

Russia's Utilization of Perverse Incentives under International Agreements on Climate Change

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## **ABSTRACT**

Russia is a signatory party to the United Nations Framework Convention on Climate Change and its implementation of measures, the Kyoto Protocol, and the Paris Agreement. These agreements on climate change aim to reduce global greenhouse gas emissions and limit the effects of global warming. To reach these goals and help countries meet their greenhouse gas emission reduction targets, both agreements encourage the accounting of carbon sinks under the land use, land-use change, and forestry (LULUCF) sector. Carbon sinks can sequester a large portion of greenhouse gas emissions, and the inclusion of them under the agreements is meant to aid nations' efforts in reducing their emissions. However, the incentives of LULUCF can be utilized perversely and allow countries to carry out a climate change mitigation strategy that focuses on the utilization of carbon sinks in replacement of reducing emissions. This thesis will analyze whether Russia took advantage of perverse incentives in the LULUCF sector under the Kyoto Protocol and whether it can do the same under the Paris Agreement. First, I describe LULUCF and its role in the Kyoto Protocol and the Paris Agreement. Next, I investigate if Russia had the opportunity to utilize incentives under the LULUCF sector perversely during its implementation of the Kyoto Protocol. I analyze if and to what extent Russia perversely utilized the LULUCF sector through empirical analysis of Russia's economy, domestic policies, and forestry from the 1990s to today. Lastly, I compare the policies and regulations of the LULUCF sector under the Kyoto Protocol to those of the Paris Agreement to conclude whether Russia's utilization or lack thereof of perverse incentives under the Kyoto Protocol will replicate under the Paris Agreement. I find that perverse incentives exist under both agreements in the LULUCF sector, which Russia utilizes to justify its minimal effort in reducing carbon emission from carbon sources, primarily fossil fuels.

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## INTRODUCTION

Since the mid-20th century, humans have had an increasing impact on the climate through greenhouse gas (GHG) emissions produced from their activities. The increase in GHG emissions in the last century has led to a global warming trend. A majority of scientists have claimed that primarily anthropogenic emissions are causing this climate change. The consequences of climate change are already felt throughout the world and can become catastrophic in the next century. In an effort to mitigate these consequences, nations have come together to negotiate and implement international agreements to reduce global GHG emissions and address climate change in a multilateral way. The main goal of these international agreements on climate change is to reduce global GHG emissions and limit the effects of global warming. However, under the implementation of these agreements, emissions continue to rise. They continue to rise due to incentives under these agreements that have perversely led to increased GHG sequestration through carbon sinks under the land use, land-use change, and forestry (LULUCF) sector rather than the reduction of emissions from carbon sources. The Russian Federation, hereinafter referred to as Russia, is one of the largest producers and exporters of fossil fuels. Therefore, with one-fifth of the world's forests within its borders, Russia has a prime opportunity to take advantage of LULUCF accounting under international agreements on climate change. This thesis will analyze whether Russia took advantage of perverse incentives in the LULUCF sector under the Kyoto Protocol and whether it can do the same under the Paris Agreement.

In the first part of this thesis, I describe LULUCF and its role in international agreements on climate change, specifically the Kyoto Protocol and the Paris Agreement. Additionally, I analyze whether incentives in the accounting of LULUCF activities under the Kyoto Protocol

could be utilized perversely. After identifying the perverse incentives, I examine if and why Russia utilized them. This question is investigated through empirical analysis of Russia's economy, domestic policies, and forestry from the 1990s to today. In the second part of the thesis, I compare the policies and regulations of the LULUCF sector under the Kyoto Protocol to those of the Paris Agreement to deduce whether Russia's utilization or lack thereof of perverse incentives under the Kyoto Protocol can replicate under the Paris Agreement commitments. I shed light on the following questions: what is LULUCF and its role in international agreements on climate change? How does LULUCF affect the accounting of GHG emissions under the Kyoto Protocol and the Paris Agreement? How did Russia utilize the LULUCF sector during its commitments under the Kyoto Protocol? Did Russia utilize the incentives of the LULUCF sector perversely under the Kyoto Protocol? If so, does it have the possibility to do so again under the Paris Agreement? And lastly, what role does LULUCF play in Russia's current and future climate change mitigation efforts?

One of Russia's most significant challenges since its creation has been understanding how to manage, measure, and benefit from its expansive and diverse landmass. Within its borders, Russia contains a set of ecosystems that pose unique environmental challenges and rewards. In its 2021 National Inventory submission to the United Nations Framework Convention on Climate Change (UNFCCC), Russia states that it is the largest country globally with a territory of 17,125,000 square kilometers.<sup>1</sup> Of that 17 million square kilometers, permafrost covers 67% of the land, and forests cover more than half.<sup>2</sup> Russia possesses a geography spanning roughly 9,000 kilometers from east-west and 2,500 to 4,000 kilometers

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<sup>1</sup> *Nacional'nyj Doklad o Kadastre*, [National Inventory Report], (Moscow: Russian Federation, 2021), 13.

<sup>2</sup> *Ibid.*

north-south, which varies in landscapes from desert to frozen coastline, tall mountains, and forests to rolling steppes.<sup>3</sup> Russian leaders and their scientific counterparts have extensively debated and differed on how to deal with its massive and diverse environment to provide the most significant benefits from the land with the least amount of difficulties.

For at least four centuries, Russia has been the largest state in the world. Its great size is seen as a source of wealth, resources, power, and even invincibility for Russians. Nikolay Kosolapov, the head of the Department of International Political Problems at the Institute of World Economy and International Relations of the Russian Academy of Sciences, argued that Russia's huge territory and its climate saved not just Russia itself but all of western civilization from devastation by serving as a buffer against the impact of Tatar-Mongol expansion.<sup>4</sup> Furthermore, the onset of winter has traditionally been Russia's primary line of defense. The exemplary instance in history of cold coming to Russia's rescue is Hitler's invasion of the Soviet Union under Operation Barbarossa in June 1941. The German army, which had expected a quick summer victory, did not plan for the invasion to last into the winter. Due to not being adequately prepared for the winter, Germany was forced to withdraw from much of the territory it had captured from Russia, leading to Germany's first major military defeat in World War II and the turning point in World War II in favor of the Allied Forces.<sup>5</sup>

Russia's size and climate have been foundational in a majority of Russia's successes yet also a significant detriment to Russia's economic development. When Western European

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<sup>3</sup> Ibid.

<sup>4</sup> Nikolay A. Kosolapov, "Rossiya: v chem vse-taki sut' istoricheskogo vybora," [Russia: What is the Essence of the 'Historical Choice'], *Mirovaya ekonomika i mezhdunarodnaya otnosheniya*, [World Economy and International Relations], no. 10 (1994), 15.

<sup>5</sup> Fiona Hill and Clifford Gaddy, *The Siberian Curse: How Communist Planners Left Russia out in the Cold*, (Brookings Institution Press, 2003), 28.

countries started industrializing and modernizing during the 19th century, Russia's development stayed relatively stagnant. Leonid Milov, a prominent Soviet and Russian historian who worked at the Lomonosov Moscow State University, argues that this difference was due primarily to Russia's climate.<sup>6</sup> During the 19<sup>th</sup> century, Russia's climate impacted its growing season, leading it to be on average only 3-4 months. Comparatively, most of Western Europe's growing season was between 6-8 months.<sup>7</sup> As a result, a shorter growing season led to smaller agricultural yields and malnourished livestock, which combined made life harder to live in Russia and impeded processes of modernization and development.<sup>8</sup>

Expanding on Milov's argument, Fiona Hill and Clifford Gaddy, a former official at the U.S. National Security Council specializing in Russian and European affairs and a prominent economist specializing in Russia, argue Russia's vast size also impedes Russia's economic development.<sup>9</sup> Russia's size makes it hard to transport anything over long distances without incurring high costs. Additionally, Russia's lack of easy access to waterways and a limited quantity of warm ports makes trade with other countries difficult and costly. All of these factors combined to create a high cost of production and security for Russia.<sup>10</sup> Russia's climate and vast geography stunted the modernization and industrialization of Russia, which has influenced Russian societal and political characteristics to this day.

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<sup>6</sup> Leonid Milov, "Prirodno-klimaticheskij faktor i osobennosti rossijskogo istoriceskogo processa," [Natural and Climatic Factor and Features of the Russian Historical Process], *Voprosy istorii* 4 (1992), <https://statehistory.ru/3039/Prirodno-klimaticheskij-faktor-i-osobennosti-rossijskogo-istoricheskogo-protsesta/>.

<sup>7</sup> Milov, "Prirodno-klimaticheskij faktor i osobennosti rossijskogo istoriceskogo processa," 7.

<sup>8</sup> Ibid.

<sup>9</sup> Hill and Gaddy, *The Siberian Curse: How Communist Planners Left Russia out in the Cold*.

<sup>10</sup> Ibid.



Russia's vast lands do not only come with obstacles for its economy but also many opportunities. Russia is extremely rich in natural resources and ranks first globally in known natural gas reserves and other minerals. As of 2020, according to the International Energy Agency, Russia accounts for around 30% of the world's production of crude oil and natural gas.<sup>11</sup> This abundance has made Russia virtually self-sufficient in energy and a large-scale exporter of fossil fuels.<sup>12</sup> Oil and gas were foundational for the Soviet Union's economic growth, and they remain so for Russia. In addition to its sizable supply of fossil fuels, according to the Food and Agriculture Organization of the United Nations, Russia's forests account for an estimated one-fifth of the global forest area.<sup>13</sup> Forests cover 67% of the territory of Russia and are essential for stabilizing the climate in the country and globally.<sup>14</sup>

From the end of the Russian empire to today, Russia's natural resources have been the backbone of its economic growth. Energy revenues account for more than 80% of Russian exports abroad.<sup>15</sup> In 2019, Russia's Natural Resources and Environment Ministry estimated that the combined worth of the country's oil, gas, and other resources amounts to 60% of its gross domestic product (GDP), a value of about 55.2 trillion rubles or 844.58 billion dollars.<sup>16</sup> It has

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<sup>11</sup> International Energy Agency, *Key World Energy Statistics*, (Paris: International Energy Agency, 2020).

<sup>12</sup> Ibid.

