
- Wilson, Tom, and Tim Hume. 2022. "Exits by BP and Shell from Russia Put Pressure on Peers to Follow Suit." *Financial Times*, February 28, 2022. <https://www.ft.com/content/d85c2133-8917-4a00-8fba-6cef570ed5b7>.
- Zerkalo. 2022. "В Госдуме РФ Потребовали Признать Greenpeace Нежелательной Организацией. В Greenpeace Недоумевают." November 8, 2022. <https://zerkalo.com/news/world/25701.html?vk>.

## ANALYSIS

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### Abstract

In Russia as a whole, climate change has led to higher temperatures, permafrost thawing, human health impacts due to extreme heat, and higher incidence of forest fires and other natural disasters, among other country-wide consequences. Warming associated with a changing climate is best viewed as a risk multiplier that will exacerbate existing environmental stresses in locally nuanced ways. The most significant impacts of climate change in the Republic of Kalmykia, located in Russia's southwest, are distinct from those visible nationally and include desertification and increased pressure on an already low-quality water supply.

### A Changing Climate in Russia's Southwest

Kalmykia is a small ethnic republic in Russia's southwest. More than 80 percent of the republic's territory is semi-desert or desert. The desert areas are characterized in places by sand dunes and sparse vegetation. In between can be found herds of sheep and cattle, though these herds' numbers have been in decline since the collapse of the Soviet planned economy. The republic's soil is saline, the product of historical deposits from the Caspian Sea and a shallow water table. The intertwined issues of desertification and water stress in Kalmykia have been exacerbated in recent years by global warming, which causes more frequent thawing in the wintertime and higher summertime temperatures. This, in turn, has been destabilizing the republic's fragile ecosystem, adversely affecting pastoralist practices and increasing the evaporation of limited surface water. As elsewhere in Russia and globally, climate change is in Kalmykia a risk multiplier that compounds existing environmental issues and presents challenges for local communities, which must evolve and adapt to such change. Kalmykia's climate—which is continental, with long, warm, dry summers and harsh winters—has warmed in recent decades, in turn exacerbating anthropogenic changes that have resulted from development and societal practices initiated during the Soviet period and continued since 1991.

### Desertification during the Soviet Period and Thereafter

Traditionally nomads, Kalmyks were forced to abandon this practice in the 1920s and adopt collective farming, characterized by intensive mechanized exploitation of the soil and mandated change to the types of livestock kept. Kalmyks historically pastured animals that were well

adapted to the ecosystem, including cows, camels, and horses, as well as a locally adapted breed of fat-rumped sheep.<sup>1</sup> Under the Soviets, the percentage of cattle as a share of total livestock declined, while non-Kalmyk fine-fleece sheep were introduced and increased in number; the latter's sharp hooves damaged the steppe's soil during grazing (Ochir-Goryaeva et al 2020). As elsewhere in the USSR, this environmental impact was of less importance to Moscow than economic gains, and Kalmykia became one of the leading fine-fleece wool producers in the USSR. The republic's east, known as "Black Lands" (*Russ.* Chernye Zemli) on account of not being covered with snow in the wintertime, served as pastureland not only for Kalmykia-registered livestock, but also for those from neighboring regions—including Stavropol, Dagestan, Astrakhan, and Rostov—up until the 1970s. The increase in animal numbers—by 1985 there were 3.4 million head of sheep in the republic—led to overgrazing and soil erosion, particularly in the Black Lands, where nearly half of the total head of sheep were located.

Zonn (1995), writing soon after the breakup of the USSR, noted a general disregard for the ecological consequences of development and negative impacts resulting from the Soviet Union's centrally planned economy.<sup>2</sup> He reiterated the United Nations Environmental Program's conclusion that the republic had "experienced severe desertification" (Zonn 1995, p. 348) and identified negative effects associated with desertification, including wind erosion and soil salinization (Elie 2015). As a result of these and other factors, in 2020 desertification in Kalmykia affected four times the land area that it had in 1984, increasing from 750,000 to three million hectares, or nearly half of the republic's total area of 7.6 million hectares (Yuferev et al 2023).

1 In 1913, the numbers of animals pastured on Kalmyk lands were as follows: one million sheep, 300,000 cattle, 200,000 horses, and 20,000 camels (Zonn 1995).

2 The Kalmyks' deportation between 1943 and 1957 for supposed collaboration with the Nazis also had a negative impact on soil quality: "The Russian population that remained during the intervening period damaged pasture condition" (Zonn 1995, p. 352).

