



## The Role of Russian Federation Government Policy in Addressing the Impacts of Global Climate Change

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### ABSTRACT

Climate change has become a pressing global issue, with vulnerable countries such as the Russian Federation facing significant challenges. This research aims to explore the role of Russian government policies in addressing the impacts of global climate change. The research method used is a literature study that includes data analysis from various reliable sources. The results and discussion highlight that Russia is vulnerable to climate change due to its vast territory and dependence on the fossil fuel industry. Socio-economic impacts such as heat waves, forest fires and permafrost thawing have reinforced the urgency of mitigation and adaptation measures. Recommendations include strengthening climate policies, diversifying energy sources, raising public awareness, international collaboration, and technological innovation. By addressing challenges such as lack of public awareness and limited resources, Russia can play a more proactive role in protecting the environment and creating a sustainable future.

**Keywords:** Climate Change, Government Policy, Russian Federation

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## INTRODUCTION

Climate change is a global issue that is receiving increasing attention, especially in countries that are vulnerable to its effects, such as the Russian Federation. Russia, with its vast territory and infrastructure built on permafrost, is one of the countries most vulnerable to the threat of climate change (Meckling & Allan, 2020). Since the mid-1970s, Russia has been known to warm faster than the global average, with average annual air temperatures increasing 2.5 times faster (Javeline et al., 2024). This suggests that Russia faces unique challenges in coping with the impacts of climate change, including longer and more frequent droughts, extreme rainfall, flooding, increased risk of forest fires, and loss of animal species from their native habitats (Sharmina et al., 2013).

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The Russian government has presented a plan to condition the country's economy and population to climate change. The report published by the Russian Ministry of Economic Development includes a two-year schematic plan in which in the first phase Russia will adapt to climate change until 2022 (Kochtcheeva, 2022). The aim of the plan is to "mitigate losses" from global warming and "take advantage" of rising temperatures. Russia has also adopted the 2015 Paris Agreement, even though Russian President Vladimir Putin has repeatedly rejected scientific agreements that attribute climate change to man-made emissions (Javeline et al., 2024). This shows that behind the formal policies, there is debate and uncertainty about how climate change should be addressed, including how countries like Russia should respond to this challenge.

Environmental activists in Russia have also been targeted by authorities, showing that the challenge of tackling climate change lies not only at the governmental level, but also in public participation and awareness (Henderson & Mitrova, 2020). Tens of thousands of scientists have collected a wealth of data showing that climate change is caused by human activity, highlighting the importance of limiting greenhouse gas emissions now and in the future (Denisov et al., 2019). Against this backdrop, this study aims to explore the role of the Russian Federation government's policies in addressing the impacts of global climate change, including the challenges and solutions faced, as well as how the country is responding to these challenges at the national and international levels.

## **RESEARCH METHODOLOGY**

The research method used in this study is a literature study, which involves collecting and analyzing data from existing sources. These include government reports, journal articles, and other scientific publications relevant to this topic. This literature study is designed to provide a comprehensive overview of the Russian Federation government's policy role in addressing the impacts of global climate change

## **RESULT AND DISCUSSION**

### **The Context of Global Climate Change in Russia**

According to Javeline et al. (2024), global climate change has significant impacts in Russia, both geographically and socio-economically. (1) Geographical: Russia is vulnerable to climate change impacts as most of its territory is located in areas affected by maximum climate change, both in terms of observations and predictions. Climate change has already caused permafrost thawing in Russia's Arctic region, impacting infrastructure and the environment. (2) Greenhouse Gas Emissions: Russia is one of the largest greenhouse gas emitters in the world due to its dependence on the fossil fuel industry. Therefore, mitigating greenhouse gas emissions is important for Russia in the context of global climate change. (3) Socio-Economic Impacts: Climate change has already caused significant socio-economic impacts in Russia, such as increased incidence of heat waves impacting public health, uncontrollable forest and peatland fires, and acute crop failures. This demonstrates the need for robust adaptation strategies to reduce the risk of climate change impacts in Russia. With an in-depth understanding of the global climate change

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context in Russia, the government and society in the country can take appropriate measures to reduce risks and respond to the challenges faced due to climate change (Meckling & Allan, 2020).