<sup>13</sup> "Global Forest Resource Assessment 2020," *Food and Agriculture Organization of the United Nations*, <http://www.fao.org/forest-resources-assessment/2020/en/>.

<sup>14</sup> Alexander Bedritsky, "A Submission Under Other Issues Arising from the Implementation of the Work Programme of the Ad-Hoc Working Group on Further Commitment for Annex I Parties under Kyoto Protocol (AWG-KP) Land Use, Land-Use Change and Forestry (LULUCF)," *Ministry of Natural Resources and Ecology of the Russian Federation* (Moscow, 2009).

<sup>15</sup> "Russia - The World Factbook," *Central Intelligence Agency*, July 14, 2021, <https://www.cia.gov/the-world-factbook/countries/russia/>.

<sup>16</sup> Ivan Tkachev and Alina Fadeeva, "55 Trillionov v Zapase: Kak Vlasti Ocenili Vse Prirodnye Resursy Rossii," [55 Trillion in Reserve: How the Authorities Evaluated All Natural Resources

the world's largest proven natural gas reserves and is the largest exporter of natural gas. It is also the second-largest exporter of petroleum.<sup>17</sup> With an industry heavily reliant on fossil fuels, Russia has had to continuously face the consequences of its energy industry regarding fossil fuel emissions and their impact on climate change. In regards to these issues, Russia's main priority has been finding a way through which to participate cooperatively in international agreements on climate change which aim to reduce GHG emission while sustainably supporting its economy that is reliant on fossil fuels, a major contributor of climate change.

Global carbon emissions from fossil fuels have significantly increased since 1900. Since 1970, carbon dioxide (CO<sub>2</sub>) emissions have increased by about 90%, with emissions from fossil fuel combustion and industrial processes contributing about 78% of the total GHG emissions increase from 1970 to 2011.<sup>18</sup> Agriculture, deforestation, and other land-use changes have been the second-largest contributors.<sup>19</sup> After the fall of the Soviet Union in 1991, GHG emissions in Russia fell dramatically. Alexander Prishchepov, a professor at the University of Copenhagen, argues that this was due to reduced meat consumption, collapsed Soviet industries, and vast farmland areas that transformed into a massive carbon sink.<sup>20</sup> GHG emissions in the former

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of Russia], *RosBiznesConsulting*, March 12, 2019.

[https://www.rbc.ru/economics/14/03/2019/5c8931029a7947b028b8886c?from=from\\_main](https://www.rbc.ru/economics/14/03/2019/5c8931029a7947b028b8886c?from=from_main).

<sup>17</sup> "Russia - The World Factbook," <https://www.cia.gov/the-world-factbook/countries/russia/>.

<sup>18</sup> Leon E. Clarke, Kejun Jiang, Keigo Akimoto, Mustafa Babiker, Geoffrey J. Blanford, Karen Fisher-Vanden, Jean-Claude Hourcade et al., *Assessing Transformation Pathways. In: Climate Change 2014: Mitigation of Climate Change. Contribution of Working Group III to the Fifth Assessment Report of the Intergovernmental Panel on Climate Change*, No. PNNL-SA-102686, Pacific Northwest National Lab, (PNNL), Richland, WA (United States), 2015.

<sup>19</sup> *Ibid.*

<sup>20</sup> "Soviet Collapse Saved the Atmosphere from 7 Billion Tonnes of CO<sub>2</sub>," *University of Copenhagen*, November 6, 2019, <https://science.ku.dk/english/press/news/2019/soviet-collapse-saved-the-atmosphere-from-7-billion-tonnes-of-co2/>.

Soviet Union shrank by at least 7.61 billion tons of CO<sup>2</sup>-equivalent between 1992 and 2011.<sup>21</sup> However, the drop-in emissions have not correlated with a decrease in the adverse effects of climate change.

Russia, particularly the Arctic region and Siberian forests, is experiencing a rise of global warming-related annual temperatures nearly twice as fast as the world's average.<sup>22</sup> At the symposium "Russia's Clean Water" in 2019, the chief of the Urals Federal District's division of Rosgirdomet, Vladimir Lysov, claims that "Whereas the globe gets 0.18 degrees warmer over a period of ten years, Russia's climate gets warmer twice as fast, by 0.47 degrees during one decade. Global warming is most noticeable in the Arctic Region, where its pace is 0.69 degrees over ten years, which is 3.7 times faster than the global warming on average."<sup>23</sup> With a GDP that derives over 60% of its revenue from fossil fuels and a climate that is warming at rates faster than the rest of the world, a significant aspect of Russia's climate change mitigation efforts has been how it can cooperate with other international actors on ways to address climate change and reduce the effects of climate change domestically, all while continuing to rely on a fossil fuel economy.

Russia is a party to dozens of international environmental agreements. The cornerstone of global regulation of climate change is the UNFCCC. The UNFCCC was established to unite countries within the United Nations to combat climate change by reducing global GHG emissions. The two measures of implementation under the UNFCCC are the Kyoto Protocol and

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<sup>21</sup>"Soviet Collapse Saved the Atmosphere from 7 Billion Tonnes of CO<sub>2</sub>," <https://science.ku.dk/english/press/news/2019/soviet-collapse-saved-the-atmosphere-from-7-billion-tonnes-of-co2/>.

<sup>22</sup> "Climate Warming Rate in Russia Is Twice the World's Average, Says Analyst," *Telegrafnoye agentstvo Sovetskogo Soyuz*, September 24, 2019, <https://tass.com/society/1079636>.

<sup>23</sup> Ibid.

the Paris Agreement. The Kyoto Protocol and subsequently the Paris Agreement are multilateral treaties made between nations to unify the fight against rising global temperatures.<sup>24</sup> Russia is an important actor in international climate politics. Besides being the fourth largest GHG emitter in the world, Russia is a major supplier of fossil fuels and home to one of the largest carbon sinks in the world.<sup>25</sup> Consequently, Russia has various political and economic incentives for participation in these international agreements on climate change, particularly regarding its forests.

In 1992, the UNFCCC was signed by 154 states at the United Nations Conference on Environment and Development in Rio de Janeiro.<sup>26</sup> The Kyoto Protocol, which was adopted in 1997 and entered into force in 2005, was the first implementation of measures under the UNFCCC. The Kyoto Protocol was superseded by the Paris Agreement, which entered into force in 2016.<sup>27</sup> The goals of these agreements are to reduce global GHG emissions and limit the effects of global warming. Russia signed the Kyoto Protocol in 1999 and ratified it five years later in 2004. Russia signed the Paris Agreement in 2015 and recently ratified it in 2019.<sup>28</sup>

As of 2020, the UNFCCC has 197 signatory parties. Its supreme decision-making body, the Conference of the Parties (COP), meets annually to assess progress in dealing with climate change.<sup>29</sup> The UNFCCC covers the following six GHGs: CO<sub>2</sub>, methane, nitrous oxide, and the F-

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<sup>24</sup> “United Nations Framework Convention on Climate Change (UNFCCC),” *World Health Organization*, July 9, 2009, <https://www.who.int/globalchange/climate/unfccc/en/>.

<sup>25</sup> Fred Pearce, “Will Russia’s Forests Be an Asset or an Obstacle in Climate Fight,” *Yale*, July 15, 2021, <https://e360.yale.edu/features/will-russias-forests-be-an-asset-or-obstacle-in-the-climate-fight>.

<sup>26</sup> “United Nations Framework Convention on Climate Change (UNFCCC),” <https://www.who.int/globalchange/climate/unfccc/en/>.

<sup>27</sup> “About UNFCCC,” *United Nations Global Marketplace*, <https://www.ungm.org/Shared/KnowledgeCenter/Pages/UNFCCC>.

<sup>28</sup> Nina Tynkkynen, “Russia and Global Climate Governance,” *Russie, Nei, Visions* 80 (2014): 7.

<sup>29</sup> “Conference of the Parties (COP),” *United Nations*, <https://unfccc.int/process/bodies/supreme-bodies/conference-of-the-parties-cop>.

gases (hydrofluorocarbons and perfluorocarbons) and sulfur hexafluoride.<sup>30</sup> It is important to note that most language within international agreements on climate change and its participants speak in terms of carbon, therefore throughout this thesis emissions and reduction values will primarily be discussed in terms of carbon.

The UNFCCC requires signatory countries to provide an annual GHG inventory covering emissions and removals of GHGs from the following five sectors: energy, industrial processes and product use, agriculture, LULUCF, and waste.<sup>31</sup> Of these sectors, LULUCF has one of the most significant impacts on the global carbon cycle. LULUCF is defined by the United Nations Climate Change Secretariat as a “Greenhouse gas inventory sector that covers emissions and removals of GHGs resulting from direct human-induced land use such as settlements and commercial uses, land-use change, and forestry activities.”<sup>32</sup> Forests, which are accounted for under the LULUCF sector, can sequester large amounts of carbon from the atmosphere as carbon sinks.<sup>33</sup> Under the UNFCCC, any process, activity, or mechanism that removes a GHG from the atmosphere is referred to as a “sink.”<sup>34</sup> The LULUCF sector sequesters the equivalent of one-third of global CO<sub>2</sub> emissions every year from carbon sinks.<sup>35</sup> With over one-fifth of the earth’s

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<sup>30</sup> “Fact Sheet: The Need for Mitigation,” *United Nations*, November 2009, [https://unfccc.int/files/press/backgrounders/application/pdf/press\\_factsh\\_mitigation.pdf](https://unfccc.int/files/press/backgrounders/application/pdf/press_factsh_mitigation.pdf).

<sup>31</sup> “Reporting Requirements,” *United Nations*, <https://unfccc.int/process-and-meetings/transparency-and-reporting/reporting-and-review-under-the-convention/greenhouse-gas-inventories-annex-i-parties/reporting-requirements>.

<sup>32</sup> “Glossary of Climate Change Acronyms and Terms,” *United Nations*, <https://unfccc.int/process-and-meetings/the-convention/glossary-of-climate-change-acronyms-and-terms#l>

<sup>33</sup> “Carbon Sinks and Sequestration,” *UNECE*, <https://unece.org/forests/carbon-sinks-and-sequestration>.

<sup>34</sup> “Land Use, Land-Use Change and Forestry (LULUCF),” *United Nations*, <https://unfccc.int/topics/land-use/workstreams/land-use--land-use-change-and-forestry-lulucf>.