Babenko (2021) evocatively describes the results of desertification in the republic: “an encroaching sea of sand...overtaking farmers’ camps, swallowing their animals’ food supplies.” As a farmer described his and his family’s prospects, echoing the group’s 1943 deportation to Siberia, “nature itself is forcing us to leave.” The results of desertification are manifold and include the outmigration of Kalmyks from rural areas to cities in the republic and beyond. In Moscow, where an estimated 20,000 to 40,000 Kalmyks live today, Kalmyk migrants note the challenges of development and lack of economic opportunity in the rural areas of Kalmykia, which have been adversely affected by desertification and the foreclosure of pastoralist livelihoods (Holland and Churyumova 2023).

### Warming and Water Stress in Kalmykia

Kalmykia’s water supply is generally unreliable. Wasteful irrigation practices and improper canal construction during the Soviet period have compounded the salinization that historically resulted from the inundation of Kalmykia’s land area by the Caspian Sea and the evaporation of surface water (Zonn 1995). The result is a lack of access to potable water, particularly for rural residents. In 2012, those living in rural areas of Kalmykia consumed an average of eight liters of water per day, compared to 300 liters across Russia (Sangadzhiev and Onkaev 2012). Although money was allocated from the federal budget to build water pipelines in Kalmykia—and on August 28, 2015, Kalmykia’s head, Alexei Orlov, reported to Russian President Vladimir Putin on the completion of this federal project in a television broadcast—the pipelines were never in fact completed. In 2019, when Orlov resigned, a criminal case was opened against some members of his government over the embezzlement of 300 million rubles from the federal budget earmarked for this project.

The problem remains acute today, as only 7.4 percent of Kalmykia’s population has access to potable water. People across Kalmykia’s villages purchase water from water trucks, but water scarcity prevents them from improving their economic situation by growing vegetables or keeping animals in their yards. This lack of access to sufficient water also contributes to migration from villages to urban places or out of the republic entirely, among other environmentally related “push” factors spurring outmigration from Russia’s south (Reuveny 2007; Churyumova and Holland 2023). At the republic level, water scarcity is a key factor that constrains the development of the agrarian sector. There are several aquifers across the republic, but their high salinity means they cannot be widely used to address issues of water stress and shortage.

### The Lack of Government Response to Climate Change in Kalmykia

In the years immediately following the breakup of the USSR, Kalmykia’s government declared a state of emergency, maintaining that the republic had become “the first desert in Europe.” The worst-affected areas were in the republic’s east, pushing many families to move westward toward the republic’s capital, Elista—a form of climate-related migration. Under the leadership of Kirisan Ilyumzhinov (in power as Kalmykia’s leader from 1993 to 2010), the republic’s government implemented an anti-desertification program, with some success. Within the framework of a newly launched National Action Program to Combat Desertification, Kalmykia’s government designated the Black Lands, which contained the “first man-made desert in Europe,” as a nature reserve and carried out the large-scale planting of shrubs that are resistant to heat and require little water, whose roots help support the growth of pasture grasses (Ivanov and Perera 1997). The fact that the nature reserve recovered substantial vegetation by 2011 was attributed both to the success of the National Action Program and to the decrease in the number of livestock grazing in the area (Ochir-Goryaeva et al 2020). The situation has deteriorated sharply in the past decade, however, with the result that the level of desertification today is four times what it was in 1984 (Yuferev et al 2022). This setback is largely the product of an increase in livestock numbers due to a state-sponsored program in 2005–2010 to support the agricultural sector. By 2017 the number of cattle in Kalmykia stood at 4.7 million (eighth among Russia’s regions), while that of sheep and goats was 2.5 million (second among Russia’s regions) (Namrueva 2022: 108).

Ilyumzhinov’s successor, Alexei Orlov, tried to maintain high livestock numbers, turning the republic into a “meat belt zone” (*Russ.* myasnoi poyas) while simultaneously working to restore degraded soil within the framework of the federal program “Development of Land Reclamation for Agricultural Purposes in Russia (2014–2020).” The republic was unable to achieve either of these aims; rather, encouraged by the local government to increase their livestock numbers, herders abandoned pasture rotation schemes (*Russ.* pastbishcheborot) and overgrazed, thus exposing the soil to additional anthropogenic stress. Batu Khasikov, who succeeded Orlov in 2019, has presided over a reclamation program since 2020, though it is small in scope; the goal is to plant 7,000 hectares with shrubs to stop further encroachment by the desert.

Khasikov’s government has thus offered only limited plans for combating desertification and has failed to solve the water supply issue (due in part to inadequate funds), mainly leaving it to citizens themselves. This abdication of responsibility raises a question about individuals’ environmental behaviors at the grassroots level. Despite the collapse



of the Soviet system more than three decades ago, people in Kalmykia have retained a vertical type of collectivist mentality, expecting the authorities to solve problems on the ground—including environmental ones. People understand well the precarious ecological situation in the republic and the importance of pro-environmental actions. But what is striking, drawing on research conducted in 2011 by a group of UK-based scholars, is Kalmyks' "inability to conceive of a personal role in improving the environment" (Waylen et al 2012: 1130). What was true a decade ago remains true today: many people blame the local government for inaction and failure to mitigate the negative effects of climate change. The mismatch between pro-environmental attitudes and ambivalent behaviors is arguably related to the lack of a sense of personal agency when it comes to pro-environmental action at the community level.