### **Mitigation Policy Implementation**

The implementation of climate change mitigation policies in Russia is an important step in reducing greenhouse gas emissions and minimizing the impacts of climate change (Korppoo & Kokorin, 2017). Here are some examples of mitigation policies that have been or could be implemented in Russia: (1) Energy Diversification: Russia can reduce its dependence on fossil fuels by expanding the use of renewable energy such as solar, wind and hydro energy. (2) Energy Efficiency: Improving energy efficiency in key sectors such as industry, transportation, and buildings can help significantly reduce greenhouse gas emissions. (3) Forest Management: Protecting forests and implementing sustainable forest management practices can help sequester carbon from the atmosphere and reduce emissions. (4) Public Outreach and Awareness: Educating the public about the importance of climate change mitigation and encouraging active participation in emission reduction efforts can be an effective measure. (5) Regulatory Policies: Implementing strict regulatory policies related to industrial emissions, transportation, and other sectors can help control greenhouse gas emissions. By implementing appropriate and sustainable mitigation policies, Russia can contribute significantly to global efforts to reduce the impacts of climate change and achieve the emission targets set out in international agreements.

### **Protection of Natural Ecosystems**

According to Bukvareva et al. (2019), the protection of natural ecosystems is an important part of mitigation and adaptation efforts to global climate change. In Russia, as a country with abundant natural resources, the protection of natural ecosystems plays a crucial role in maintaining environmental sustainability and reducing the impacts of climate change. Here are some steps that can be taken to protect natural ecosystems in Russia: (1) Biodiversity Conservation: Protecting endangered species and their natural habitats is an important part of protecting natural ecosystems in Russia. (2) Sustainable Forest Management: Russia has vast forests and it is important to maintain the sustainability of forests and prevent deforestation that can increase greenhouse gas emissions. (3) Environmental Outreach and Education: Raising public awareness about the importance of maintaining natural ecosystems and reducing environmentally damaging activities can help in ecosystem protection. (4) Ecosystem Restoration: Restoring ecosystems that have been degraded or damaged by climate change or human activities can help restore natural ecosystem functions. (5) Protected Area Management: Establishing and effectively managing protected areas to safeguard biodiversity and natural ecosystems is an important step in environmental protection. By taking robust and sustainable measures to protect natural ecosystems, Russia can play a significant role in

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maintaining environmental sustainability and mitigating the impacts of global climate change

### **International Cooperation**

International cooperation in addressing climate change is important, including for Russia as one of the countries with a significant role in climate change issues (Czerny, 2019). Here are some aspects of international cooperation that Russia can do: (1) Participation in International Agreements: Russia can continue to participate in international agreements related to climate change, such as the United Nations Framework Convention on Climate Change (UNFCCC) and the Paris Agreement, and comply with the agreed commitments. (2) Knowledge and Technology Exchange: Exchanging knowledge and technology with other countries on climate change mitigation and adaptation can help Russia develop effective solutions. (3) Collaborative Projects: Conducting collaborative projects with other countries to reduce greenhouse gas emissions, develop renewable energy, or protect natural ecosystems can be a concrete step in international cooperation. (4) Funding and Assistance: Receiving and providing funding and technical assistance from partner countries can help Russia implement climate change mitigation and adaptation programs. (5) International Forums and Conferences: Participating in international forums and conferences related to climate change can provide an opportunity for Russia to share experiences, demonstrate commitment, and expand cooperation networks. By strengthening international cooperation on climate change issues, Russia can contribute more effectively to global efforts to reduce greenhouse gas emissions, protect the environment, and achieve sustainable development goals (Shugurov, 2023).