<sup>35</sup> Corinne Le Quéré, Robbie M. Andrew, Pierre Friedlingstein, Stephen Sitch, Judith Hauck, Julia Pongratz, Penelope A. Pickers et al, “Global carbon budget 2018,” *Earth System Science Data* 10, no. 4 (2018): 2141-2194.

forests in its borders, Russia is presented with a considerable opportunity to utilize the carbon sequestration of its carbon sinks under the LULUCF sector in its effort to meet GHG emission reduction targets.

The Kyoto Protocol is based on the principles and provisions of the UNFCCC and follows its annex-based structure. Under the UNFCCC, countries are divided into three groups according to differing commitments: Annex I Parties, Annex II Parties, and non-Annex I Parties.<sup>36</sup> Under the Kyoto Protocol, countries that formally stated their reduction targets were listed as Annex B Parties.<sup>37</sup> The Kyoto Protocol only required developed countries under Annex B to implement reduction commitments and placed a heavier burden on them because it recognized that developed countries are mainly responsible for the high levels of GHG emissions in the atmosphere at the time of the agreement.<sup>38</sup> Under the Paris agreement, due to developing countries contributing a more significant portion toward global GHG emissions than developed countries, all signatory countries had to commit to GHG reduction targets.<sup>39</sup>

The Kyoto Protocol established legally binding emission reduction targets. When calculating targets for the first commitment period, emission levels of the year 1990 were used as a baseline.<sup>40</sup> For Russia, its emission reduction target for the first commitment period was zero. A target commitment of zero meant that Russia's emissions had to equal or fall below the level of emissions in 1990 by the end of the first commitment period.<sup>41</sup> Russia did not sign onto the Kyoto Protocol's second commitment period but signed onto the Paris Agreement and ratified it

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<sup>36</sup> "Parties & Observers," *United Nations*, <https://unfccc.int/parties-observers>.

<sup>37</sup> "What Is the Kyoto Protocol?," *United Nations*, [https://unfccc.int/kyoto\\_protocol](https://unfccc.int/kyoto_protocol).

<sup>38</sup> *Ibid.*

<sup>39</sup> *The Paris Agreement*, United Nations, 2015: 7, <https://unfccc.int/process-and-meetings/the-paris-agreement/the-paris-agreement>.

<sup>40</sup> Tynkkynen, "Russia and Global Climate Governance," 7.

<sup>41</sup> *Ibid.*

in 2019. Under the Paris Agreement, Russia has committed to reducing GHG emissions by 2030 to 70 % relative to its 1990 levels.<sup>42</sup> Therefore, Russia committed to reducing its emissions by 30 % of its 1990 levels.

The decision to use 1990 as the base year is an essential aspect of how Russia can meet its carbon reduction targets. In 1990, Russia was still part of the Soviet Union. As part of the Soviet Union, Russia's emissions in 1990 were equivalent to 3,050 metric tons of carbon (MtCO<sub>2</sub>).<sup>43</sup> Following the collapse of the Soviet Union, Russia's emissions dropped drastically. By 1997, when carbon reduction targets for the Kyoto Protocol were first being negotiated, Russia's emission total was 1,910 MtCO<sub>2</sub>, an almost 37% reduction from its levels in 1990.<sup>44</sup> Therefore, under its commitments for both agreements, Russia has to do very little to meet its GHG reduction commitments.

To incentivize GHG reductions, the UNFCCC established market-based flexibility mechanisms under the Kyoto Protocol: emissions trading, Joint Implementation (JI), and the Clean Development Mechanism (CDM). Additionally, the Kyoto Protocol allowed for the accounting of carbon reductions from carbon sinks present in LULUCF activities.<sup>45</sup> Under the Paris Agreement, accounting of carbon sinks under the LULUCF sector and base year of 1990 are still present, and market-based mechanisms are outlined.<sup>46</sup>

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<sup>42</sup> *Nacional'nyj Doklad o Kadastrе*, [National Inventory Report], 1.

<sup>43</sup> "Third National Communication of the Russian Federation" (Moscow: Russian Federation, 2002).

<sup>44</sup> Ibid.

<sup>45</sup> "What Is the Kyoto Protocol?," [https://unfccc.int/kyoto\\_protocol](https://unfccc.int/kyoto_protocol).

<sup>46</sup> *The Paris Agreement*, <https://unfccc.int/process-and-meetings/the-paris-agreement/the-paris-agreement>

Described as the “cobra effect” by economist Horst Siebert, a perverse incentive is an incentive that has an unintended and undesirable result contrary to its designers' intentions.<sup>47</sup> In the context of international treaties meant to combat climate change and reduce global GHG emissions, perverse incentives would be the utilization of practices, such as flexibility mechanisms and the accounting of carbon sink, to increase GHG emissions. In this thesis, the perverse incentive that will be examined is the utilization of carbon sinks under the LULUCF sector to justify the absence of any efforts from Russia toward reducing GHG emissions.

As a country with over 20% of the world's forests within its borders, Russia has a substantial opportunity in accounting for carbon sinks under the LULUCF sector in the Kyoto Protocol and Paris Agreement.<sup>48</sup> Russia’s low emission reduction targets and the inclusion of carbon sinks in the LULUCF sector under both agreements means that it can achieve reductions it may need without implementing policies that would reduce emissions from carbon sources. Therefore, Russia can implement a climate change mitigation strategy that focuses on maximizing carbon reductions from the LULUCF sector to meet its emissions reduction commitments while continuing its domestic agenda of economic growth heavily supported by fossil fuels.

The UNFCCC encourages countries to promote sustainable management of sinks and reservoirs of all GHGs, as well as enacts the requirements of countries to develop, periodically update, publish and make available National Inventories Reports (NIRs) of anthropogenic

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<sup>47</sup> Horst Siebert, *Der Kobra-Effekt: Wie Man Irrwege Der Wirtschaftspolitik Vermeidet*, [The Cobra Effect: How To Avoid Economic Policy Errands], (Munich: Deutsche Verlags-Anstalt, 2002).

<sup>48</sup> “Global Forest Resource Assessment 2020,” *Food and Agriculture Organization of the United Nations*, <http://www.fao.org/forest-resources-assessment/2020/en/>.



emissions by sources and removals by sinks of all GHGs from LULUCF activities.<sup>49</sup> Under Articles 3.3 and 3.4 of the Kyoto Protocol, Parties decided that GHG removals and emissions through LULUCF activities are accounted for in meeting the emission targets.<sup>50</sup> The same allowances for LULUCF activities are present under Article 5 and 6 of the Paris Agreement.<sup>51</sup> Therefore, incentives for sequestering atmospheric CO<sub>2</sub> in forests are present under the Kyoto Protocol and Paris Agreement. However, as will be examined in this thesis, these incentives can become perversely utilized as they have the potential to allow for the increase of GHG emissions, leading to results that meet reduction targets yet are contrary to the goals of both agreements. Under these circumstances is how Russia, with more than one-fifth of the world's forests in its territory, can continue to be the number one exporter of fossil fuels while concurrently the most significant contributor of GHG reductions.

My research finds that Russia did have opportunities under the Kyoto Protocol to incentivize the LULUCF sector perversely and utilized them to negate taking real action toward reducing GHG emission from its carbon sources, particularly from its energy sector. The intention of including incentives to promote reductions from carbon sinks under international agreements on climate change was to aid countries in meeting their reduction targets. However, since Russia did not have to do much to meet its low emission reduction target, it instead used its carbon sinks to offset its emissions from carbon sources. Russia utilized its carbon sinks under the LULUCF sector perversely in terms of emission reductions and elevating Russia's image as a

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<sup>49</sup> "Reporting of the LULUCF Sector under the Convention," *United Nations*, <https://unfccc.int/topics/land-use/workstreams/land-use--land-use-change-and-forestry-lulucf/reporting-of-the-lulucf-sector-by-parties-included-in-annex-i-to-the-convention>.

<sup>50</sup> Ibid.

<sup>51</sup> *The Paris Agreement*, 6, <https://unfccc.int/process-and-meetings/the-paris-agreement/the-paris-agreement>.

cooperative partner in international affairs. At the same time, it continues to be one of the top producers and exporters of fossil fuels. I also find that these perverse emission reduction incentives under the LULUCF sector are present under the current guidelines for the Paris Agreement, which Russia has stated that it will continue to utilize. The empirical analysis I conduct in this thesis on Russia's economy, domestic policies, and forestry activities from the 1990s to today provides evidence on how and why Russia has utilized these perverse incentives. I argue that Russia did have opportunities to perversely incentivize the LULUCF sector under the Kyoto Protocol and Paris Agreement. Its focus in utilizing these incentives under the agreements was to utilize emission reductions from the LULUCF sector to justify the increase of emissions from its fossil fuel sector. This perversely incentivized the increase in GHG absorption from carbon sinks, rather than the intended goal of the international agreements, which was the reduction of GHG emissions from carbon sources.

### **Chapter 1: The Kyoto Protocol Negotiations and the First Commitment Period (1997-2012)**

According to climate model simulations by the Intergovernmental Panel on Climate Change (IPCC), scientists estimate that the earth will warm between two and six degrees Celsius over the next century.<sup>52</sup> The models predict that as the world consumes more fossil fuel, GHG concentrations will continue to rise, and the Earth's average surface temperature will rise with them.<sup>53</sup> The Kyoto Protocol was a multilateral agreement on climate change implemented from 2008-2020 that aimed to reduce global GHG emissions, therefore mitigating global warming.

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<sup>52</sup> Susan Solomon, Martin Manning, Melinda Marquis, and Dahe Qin, *Climate change 2007-the physical science basis: Working group I contribution to the fourth assessment report of the IPCC*, Vol. 4, Cambridge University Press, 2007

<sup>53</sup> Ibid.