## Conclusion

Kalmykia is the driest region in the southern part of European Russia, with temperatures reaching about 40

degrees Celsius in the summer. Despite the region not being conducive to large-scale livestock agriculture, both national and republic-level governments have introduced anthropogenic stressors into the ecosystem with the aim of increasing agricultural productivity, resulting in further soil erosion, salinization, shrinking water resources, and the spread of desertification across the republic. Some predictions suggest that owing to climate change and the gradual westward movement of sand, the entire Lower Volga steppe, which covers the whole of Kalmykia, will gradually turn into a desert (Sangadzhiev et al 2020). Despite ongoing and accelerating climate change impacts that affect desertification and water access, the Republic of Kalmykia has developed neither targeted adaptation policies nor quantitative assessments of climate impacts on the regional economy. Region-focused research is critical to understanding the locally specific effects of climate change throughout the territory of the Russian Federation.

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## References

- Babenko, Maxim. 2021. "Surviving in Isolation, Where the Steppe Has Turned to Sand." *New York Times*, May 10, 2021. <https://www.nytimes.com/2021/05/10/travel/kalmykia-russia.html>.
- Churyumova, Elvira and Edward C. Holland. 2023. "Internal migration from a Russian republic: the everyday experiences of Kalmyk migrants in Moscow." *Caucasus Survey* 11 (1): 85–105.
- Elie, Marc. 2015. "Formulating the global environment: Soviet soil scientists and the international desertification discussion, 1968–91." *Slavonic and East European Review* 93 (1): 181–204.
- Holland, Edward C. and Elvira Churyumova. 2023. "Voluntary exile: Kalmyk migrants' views of Kalmykia from Moscow." *Decentering Russia*. [https://therussiaprogram.org/voluntary\\_exile](https://therussiaprogram.org/voluntary_exile)
- Ivanov, Andrei and Judith Perera. 1997. "Russia: Europe's first desert in the making." *Inter Press Service Environment Bulletin*, June 14, 1997. <https://www.ipsnews.net/1997/06/ips-environment-bulletin-russia-europes-first-desert-in-the-making/>.
- Namrueva, Lyudmila V. 2022. "Ekologicheskaya situatsiya v sovremennoi Kalmykii: mezhdistsiplinarnyi analiz." *Novye Issledovaniya Tury* 2: 102–114.
- Ochir-Goryaeva, Maria A., Eileen Eckmeier, and Viktor Weizenegger. 2020. "Dinamika protsessov opustynivaniya v Respublike Kalmykiya s serediny 1980-kh gg. do nastoyashego vremeni." *Oriental Studies* 13 (6): 1613–1622.
- Reuveny, Rafael. 2007. "Climate change-induced migration and violent conflict." *Political Geography* 26 (6): 656–673.
- Sangadzhiev, Mergen M. and Viktor A. Onkaev. 2012. "Voda Kalmykii—ekologiya i sovremennoe sostoyanie." *Vestnik Kalmytskogo Universiteta* 3 (15): 18–25.
- Sangadzhiev, Mergen M., Lyudmila Kh. Sangadzhieva, Elya A. Tsatkhlangova, Lyudmila I. Muchkinova, and Lidia Kh. Goriaeva. 2020. "Vliianie Chernykh Zemel' na obrazovanie Sakhel'skogo poiasa v Kalmykii." *Astrakhanskii Vestnik Ekologicheskogo Obrazovaniia* 5 (59): 101–106.
- Waylen, Kerry A., Anke Fischer, Philip J.K. McGowan, and E.J. Milner-Gulland. 2012. "Interactions between a collectivist culture and Buddhist teachings influence environmental concerns and behaviors in the Republic of Kalmykia, Russia." *Society & Natural Resources* 25 (11): 1118–1133.
- Yuferev, V. G., V.A. Silova, and N. A. Tkachenko. 2022. "Remote monitoring of desertification in Kalmykia." *Arid Ecosystems* 13 (1): 39–44.
- Zonn, Igor. 1995. "Desertification in Russia: problems and solutions (an example in the Republic of Kalmykia-Khalmg Tangch)." In *Desertification in Developed Countries* (pp. 347–363), David A. Mouat and Charles F. Hutchinson, eds. Dordrecht: Kluwer Academic Publishers.

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