### **Adaptation to Inevitable Impacts**

Adaptation to the inevitable impacts of climate change is an important step towards reducing vulnerability and increasing resilience to environmental changes that are already occurring (Javeline et al., 2024). In Russia, a country with high vulnerability to climate change, adaptation is key to maintaining the sustainability and well-being of society. Here are some adaptation measures that can be taken in Russia: (1) Disaster Resistant Infrastructure: Improving infrastructure that is resilient to natural disasters such as floods, wildfires and heat waves can help protect people and assets from the extreme impacts of climate change. (2) Early Warning Systems: Building and improving early warning systems for natural disasters such as floods, storms and heatwaves can help reduce risks and losses from extreme events. (3) Agricultural Adaptation: Developing agricultural practices that are adaptive to climate change, such as adjusting cropping patterns and selecting crop varieties that are resistant to extreme weather conditions, can help maintain food security. (4) Water Resources Management: Managing water resources sustainably and efficiently, including in terms of agricultural irrigation and drinking water supply, can help address climate change impacts on water availability. (5) Urban Adaptation: Increasing urban resilience to climate change through sustainable spatial planning, urban greening, and disaster risk management can help protect urban residents and

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infrastructure. By implementing appropriate and sustainable adaptation measures, Russia can increase the resilience of its people and ecosystems to the inevitable impacts of climate change, and prepare for the challenges of a more extreme future (Henderson & Mitrova, 2020).

### **Investment in Green Technology**

Investment in green technologies is an important step in reducing greenhouse gas emissions, improving resource efficiency, and accelerating the transition to a sustainable economy (Guo et al., 2020). In Russia, investment in green technologies can bring great benefits in reducing the impact of climate change and improving environmental resilience. Here are some areas where investments in green technologies can be made in Russia: (1) Renewable Energy: Investing in the development and utilization of renewable energy such as solar power, wind power, and bioenergy can help reduce dependence on fossil fuels and reduce greenhouse gas emissions. (2) Energy Efficiency: Investing in technologies and infrastructure that improve energy efficiency, both in the industrial and household sectors, can help reduce energy consumption and carbon emissions. (3) Sustainable Transportation: Encouraging investment in sustainable transportation such as environmentally friendly public transportation, infrastructure development for electric vehicles, and the use of alternative fuels can help reduce transportation emissions. (4) Waste Management: Investing in environmentally friendly waste management technologies, such as recycling and organic waste treatment, can help reduce greenhouse gas emissions from the waste sector. (5) Sustainable Agriculture: Investing in sustainable agriculture and environmentally friendly agricultural technologies can help reduce the carbon footprint of the agricultural sector and improve food security. By allocating resources for investment in green technologies, Russia can accelerate the transition to a low-carbon economy, improve economic competitiveness and protect the environment for future generations (Zavyalova & Studenikin, 2019). Support from the government, private sector, and civil society is crucial in driving the development of green technologies in Russia.

### **Public and Private Participation**

Public and private sector participation is critical in supporting climate change mitigation and adaptation efforts in Russia (Berezin et al., 2018). Here are some of the ways in which public and private sector participation can play a role in addressing climate change challenges: (1) Public Awareness: Raising public awareness about the impacts of climate change and the importance of mitigation and adaptation measures can help mobilize support and participation in environmental protection efforts. (2) Local Community Engagement: Involving local communities in the planning and implementation of environmental projects, such as forest management, land restoration, and disaster risk reduction, can increase the effectiveness and acceptance of such programs. (3) Private Investment: Encouraging the private sector to invest in green projects and green technologies can help accelerate the adoption of sustainable solutions

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and reduce the industry's carbon footprint. (4) Public-Private Partnerships: Building partnerships between government, the private sector, and civil society in developing environmental initiatives can create synergies and expand the positive impact of joint action. (5) Technology Innovation: Encouraging technological innovation through collaboration between the public and private sectors can help develop new solutions to address climate change challenges and accelerate the transition to a sustainable economy. By actively engaging communities and the private sector in climate change mitigation and adaptation efforts, Russia can strengthen environmental resilience, improve resource efficiency, and create a more sustainable future for future generations.