The Kyoto Protocol did this by establishing legally binding emission reduction targets. To reach these targets, the Kyoto Protocol established market-based tools mechanisms that include emissions trading, JI, and the CDM. Additionally, the Kyoto Protocol allowed the accounting of carbon sinks in annual GHG calculations through LULUCF activities.<sup>54</sup>

Under the Kyoto Protocol, signatory countries agreed to reduce the following six GHGs: CO<sup>2</sup>, methane, nitrous oxide, F-gases (hydrofluorocarbons and perfluorocarbons), and sulfur hexafluoride. The Kyoto Protocol established legally binding emission reduction targets. When calculating targets for the first commitment period, emission levels of the year 1990 were used as a baseline. For Russia, its emission reduction target for the first commitment period was zero. The target commitment meant that Russia's emissions could not exceed emissions in 1990 in the first commitment period.<sup>55</sup> Russia signed the Kyoto Protocol in 1999 but ratified it five years later in October 2004. The pact entered into force in February 2005.<sup>56</sup>

The Kyoto Protocol adopted the principle of burden-sharing whereby industrialized countries, as the main polluters of past decades, were the first to cut their GHG emissions.<sup>57</sup> The UNFCCC divides countries into three main groups according to differing commitments: Annex I, Annex II, and Non-Annex I. Annex I Parties include industrialized countries that were members of the Organization for Economic Co-operation and Development in 1992, plus countries with economies in transition, which include Russia, the Baltic States, and several Central and Eastern European States. Annex II Parties consist of the Organization for Economic Co-operation and Development members of Annex I, but not the countries with economies in

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<sup>54</sup> "Mechanisms under the Kyoto Protocol," *United Nations*, <https://unfccc.int/process/the-kyoto-protocol/mechanisms>.

<sup>55</sup> Tynkkynen, "Russia and Global Climate Governance," 7.

<sup>56</sup> *Ibid.*

<sup>57</sup> "Parties & Observers," *United Nations*, <https://unfccc.int/parties-observers>.

transition. They are required to provide financial resources to enable developing countries to undertake emissions reduction activities under the UNFCCC and help them adapt to the adverse effects of climate change. Lastly, Non-Annex I Parties are the developing countries that signed onto the agreement yet did not have binding emission reduction commitments.<sup>58</sup> Under the Kyoto Protocol, the UNFCCC created the category of Annex B as an adjusted list of the countries that had their reduction targets formally stated under the agreement.<sup>59</sup> Russia is an Annex I Party listed under Annex B of the Kyoto Protocol.

Decisions regarding the UNFCCC are made at the COPs. Under the Kyoto Protocol, all Parties to the Kyoto Protocol made their decisions at the meeting of the Parties to the Kyoto Protocol (CMP).<sup>60</sup> The CMP oversees the implementation of the Kyoto Protocol and makes decisions to promote its effective implementation. The CMP met annually during the same period as the COP. Parties to the UNFCCC that are not Parties to the Kyoto Protocol can participate in the CMP as observers but without the right to make decisions. The functions of the CMP relating to the Kyoto Protocol are similar to those carried out by the COP for the UNFCCC.<sup>61</sup> Each country that signed onto the Kyoto Protocol had its own set of requirements and motivations behind participation in the Kyoto Protocol, which influenced their respective arguments in the CMP negotiations of the Kyoto Protocol. Russia, being an Annex I and Annex B Party, had priorities related to how it could meet its binding emission reduction target while supporting its economy in transition.

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<sup>58</sup> Ibid.

<sup>59</sup> “What Is the Kyoto Protocol?,” [https://unfccc.int/kyoto\\_protocol](https://unfccc.int/kyoto_protocol).

<sup>60</sup> “Conference of the Parties Serving as the Meeting of the Parties to the Kyoto Protocol (CMP),” *United Nations*, <https://unfccc.int/process/bodies/supreme-bodies/conference-of-the-parties-serving-as-the-meeting-of-the-parties-to-the-kyoto-protocol-cmp>.

<sup>61</sup> Ibid.

## Negotiations

When the Kyoto Protocol was negotiated, Russia lobbied strongly for the least stringent targets, arguing that transitional economies deserved some flexibility in targets for GHG reductions.<sup>62</sup> While Russia was participating in discussions regarding potential commitments under the Kyoto Protocol, it was facing its own debates domestically as to whether or not it should ratify.

Anna Korppoo, senior researcher and program director at the Finnish Institute of International Affairs, outlines that among domestic actors in Russia, discussions about ratification were divided into the pros and cons of joining the pact.<sup>63</sup> Prominent governmental actors, such as the presidential advisor Andrey Illarionov, openly opposed ratification.<sup>64</sup> In the prestigious Russian journal *Voprosy Ekonomiki*, Illarionov argued that “ratification of the Kyoto Protocol will force Russia’s economic actors to face a dilemma: either acquisition of emissions quotas on the external market, or a necessary slowdown (cessation) of economic activity.”<sup>65</sup> In support of his argument, Illarionov developed an economic model projecting that Russia’s GDP was likely to double over the next decade and that the country would then necessarily exceed its 1990 GHG emission levels.<sup>66</sup> However, in a report directly responding to Illarionov, economists at the Environmental Defense Fund disproved his model and estimated that even if Russia

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<sup>62</sup> Laura A. Henry, and Lisa McIntosh Sundstrom, “Russia’s Climate Policy: International Bargaining and Domestic Modernisation,” *Europe-Asia Studies* 64, no. 7 (2012): 1304.

<sup>63</sup> Anna Korppoo, Nina Tynkkynen, and Geir Hønneland, *Russia and the Politics of International Environmental Regimes: Environmental Encounters or Foreign Policy?*, Edward Elgar Publishing, 2015.

<sup>64</sup> Ibid.

<sup>65</sup> Laura A. Henry, and Lisa McIntosh Sundstrom, “Russia and the Kyoto Protocol: From Hot Air to Implementation,” *Global Commons, Domestic Decisions: the Comparative Politics of Climate Change* (2010), 109.

<sup>66</sup> Ibid.

doubled its GDP by 2012, it would only reach 86 % of its Kyoto-allowed carbon emissions and that there was a zero probability that Russia would exceed its Kyoto target.<sup>67</sup> Nonetheless, his position as the presidential advisor and skepticism in Russia's ability to double its GDP under the restrictions of its emission reduction commitments had an impact on Russia's process of ratification and led to its delay. Additionally, it is likely that Illarionov's skepticism was a factor that led Russia to negotiate the inclusion of carbon sinks to their greatest capacity under the Kyoto Protocol. Carbon sinks could provide an emission buffer in the case that doubling Russia's GDP would lead to emissions that would need to be reduced such as Illarionov predicted.

In addition to governmental actors, the opinions of climate experts and scientists varied. For instance, the academic Yuri Izrael, who was a vice-chairman of the IPCC until 2008, argued in 2003 that "the Kyoto Protocol is overly expensive, ineffective and based on bad science."<sup>68</sup> However, Izrael's views did not represent the entire Russian scientific community. In fact, in reaction to his position, more than 250 members of the Academy of Sciences signed a petition in 2003 supporting Kyoto ratification.<sup>69</sup> Supporters for Russia's ratification of the Kyoto Protocol stressed the political and economic benefits, such as the European Union's (EU) support for Russian accession to the World Trade Organization and additional income from the sale of surplus emission allowances through emissions trading and JI.<sup>70</sup> In this context, skepticism in the benefits and detriments of the Kyoto Protocol delayed ratification in Russia.

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<sup>67</sup> Ibid.

<sup>68</sup> R. Novak, "The Russian Didn't Bark," *CNN*, October 16, 2003, <http://edition.cnn.com/2003/ALLPOLITICS/10/16/column.novak.opinion.russian>.

<sup>69</sup> Henry and Sundstrom, "Russia and the Kyoto Protocol: From Hot Air to Implementation," 109.

<sup>70</sup> Tynkkynen, "Russia and Global Climate Governance," 8.

Though the United States signed onto the Kyoto Protocol under the Clinton Administration in late 1998 and participated in negotiations, the agreement was never submitted to the U.S. Senate for ratification. This was because the Senate had already voted in 1997, 95 to 0, to approve the Byrd-Hagel resolution, which warned the president against signing a climate treaty that would either economically harm the U.S. or exempt developing countries from participating.<sup>71</sup> Therefore, in 2001 the Bush administration withdrew the United States' signature on the agreement.<sup>72</sup>

Once it was official that the United States would not participate in the Kyoto Protocol, Nina Tynkkynen, associate professor at Åbo Akademi University, argues that Russia had the opportunity to use its unique position as a sizeable GHG emitter to its advantage to achieve its desired target emission commitments.<sup>73</sup> Therefore, the process of Russia's ratification of the Kyoto Protocol was prolonged. Once the United States was out of the Kyoto Protocol, Russia was able to decide the fate of the Kyoto Protocol. To enter into force, the Kyoto Protocol required the ratification of 55 countries, accounting for 55 % of the emissions of the industrialized country members in 1990.<sup>74</sup> With its 17.4 % share of emissions, Russia was the only country that could ensure the requirement was fulfilled and the Kyoto Protocol could be ratified. This situation gave it political leverage in the negotiations over several issues, such as the EU's support for its membership in the World Trade Organization and doubling the volume of carbon sinks allocated to it under the Kyoto Protocol, which will be further discussed in this

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<sup>71</sup> "Failures of Kyoto will Repeat with the Paris Climate Agreement," *U.S. Senate Committee on Environment and Public Works*, April 6, 2016, <https://www.epw.senate.gov/public/index.cfm/2016/4/failures-of-kyoto-will-repeat-with-the-paris-climate-agreement>.

<sup>72</sup> *Ibid.*

<sup>73</sup> Tynkkynen, "Russia and Global Climate Governance."

<sup>74</sup> Tynkkynen, "Russia and Global Climate Governance," 8.

thesis. With this newfound political leverage and the ultimate decision among political authorities that potential benefits outweighed possible risks, Russia ratified the Kyoto Protocol in 2004, five years after first signing on.<sup>75</sup>

Russia is listed in Annex B of the Kyoto Protocol and, as such, was subject to a constraint on its GHG emissions for the first commitment period from 2008-2012. The target for Russia was that its annual emissions of the six Kyoto gases should not exceed their 1990 level over 2008 - 2012.<sup>76</sup> The decision to use 1990 as the base year is an essential aspect of how Russia can meet its carbon reduction targets. In 1990, Russia was still part of the Soviet Union. As part of the Soviet Union, Russia's emissions in 1990 were equivalent to 3,050 MtCO<sub>2</sub>.<sup>77</sup> By 1997, when carbon reduction targets for the Kyoto Protocol were first being negotiated, Russia's emission total was 1,910 MtCO<sub>2</sub>, an almost 37% reduction from its levels in 1990.<sup>78</sup> Therefore, to meet its commitment under the Kyoto Protocol, Russia is able actually to increase its emissions.

To meet their respective targets, members of Annex B, including Russia, could both adopt domestic policies and the Kyoto flexibility mechanisms to reduce their emissions. Russia needed to do very little to comply with the Kyoto Protocol, given that its emissions were already below 1990 levels. Even with low commitments, the Russian delegation still argued that transitional economies should be allowed "a certain degree of flexibility" in meeting their emissions targets.<sup>79</sup> This is because Russia, with an economy that was planning on doubling its

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<sup>75</sup> Ibid.

<sup>76</sup> Franck Lecocq and Zmarak Shalizi, "Will the Kyoto Protocol affect growth in Russia?," *SSRN* (2004), 3.

<sup>77</sup> "Third National Communication of the Russian Federation," (Moscow: Russian Federation, 2002).

<sup>78</sup> Ibid.

<sup>79</sup> Arild Moe and Kristian Tangen, *The Kyoto Mechanisms and Russian Climate Politics*, London: Royal Institute of International Affairs, Energy and Environment Programme, 2000, 15.



GDP in the ten years following its ratification of the Kyoto Protocol, needed a strategy through which it could continue to emit yet meet its reduction commitment. In order to do this, Russia had the advantage of utilizing carbon credits from carbon sinks under LULUCF activities.

The details and definitions for the LULUCF portion of the Kyoto Protocol were initially negotiated at the Sixth Session of the UNFCCC Conference of the Parties (COP6) in Hauge, Netherlands. However, due to the complexity of the issue and time limitation, COP6 ended with no agreement. Instead, an agreement was reached to extend the negotiations into a second part, COP6b, to be held in Bonn in June 2001.<sup>80</sup> COP6b ended with the “Bonn Agreement on the implementation of the Buenos Aires Plan of Action.”<sup>81</sup> Under this plan, the Parties accepted a final compromise regarding the accounting rules of the LULUCF sector and approved the inclusion of a cap on the amount of carbon credits accounted from forest management (FM) activities. A cap was established for FM because for a majority of the countries this activity had considerable potential for carbon reduction as a carbon sink. This phenomenon will be discussed later in this chapter under the “LULUCF” section. Since Russia still required some modifications to their agreed upon cap limit, the adoption of the final text remained open for COP7, which was held in Marrakesh in November of 2001.<sup>82</sup>

A critical issue in the Marrakesh agreement regarding LULUCF activities was the introduction of carbon sinks. The UNFCCC defines carbon sinks as “Carbon reservoirs and conditions that take in and store more carbon (i.e., carbon sequestration) than they release.”<sup>83</sup>

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<sup>80</sup> E.D. Schulze, Riccardo Valentini, and M-J. Sanz, “The Long Way from Kyoto to Marrakesh: Implications of the Kyoto Protocol Negotiations for Global Ecology,” *Global Change Biology* 8, no. 6 (2002): 512.

<sup>81</sup> Ibid.

<sup>82</sup> Ibid.

<sup>83</sup> “Glossary,” *United Nations*,

[https://unfccc.int/resource/cd\\_roms/na1/ghg\\_inventories/english/8\\_glossary/Glossary.htm](https://unfccc.int/resource/cd_roms/na1/ghg_inventories/english/8_glossary/Glossary.htm)

Therefore, carbon sinks could serve to offset GHG emissions. The key actor in these negotiations was Russia, understandably so due to its possession of over more than a fifth of the world's forests. Forests are an enormous carbon sink, as are oceans. Under the Marrakesh Accords, the following activities were counted as sinks: Afforestation, reforestation, deforestation, forest and agricultural management, revegetation, and conservation activities.<sup>84</sup> The inclusion of carbon credits from sink-related activities effectively weakened the climate impact of the originally stated targets of the Kyoto Protocol.<sup>85</sup> Since the LULUCF rules were not finalized until 2001, Peter Iversen, Donna Lee, and Marcelo Rocha, all LULUCF and forestry expert, argue that Kyoto Parties had an opportunity to add flexibility, such as using LULUCF activities, to meet their already agreed reduction commitments for the first commitment period.<sup>86</sup> Russia, with a significant carbon sink, had a lot to gain from this. The inclusion of carbon sinks, primarily from FM, which accounted for a large percentage of carbon sequestration for Russia, increased the amount of carbon reductions it could apply to its GHG emission accounting and would further the amount of reduction credits it could utilize to offset emissions from its production of fossil fuels.

At Marrakesh, the final qualities of accounting and limitations under LULUCF were reached. Following the Bonn, modifications to LULUCF cap limitations were made by Russia because it did not initially agree to the calculated FM cap of 17.63 TgCyr<sup>-1</sup> (TgC=1 MtC). The

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<sup>84</sup> E.D. Schulze, Riccardo Valentini, and M-J. Sanz, "The Long Way from Kyoto to Marrakesh: Implications of the Kyoto Protocol Negotiations for Global Ecology," *Global Change Biology* 8, no. 6 (2002): 516.

<sup>85</sup> Ibid.

<sup>86</sup> Peter Iversen, Donna Lee, and Marcelo Rocha, "Understanding land use in the UNFCCC," *Climate and Land Use Alliance* (2014), 27.

number was corrected at Marrakesh to be 33 TgCyr-1.<sup>87</sup> Schulze, Valentini, and Sanz, the founding director of Max Planck Institute, a Nobel Prize laureate professor at the University of Tuscia, Italy, and Scientific Director of the Basque Centre for Climate Change, respectively, examine this occurrence. They argue that a primary reason why the international community agreed to allow Russia to increase its carbon cap in the LULUCF sector to reach 33 TgCyr-1, double the original cap, was due to Russia's leverage following the United States withdrawal from the Kyoto Protocol.<sup>88</sup>

In combination with negotiating for the inclusion of carbon sinks and a larger cap under the Kyoto Protocol, Russia utilized its position of leverage to join the World Trade Organization. In response to Russia's prolonged process of ratification for the Kyoto Protocol, the EU at the EU-Russia Summit in 2004 dropped its objections to Russia joining the World Trade Organization.<sup>89</sup> This resulted in Russia finally deciding to ratify the Kyoto Protocol. At the summit, President Putin said that "the fact that the European Union has met us halfway at the negotiations on membership in the WTO cannot but influence Moscow's positive attitude towards ratification of the Kyoto protocol. We will accelerate our movement towards ratifying this protocol."<sup>90</sup> Finally, with the inclusion of carbon sinks and the EU's approval of Russia joining the World Trade Organization, Russia was satisfied with its position under the Kyoto Protocol and proceeded with its ratification.

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<sup>87</sup> A. Z. Shvidenko, S. Nilsson, V. S. Stolbovoi, M. Gluck, D. G. Shechepashchenko, and V. A. Rozhkov, "Aggregated Estimation of the Basic Parameters of Biological Production and the Carbon Budget of Russian Terrestrial Ecosystems: 1. Stocks of Plant Organic Mass," *Russian Journal of Ecology* 31, no. 6 (2000): 371-378.

<sup>88</sup> Schulze, Valentini, and Sanz, "The Long Way from Kyoto to Marrakesh: Implications of the Kyoto Protocol Negotiations for Global Ecology," 512.

<sup>89</sup> "Putin throws lifeline to Kyoto as EU backs Russia joining WTO" *The Guardian*, May 21, 2004, <https://www.theguardian.com/world/2004/may/22/environment.russia>.

<sup>90</sup> Ibid.

The benefits Russia gained from its leverage as the deciding factor in the ratification of the Kyoto Protocol were significant. It is evident from the foundational negotiations of Kyoto Protocol discussed in this thesis that the agreement was primarily agreed up by allowing countries to offset their fossil fuel emission by allowing for the accounting of removals from carbon sinks. For Russia, the inclusion of carbon sinks and the doubling of the carbon cap, combined with joining the World Trade Organization, was necessary for its goals to double its GDP in the ten years after 2003. Even though researchers disproved presidential advisor Andrey Illarionov's argument that the Kyoto Protocol would hinder this goal, it is not implausible to assume that his argument put doubt into Putin's mind that Russia may have to implement policies that would impact the growth of the economy to meet reduction commitments. Therefore, the addition of carbon sinks under the Kyoto Protocol would provide Russia a means through which it could meet reductions if need be without impacting the domestic agenda to double GDP. The inclusion of carbon sinks became the main driver behind Russia utilizing incentives perversely under the Kyoto Protocol because it offset the increase of emission from other sectors, primarily the energy sector.

### Potential Incentives

Russia had the potential for significant gains economically from its participation in the first commitment period of the Kyoto Protocol. During the first commitment period, Russia could increase its emissions and still meet its emission reduction targets. On top of the low emission reduction targets, Russia could include in its GHG emissions accounting the contributions of carbon sinks through LULUCF activities. The Kyoto Protocol also established market-based tools mechanisms that Russia could utilize, specifically emissions trade and JI. The

combination of these factors allowed Russia the opportunity not only to meet its reduction targets but gain economically from additional reductions in emissions.

The central feature of the Kyoto Protocol is the requirement that countries limit or reduce their GHG emissions. To help countries meet their emission targets, negotiators of the Kyoto Protocol included three market-based mechanisms: emissions trading, the CDM, and JI. Under the Kyoto Protocol, emitting GHGs over a set limit entailed a potential cost. Conversely, emitters able to stay below their limit held something of potential value. Therefore, a new commodity was created, and emission reductions and carbon could be tracked and traded.

### Flexibility Mechanisms

Instead of relying solely on domestic action to meet the targets contained in the Kyoto Protocol, Annex B countries decided that they needed flexibility in achieving national emission reduction targets.<sup>91</sup> Therefore, the Kyoto Parties agreed to include three flexible mechanisms in the Kyoto Protocol to aid them in achieving their obligations through carbon trading and emission reduction activities. The three flexible mechanisms were emissions trading, JI, and the CDM.

The emissions trading system under the Kyoto Protocol allowed Annex B countries to buy and sell emission credits.<sup>92</sup> Annex B Parties had accepted targets for limiting or reducing emissions. These targets were expressed as levels of allowed emissions or assigned amounts over the 2008-2012 commitment period. The allowed emissions were divided into assigned amount

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<sup>91</sup> Kill, Jutta, "Sinks in the Kyoto Protocol: A Dirty Deal for Forests, Forest Peoples and the Climate," *FERN*, 2001: 8.