### **Policy Evaluation and Future Planning**

Policy evaluation and future planning are essential in meeting the challenges of climate change in Russia. Here are some steps that can be taken to conduct policy evaluation and plan for a more sustainable future: (1) Policy Review: Conduct a thorough review of existing policies to identify successes, weaknesses, and potential improvements in climate change mitigation and adaptation efforts. (2) Impact Evaluation: Evaluate the impact of policies on the environment, economy, and society to ensure that the implemented policies provide the desired benefits and do not cause unintended negative impacts. (3) Public Consultation: Involving the community, academics, and other stakeholders in the policy evaluation process to ensure that the proposed policies reflect the needs and aspirations of the community at large. (4) Future Planning: Formulate a long-term action plan oriented towards reducing greenhouse gas emissions, increasing environmental resilience, and adapting to climate change facing Russia. (5) Monitoring and Reporting: Establish an effective monitoring system to track policy implementation, measure progress in achieving mitigation and adaptation goals, and report transparently to the public and stakeholders. By conducting careful policy evaluations and planning sustainable future measures, Russia can strengthen its position in meeting the challenges of climate change, protecting the environment and creating a more sustainable future for the country and future generations (Khlopov, 2022).

### **Challenges and Barriers**

According to Javeline et al. (2024), in the face of climate change, Russia faces a number of challenges and barriers that need to be overcome to achieve sustainable mitigation and adaptation goals. Some of the challenges and barriers faced by Russia include: (1) Dependence on Fossil Energy Sources: Russia is one of the major producers and exporters of fossil energy sources, such as oil and gas. The main challenge is to reduce dependence on fossil energy and switch to renewable energy sources to reduce greenhouse gas emissions. (2) Political Uncertainty: Changes in government policies and political uncertainty can hinder the implementation of consistent and sustainable climate policies. (3) Environmental Resilience: Russia faces challenges in maintaining environmental resilience to climate change, including permafrost thawing, forest destruction, and increased risk of natural disasters. (4) Lack of Public Awareness: Public

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awareness of the importance of climate change mitigation and adaptation measures is low in some regions of Russia, requiring efforts to increase public understanding and participation. (5) Limited Resources: Limited resources, both financial and technical, can be an obstacle to the implementation of environmental protection policies and programs in Russia. By identifying and addressing these challenges and barriers, Russia can strengthen its climate change mitigation and adaptation efforts, protect the environment and create a more sustainable future for the country and its people.

### **Expectations and Recommendations**

In facing the challenges of climate change, there are hopes and recommendations that can be taken to strengthen mitigation and adaptation efforts in Russia. Some relevant expectations and recommendations include: (1) Strengthening Climate Policy: Russia is expected to strengthen a comprehensive and sustainable climate policy, including adopting concrete measures to reduce greenhouse gas emissions and increase resilience to climate change impacts. (2) Energy Diversification: Russia can accelerate the diversification of energy sources by increasing investment and development of renewable energy, thereby reducing dependence on fossil energy and reducing greenhouse gas emissions. (3) Raising Public Awareness: It is important to raise public awareness about climate change and the importance of mitigation and adaptation measures. Public outreach and education campaigns can help increase public understanding and participation. (4) International Collaboration: Russia can strengthen international cooperation on climate change mitigation and adaptation, and actively participate in global forums to reach agreements that benefit all parties. (5) Technological Innovation: Promoting environmentally friendly and sustainable technological innovation can help Russia reduce greenhouse gas emissions, improve energy efficiency, and meet the challenges of climate change. By implementing these recommendations and strengthening mitigation and adaptation efforts, Russia can play a more proactive role in dealing with climate change, protecting the environment and creating a more sustainable future for the country and future generations (Javeline et al., 2024).

### **CONCLUSION**

It can be concluded that the policy role of the Russian Federation government in addressing the impacts of global climate change is very important. Russia faces various challenges in reducing dependence on fossil energy sources, dealing with political uncertainty, and maintaining environmental resilience to climate change. Careful policy evaluation and comprehensive future planning are needed to ensure effective policy implementation in mitigation and adaptation to climate change. Key recommendations include strengthening climate policies, diversifying energy sources, increasing public awareness, international collaboration, and technological innovation. Challenges such as lack of public awareness, limited resources, and debates on responses to climate change need to be addressed to create a more sustainable future for Russia and future generations. By implementing these recommendations and addressing the challenges faced, Russia can

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play a more proactive role in protecting the environment, reducing greenhouse gas emissions, and creating a more sustainable future for the country and its people.

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