<sup>92</sup> "Emissions Trading," *United Nations*, <https://unfccc.int/process/the-kyoto-protocol/mechanisms/emissions-trading>.

units (AAUs). As set out in Article 17 of the Kyoto Protocol, emissions trading allowed countries that kept emissions below their agreed target to sell the excess emission credits to countries that find it more difficult or more expensive to meet their targets.<sup>93</sup> Other units which could be transferred under the scheme, each equal to one ton of CO<sup>2</sup>, were removal units (RMU), emission reduction units (ERU), and certified emissions reductions (CER). An RMU is a credit that can be earned based on LULUCF activities.<sup>94</sup> The other two units are described below.

CDM and JI are project-based mechanisms under the Kyoto Protocol. The CDM, defined in Article 12 of the Kyoto Protocol, allowed Annex B Parties to implement an emission-reduction project in developing countries. Such projects could earn saleable CER credits, each equivalent to one ton of CO<sup>2</sup>, which could be counted towards meeting Kyoto targets.<sup>95</sup> JI, defined in Article 6 of the Kyoto Protocol, allowed Annex B Parties to earn ERUs from an emission-reduction or emission removal project which could also be counted towards meeting its Kyoto target.<sup>96</sup> The figure below presents the total emission credits Russia acquired from the Kyoto Protocol by 2018.

Source: [https://unfccc.int/sites/default/files/resource/ritl1\\_ru\\_2018\\_1\\_1.pdf](https://unfccc.int/sites/default/files/resource/ritl1_ru_2018_1_1.pdf)

Account type	Unit type					
	AAUs	ERUs	RMUs	CERs	tCERs	ICERs
Holding accounts	5,141,806,703	11,777,570	626,530,297	0	0	0
Article 3.3/3.4 net source cancellation accounts	26,607,307	0	73,160,731	0		
Non-compliance cancellation account	0	0	0	0		
Other cancellation accounts	0	0	0	0	0	0
Retirement account	11,187,543,419	0	0	0	0	0
tCER replacement account for expiry	0	0	0	0	0	
ICER replacement account for expiry	0	0	0	0		
ICER replacement account for reversal of storage	0	0	0	0		0
ICER replacement account for non-submission of certification report	0	0	0	0		0
<b>Total</b>	<b>16,355,957,429</b>	<b>11,777,570</b>	<b>699,691,028</b>	<b>0</b>	<b>0</b>	<b>0</b>

Figure 1: Total Quantities of Kyoto Protocol Units by Account type at the end of 2018

<sup>93</sup> Ibid.

<sup>94</sup> Ibid.

<sup>95</sup> “The Clean Development Mechanism,” *United Nations*, <https://unfccc.int/process-and-meetings/the-kyoto-protocol/mechanisms-under-the-kyoto-protocol/the-clean-development-mechanism>.

<sup>96</sup> “Joint Implementation,” *United Nations*, <https://unfccc.int/process/the-kyoto-protocol/mechanisms/joint-implementation>.

As seen above, Russia only acquired emission credits from JI and the LULUCF sector under the Kyoto Protocol mechanisms, providing evidence of its priority for domestic emission reductions rather than global GHG emission reductions.

The CDM required the use of internationally agreed standards and international approval for registering projects and issuing credits, while JI allowed countries to use a project-specific approach for calculating emission reductions.<sup>97</sup> The countries in which projects are located or the Joint Implementation Supervisory Committee executed regulatory oversight. Under host country oversight, countries could broadly establish their own rules for approving projects and issuing credits without international input, creating the possibility for perverse incentives. Under international oversight, the Joint Implementation Supervisory Committee oversees project approval and issuance of credits.<sup>98</sup> The lack of strict oversight under JI allowed Annex B countries to utilize the mechanism perversely, which Russia did. This is examined later in the “Perverse Incentives” section of this chapter. In addition to gaining credit under the JI mechanism, Russia could utilize activities under LULUCF to gain credits from carbon sinks in the form of RMUs.

The emissions trading system created a beneficial situation for Russia since, with its easy emission commitments and the inclusion of LULUCF carbon credits, it would have a substantial surplus of emission credits. Laura Henry and Lisa Sundstrom, professors at Bowdoin College and the University of British Columbia, respectively, explain that these credits were considered “hot air” because they did not represent genuine emission reductions.<sup>99</sup> These credits had the

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<sup>97</sup> Ibid.

<sup>98</sup> Ibid.

<sup>99</sup> Laura A. Henry, and Lisa McIntosh Sundstrom, “Russia and the Kyoto Protocol: From Hot Air to Implementation,” *Global Commons, Domestic Decisions: the Comparative Politics of Climate Change* (2010), 109.

potential to form a significant source of economic income for Russia. In 2004 a Cambridge Economic Policy Associates report estimated that Russia's potential income from emissions trading was likely to range from US\$150 million to \$2 billion annually.<sup>100</sup>

However, the largest carbon market globally, the EU emissions trading system, impeded the possibility of this income. Annalisa Savaresi, Lucia Perugini, and Maria Chiriaco, experts on environmental law, LULUCF, and forestry, respectively, investigate this occurrence. They report that, in 2003, the EU discarded the option of including the LULUCF sector in the EU emissions trading system due to believing that the development of a monitoring system for all types of land would be impracticable since "inclusion in the Emission Trading System would have entailed subjecting land holdings to monitoring and reporting processes comparable to those for installations covered by the Emission Trading System."<sup>101</sup> Therefore, the lack of a forest carbon credit trading scheme removed Russia's potential economic incentive of trading RMUs from its LULUCF through emissions trading. Instead, Russia would primarily utilize this sector for its emission reduction incentives.

## LULUCF

Outside of economic incentives, the Kyoto Protocol presented emissions reduction incentives for Russia under LULUCF activities. The UNFCCC deals with five economic sectors that are the sources of anthropogenic GHG in the atmosphere. These sectors are energy, industrial processes, agriculture, LULUCF, and waste. GHG removals from the atmosphere

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<sup>100</sup> J. Mirrless-Black, N. Novcic, M. Grubb, A. Korppoo, and D. Newbery, "Costs and Benefits to the Russian Federation of the Kyoto Protocol," (2004).

<sup>101</sup> Annalisa Savaresi, Lucia Perugini, and Maria Vincenza Chiriaco, "Making sense of the LULUCF Regulation: Much ado about nothing?," *Review of European, Comparative & International Environmental Law* 29, no. 2 (2020): 214.



occur only in LULUCF because carbon is absorbed by forests, as well as stored in biomass growth, resulting in specific accounting characteristics that make the LULUCF sector distinct from the rest.<sup>102</sup> Under the LULUCF sector, absorption from carbon sinks are accounted for and used toward reducing the host countries' annual emissions values. For Russia, this sector is where most of its priorities toward mitigating climate change, as listed in its Climate Doctrine which is described in the “Domestic Policy” section of this chapter, have been taken.

Terrestrial ecosystems play an important role in regulating the atmospheric abundance of CO<sup>2</sup>. The IPCC calculated in 2000 that between 1850 and 1998, approximately 406 billion megagrams of carbon equivalent (Mg C) were emitted into the atmosphere from fossil fuel burning, cement production, and land-use activities.<sup>103</sup> Of this total, roughly 110 billion Mg C were absorbed back into terrestrial ecosystem sinks, and oceans absorbed about 120 billion Mg C. The remaining 176 billion Mg C remained in the atmosphere.<sup>104</sup> The IPCC states in its “Special Report on Land Use, Land-Use Change, and Forestry,” that it is evident that policy measures to reduce atmospheric concentrations of CO<sup>2</sup> and other GHGs must consider the role of terrestrial ecosystems, such as forests.<sup>105</sup>

As of 2021, the Food and Agriculture Organization of the United Nations reports that Russian 815 million hectares of forests have reached 20% of the global forest area.<sup>106</sup> A carbon

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<sup>102</sup> Bernhard Schlamadinger, Neil Bird, Tracy Johns, S. Brown, J. Canadell, Lorenzo Ciccicarese, Michael Dutschke et al, “A Synopsis of Land use, Land-Use Change and Forestry (LULUCF) under the Kyoto Protocol and Marrakech Accords,” *Environmental Science & Policy* 10, no. 4 (2007): 273.

<sup>103</sup> Robert Watson, Ian R. Noble, Bert Bolin, N. H. Ravindranath, David J. Verardo, and David J. Dokken, "Special Report on Land Use, Land-Use Change and Forestry," *Intergovernmental Panel on Climate Change* (2000).

<sup>104</sup> Ibid.

<sup>105</sup> Ibid.

<sup>106</sup> “Global Forest Resource Assessment 2020,” <http://www.fao.org/forest-resources-assessment/2020/en/>.

sink that large has a vital role in stabilizing the climate in the country and globally. Both the UNFCCC and the Kyoto Protocol acknowledged the role and importance of forests as sinks and reservoirs of carbon. Jutta Kill, a forest ecologist and Climate Campaigner with Fern, a non-governmental organization which works with the EU Commission to provide guidance on EU forest policy, argues that the Kyoto Protocol negotiations on LULUCF accounting paved the way for countries to gain emission credits in return for forest-related activities and that “every carbon sink credit is a disincentive to end fossil fuel exploration to meet energy demands.”<sup>107</sup>

LULUCF activities are described in the Kyoto Protocol under Article 3, paragraphs 3 and 4. Article 3 defines which domestic emissions industrialized countries have to produce inventories for during the first commitment period. Article 3.3 requires that GHG removals and emissions from afforestation, reforestation, and deforestation activities since 1990 be tracked.<sup>108</sup> Article 3.4 of the Kyoto Protocol gives countries a choice to elect LULUCF activities beyond afforestation, reforestation, and deforestation, such as FM. Upon selection, a country is required to continue to report those activities in future commitment periods.<sup>109</sup> Under the first commitment period of the Kyoto Protocol, 24 Parties elected FM under this article, Russia being one of those Parties.<sup>110</sup> For most Parties, particularly Russia, the main accounting factor under LULUCF is FM, as it has the most considerable potential for being a carbon sink.<sup>111</sup>

Almost all Russian forest lands are included in the Forest Fund and defined as lands under federal jurisdiction. The boundaries of these lands are drawn per the Forest Code and Land

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<sup>107</sup> Jutta Kill, “Sinks in the Kyoto Protocol: A Dirty Deal for Forests, Forest Peoples and the Climate,” *FERN*, 2001: 8.

<sup>108</sup> *Kyoto Protocol*, United Nations: 3, <https://unfccc.int/resource/docs/convkp/kpeng.pdf>.

<sup>109</sup> *Ibid.*

<sup>110</sup> Iversen, Lee, and Rocha, “Understanding land use in the UNFCCC,” 18.

<sup>111</sup> *Ibid.*

legislation.<sup>112</sup> In its NIR, Russia reports that its forest Fund lands comprise most forests, 96.9%.<sup>113</sup> Currently, the lands of the Forest Fund are under the authority of the Federal Forestry Agency, a part of the Ministry of Natural Resources of the Russian Federation.<sup>114</sup> Therefore, it is under the Russian government's directive that FM activities and policies are forwarded. This means that policies enacted regarding FM are in support of the domestic agenda of the Russian government, supporting the argument that the LULUCF sector could be perversely incentivized by Russia to meet its own domestic goals rather than the goals of the Kyoto Protocol.

LULUCF accounting has become integral to how Annex I countries anticipate meeting their emissions reduction targets under the UNFCCC. Forests have a significant role in climate change. Many international debates on climate change have commented on the potential issues that arise from accounting for the fluctuating emissions and absorptions from forests. "A Synopsis of Land Use, Land-Use Change and Forestry (LULUCF) under the Kyoto Protocol and Marrakech Accords," a highly cited article co-authored by 35 experts in forestry and LULUCF, outlines these issues.<sup>115</sup> In their article, the authors establish three main issues. First is the issue of saturation.

Saturation is a critical issue in determining the degree to which particular land management activities can contribute to meeting specific CO<sup>2</sup> stabilization targets.<sup>116</sup> The term "saturation" is used very loosely to indicate that, in the absence of some major disturbances that will reduce carbon stocks at large scales, such as forest fires, emissions and sequestration from

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<sup>112</sup> *Nacional'nyj Doklad o Kadastre.*, [National Inventory Report].

<sup>113</sup> *Ibid.*

<sup>114</sup> *Ibid.*

<sup>115</sup> Schlamadinger et. al, "A Synopsis of Land Use, Land-use Change and Forestry (LULUCF) under the Kyoto Protocol and Marrakech Accords," 273.

<sup>116</sup> *Ibid.*

the LULUCF sector will approach a steady-state, therefore leading to a net rate of carbon emissions and removals.<sup>117</sup> This issue, its implications for Russia, and how Russia plans to deal with it is further examined in Chapter 4.

The second issue the authors list is non-permanence. Non-permanence refers to the reversibility of carbon sequestration in the biosphere.<sup>118</sup> The planting of trees can increase the carbon stocks on a given area of land, but these increases can be reversed either by natural causes or through land-use decisions. The reverse is also true, such that the regrowth of the trees can follow a release.<sup>119</sup> What is important to note regarding non-permanence in the LULUCF sector is that there is no real parallel to this potential reversibility in emissions from fossil-fuel use.<sup>120</sup> If fossil-fuel use is reduced, this reduction in emissions is not lost, even if the emission-saving project eventually ends. Therefore, under the LULUCF sector, the issue of non-permanence provides the perverse risk of crediting emission reductions without accounting for possible future carbon emissions. And these credits would take away from genuine emission reductions from fossil fuels, doubling the perversity of the accounting of carbon sinks.

In response to this risk, the Kyoto Protocol accounts for the non-permanence of carbon stocks on lands subject to Articles 3.3 and 3.4 through the annual reporting of GHG inventories for Annex B Parties. These inventories ensure that any emission of CO<sup>2</sup> will be reported and, hence, will be accounted for in the balance of emissions and removals.<sup>121</sup> Schlamadinger et al. argue that the relatively limited scope of LULUCF activities agreed to under the Kyoto Protocol and the Marrakesh Accords means that the non-permanence risk associated with LULUCF

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<sup>117</sup> Ibid.

<sup>118</sup> Ibid.

<sup>119</sup> Ibid., 274.

<sup>120</sup> Ibid.

<sup>121</sup> Ibid.

activities is small for the first commitment period.<sup>122</sup> However, it is an issue for Parties that elect to account for FM under Article 3.4 and have ecosystems frequently fluctuating in emissions due to natural disturbances, like fire, which are hard to account for accurately.<sup>123</sup> Therefore, the issue is particularly relevant to the accounting of FM in Russia and induces additional uncertainty in its accounting.

Building onto the issue of non-permanence, the last issue the authors list is the influence of “natural effects and control by humans.” The influence of natural effects and control by humans refers to the fact that many natural occurrences, like forest fires, increase and decrease carbon stocks that governments have limited control over.<sup>124</sup> The article provides the following example, “an area might be planted with trees (a human action), but the subsequent growth rate of those trees will be affected by droughts; storms; diseases; insect attacks; and changes in temperature, rainfall, CO<sup>2</sup> concentration, and atmospheric nitrogen deposition.”<sup>125</sup> The IPCC states that it is difficult to distinguish causal factors in the land sector that result in emissions or removals. For example, emissions from fires may originate from either natural causes, or indirect and direct human causes, or a combination of causes.<sup>126</sup>

The IPCC reported that the scientific community could not provide a practicable methodology that would factor out direct human-induced effects from indirect human-induced and natural effects for any broad range of LULUCF activities and circumstances.<sup>127</sup> For this reason, the IPCC adopted the use of estimates of GHG emissions and removals on managed land

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<sup>122</sup> Ibid.

<sup>123</sup> Ibid.

<sup>124</sup> Ibid.

<sup>125</sup> Ibid.

<sup>126</sup> Iversen, Lee, and Rocha, “Understanding land use in the UNFCCC,” 6.

<sup>127</sup> H. S. Eggleston, Leandro Buendia, Kyoko Miwa, Todd Ngara, and Kiyoto Tanabe, “2006 IPCC Guidelines for National Greenhouse Gas Inventories,” (2006).

as a proxy for the estimation of anthropogenic emissions and removals.<sup>128</sup> Countries designate areas of land as “managed” and “unmanaged.”<sup>129</sup> In effect, this means that all emissions or removals that occur on land designated as “managed” are included in the reporting under the UNFCCC and counted as anthropogenic. The IPCC states that “managed land is land where human interventions and practices have been applied to perform production, ecological or social functions.”<sup>130</sup> This rule is the managed land proxy. The issue with this is that, even though there are definitions related to FM under the Kyoto Protocol and subsequent IPCC reports, these definitions are not required, and countries can define managed forest lands as they wish.

Adding to these three issues, Brian Murray of the Center for Economic Research examines perverse economic incentives under LULUCF. From the beginning of the negotiations, there were concerns that the Kyoto Protocol might lead to a perverse incentive to increase the logging of forests, which are large carbon pools and could be reported as carbon sinks in reforested areas. It was believed that the Kyoto Protocol might create unintended incentives to excessively harvest existing forests if regenerated forests qualify for carbon credits under the reforestation provision of Article 3.3.<sup>131</sup>

However, Murray’s research disproves this. His analysis suggests that the perverse harvesting incentives problem does not undermine the inclusion of regenerated forest stands under the reforestation category in Article 3.3 of the Kyoto Protocol because the perverse incentives are weak under a wide range of modeled circumstances and only under the highest

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<sup>128</sup> Ibid.

<sup>129</sup> Ibid.

<sup>130</sup> Eggleston et. al, “2006 IPCC Guidelines for National Greenhouse Gas Inventories.”

<sup>131</sup> Brian C. Murray, “Carbon Values, Reforestation, and Perverse Incentives under the Kyoto Protocol: An Empirical Analysis,” *Mitigation and Adaptation Strategies for Global Change* 5, no. 3 (2000): 271.

carbon price valuation would there be a perverse incentive.<sup>132</sup> Therefore, there would be no economic benefit to overharvesting forests since the value of the credit would be lower than the value of conducting business as usual. Additionally, as discussed at the end of the last section, there was no economic incentive to utilize LULUCF RMU credits because the EU discarded the option of including the LULUCF sector in the EU emissions trading system.<sup>133</sup>

To exclude carbon reductions that resulted from activities unrelated to efforts made by countries, such as elevated CO<sup>2</sup> concentrations above their pre-industrial level and the dynamic effects of forest age structure resulting from activities and practices before the reference year, the Kyoto Protocol set a cap for the FM credits.<sup>134</sup> Under the cap, an Annex I Party can add to and subtract from the amount of its assigned emissions but in a limited capacity. The cap was determined by applying an 85% discount factor and a 3% cap on FM.<sup>135</sup>

A “cap” is a term used under the Kyoto Protocol and is the maximum amount of credits or debits that a Party can use in the Kyoto Protocol accounting system for assessing compliance with commitments.<sup>136</sup> Specifically, a cap was established on the use of FM to meet a country’s target due to the activity’s considerable carbon sink potential.<sup>137</sup> CO<sup>2</sup> removals by sinks from afforestation and reforestation were very limited for Annex I Parties. However, existing managed forests since 1990 provided an opportunity for Parties to offset their emissions due to their

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<sup>132</sup> Murray, “Carbon Values, Reforestation, and Perverse Incentives under the Kyoto protocol: An Empirical Analysis,” 292.

<sup>133</sup> Savaresi, Perugini, and Chiriaco, “Making sense of the LULUCF Regulation: Much ado about nothing?,” 214.

<sup>134</sup> Xiaoquan Zhang, “Contribution of Forest Management Credits in Kyoto Protocol Compliance and Future Perspectives,” *Advances in Climate Change Research* 2, no. 4 (2011): 172.

<sup>135</sup> Ibid.

<sup>136</sup> Iversen, Lee, and Rocha, “Understanding land use in the UNFCCC,” 6.

<sup>137</sup> Ibid.

potential of carbon sequestration.<sup>138</sup> This was particularly relevant for Russia. Therefore, Russia's managed forests could provide a large portion of carbon reduction credits under the Kyoto Protocol. As discussed in the "Negotiations" section of this chapter, Russia's cap was initially determined at COP6 to be 17.63 Tg yr<sup>-1</sup> but was changed at Marrakesh to 33 TgCyr<sup>-1</sup> by decision 12/CMP.7.<sup>139</sup> The ability for Russia to account for its FM sinks, and the doubling of its cap under the Kyoto Protocol, provided more incentive for Russia to utilize the LULUCF sector in a perverse way to substitute carbon reductions from carbon sources with carbon sequestration from carbon sinks.

The LULUCF accounting rules for the first commitment period received several criticisms. They did not provide sufficient incentives for sustainable FM in the forest sector since the FM cap was typically smaller than the current sink. Giacomo Grassi, a senior scientific officer of the European Commission, reported that "since most of the credits are obtained without additional efforts, and the voluntary choice of some activities may lead to unbalanced accounting."<sup>140</sup> This means that countries like Russia could choose to include LULUCF activities that resulted in emission reductions and not include activities that would result in emissions. Additionally, Russia could utilize the perverse incentives under the LULUCF sector without putting in additional effort to maintain sustainable FM practices since it would meet its cap without having to do anything. While the UNFCCC was criticized that incentives under its flexible mechanisms and the LULUCF sector had the potential to be perversely utilized, Russia's implementation of domestic policies related to these incentives would be a deciding factor as to whether Russia would utilize them.

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<sup>138</sup> Ibid.

<sup>139</sup> Ibid.

<sup>140</sup> G. Grassi, *LULUCF: Major Step in Durban*, (Fremont: EFI News; 2002), 1.



## Domestic Policy

The Kyoto Protocol went into force in Russia in 2005, a year after its ratification. Its first commitment period was from 2008-2012. Following the provisions of the UNFCCC and the Kyoto Protocol for the period 2007-2009, the Russian government adopted a series of regulations aimed at further implementation of mitigation and adaptation measures to combat climate change.<sup>141</sup> In this respect, until 2020, the main governing document regarding climate mitigation in Russia was the Climate Doctrine, which was approved in December 2009 under the Medvedev Presidency.<sup>142</sup>

Under the Climate Doctrine, Russia explicitly states that its focus for its climate change mitigation efforts is to lower anthropogenic GHG emissions and increase its absorption by carbon sinks and receivers.<sup>143</sup> The doctrine establishes the following measures in which it plans to achieve these efforts: enhance energy efficiency in all economic sectors; expand renewable and alternative energy sources use; reduce market disproportions, implement financial and tax policy measures stimulating the reduction of anthropogenic GHG emissions; and lastly, protect and improve carbon sinks and receivers, including sustainable FM, deforestation, and reforestation on a sustainable basis.<sup>144</sup> However, in the years following the climate doctrine, what has become evident was that this doctrine would result in minimal change regarding domestic policies on climate change and would instead focus on the measures which require less effort, such as increasing energy efficiency and primarily utilizing carbon sinks.

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<sup>141</sup> Alexander Gusev, "Evolution of Russian Climate Policy: from the Kyoto Protocol to the Paris Agreement," *L'Europe en Formation* 2 (2016): 41.

<sup>142</sup> "Utverzdena Klimaticeskaa doktrina Rossijskoj Federacii," [The Climate Doctrine of the Russian Federation was Approved] President of Russia, December 17, 2009, <http://www.kremlin.ru/events/president/news/6365>.

<sup>143</sup> Ibid.

<sup>144</sup> Ibid.

Following the Kyoto Protocol's ratification, Putin was inactive regarding the Kyoto Protocol regulations before its first commitment period. Henry and Sundstrom examine that it was under Medvedev when actual domestic policies began to be implemented.<sup>145</sup> They argue that the reason was due to the differences in the president's political priorities. During the Medvedev presidency, Russia experienced a recession and was in greater need of utilizing the Kyoto Protocol to promote efforts of economic modernization and to implement the Kyoto Protocol flexible mechanisms for their potential economic incentive.<sup>146</sup> Alexander Gusev, a scientist at the Institute for Advanced Sustainability Studies, furthers Henry and Sundstrom's argument and claims that "the change in attitude from the Russian Federation toward addressing climate change and implementing the Kyoto Protocol was evident upon the approval of the Climate Doctrine and the participation of the Russian President in the United Nations Climate Conference in Copenhagen in 2009."<sup>147</sup> A clear signal that the country's new leadership recognized climate change as a real problem.

#### Utilized Incentives

Russia's participation in the first commitment period of the Kyoto Protocol from 2008-2012 allowed for direct trading of emission quotas as well as financing of emission reduction projects domestically and in other countries through JI and CDM. Though Russia had clear opportunities for economic incentives under the Kyoto Protocol, in the initial years following Russia's ratification under President Putin, there was a lack of active engagement in Russia's

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<sup>145</sup> Henry and Sundstrom, "Russia's Climate Policy: International Bargaining and Domestic Modernisation."

<sup>146</sup> Ibid.

<sup>147</sup> Gusev, "Evolution of Russian Climate Policy: from the Kyoto Protocol to the Paris Agreement," 41-42.

utilization of the flexibility mechanisms.<sup>148</sup> As Henry and Sundstrom argue, this was illustrative of Russian officials' low level of attention to implementation.<sup>149</sup> Under the Medvedev presidency, policies were enacted, and systems were put in place so that domestic actors could finally utilize the Kyoto mechanisms.<sup>150</sup>

Henry and Sundstrom argue that “under the presidency of Dimitri Medvedev, a synergy between the interests of climate change mitigation and economic modernization facilitated a period of greater attention to climate policy initiatives.”<sup>151</sup> In Russia, climate change policy shifted from being primarily driven by international incentives to being incorporated into a major domestic initiative to modernize the economy and increase energy efficiency. However, it is essential to note that the priorities for Russia under the international agreements for climate change under Medvedev were the same as those under Putin. Before the COP15 in 2009, President Medvedev reiterated the three major points that have formed the basis of Russia’s negotiating position in international agreements on climate change.<sup>152</sup> Henry and Sundstrom report that they are as follows:

“First, that major economies must ‘simultaneously make the necessary commitments to tackle climate change; second, that ‘commitments must not conflict with economic opportunities or, most importantly, the development priorities of each country; and third, that the international community recognizes

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<sup>148</sup> Ibid.

<sup>149</sup> Henry, and Sundstrom, “Russia’s Climate Policy: International Bargaining and Domestic Modernisation.”

<sup>150</sup> Ibid, 1299-1300.

<sup>151</sup> Ibid, 1318.

<sup>152</sup> Ibid.

that Russia ‘is already a world leader in emissions reduction’ due, in part, to the country’s forests which absorb carbon emissions.’<sup>153</sup>

Therefore, while in practice it looked as if Medvedev was implementing policies meant to address climate change, in reality, his priorities were still focused on how Russia could utilize the Kyoto Protocol to support its domestic agenda.

International Emission Trading allows trading among Annex I Parties of the following units: AAUs, ERUs, CERs, and RMUs. The trading allowed flexibility to help mitigating countries achieve their Kyoto obligations. Russia had great potential to gain massive economic gain from the trading of both AAU and RMU units due to its low emission reduction commitment and large carbon sinks under the LULUCF sector. However, no RMUs were traded under this mechanism, and only limited trading was conducted by AAUs.<sup>154</sup> In regards to the lack of RMUs being traded, this was due to the lack of inclusion on RMU credits under the EU Emission Trading System, the largest emissions trading scheme in the world.

An essential economic incentive provided by the Kyoto Protocol for Russia was the mechanism of JI. However, the domestic approval system in Russia for these projects was launched only in 2005, and the adjustments to the regulations continued up to 2011.<sup>155</sup> This delay left very little time for implementing the mechanism, as the Kyoto Protocol's first commitment period expired at the end of 2012. Yet, in 2011-2012 the mechanism resulted in over 150 projects in Russia, some of which were perversely utilized.<sup>156</sup> Angelina Davydova, head of the German-

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<sup>153</sup> Ibid, 1304.

<sup>154</sup> Simon John Black, *Carbon Markets Under the Kyoto Protocol: Lessons Learned for Building an International Carbon Market Under the Paris Agreement*, No. 133140, The World Bank, 2018, 11.

<sup>155</sup> Tynkkynen, “Russia and Global Climate Governance,” 16.

<sup>156</sup> Ibid.

Russian Office of Environmental Information, reports that during this period Russia sold 238 MtCO<sup>2</sup> from JI projects at a price that amounted to less than \$10 per ton.<sup>157</sup> Additionally, during the first commitment period, Ukraine and Russia accounted for 90% of issued ERUs, and 97% were issued under Track 1, which meant that they were issued under the countries oversight, exemplifying Russia's interest in using incentives regulated only by domestic policies.<sup>158</sup>

One interesting development in Russia regarding flexibility mechanisms is that for the 2008 - 2012 period, Russia capped its emissions trading at 300 million MtCO<sup>2</sup>.<sup>159</sup> Evaluations of these restrictions were mixed. Anna Korppoo and Arild Moe, program director of the Finnish Institute of International Affairs and senior research fellow at the Fridtjof Nansen Institute, respectively, point to the potential for the government to withdraw its approval of JI projects as the reason behind the cap, "the newly established regulations reflect a strong focus on controlling projects, rather than attracting them."<sup>160</sup> However, in contrast to their argument and in line with Russia utilization of LULUCF credits under the Kyoto Protocol, it could instead be that Russia implemented a cap because it found greater value in utilizing these credits for its own emissions reductions incentives so as to be utilized as proof of Russia's outstanding contributions toward GHG reductions under the Kyoto Protocol. Upon selling a credit unit, Russia could no longer account for this reduction in its yearly emission calculation.

Not only did Russia have the opportunity to gain economic incentives from emission reductions under the Kyoto protocol, but also political ones. Under the Kyoto Protocol, Russia

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<sup>157</sup> Angelina Davydova, "What the Kyoto Protocol gave the Russian Economy," *Kommersant*, January 18, 2016, <http://www.kommersant.ru/doc/2895212>

<sup>158</sup> Ibid.

<sup>159</sup> "Kyoto Projects Face Tough Framework," *Moscow Times*, 7 October 2009, <http://www.themoscowtimes.com/article/386856.html>.

<sup>160</sup> Anna Korppoo and Arild Moe, *Russian Gas Pipeline Projects under Track 2: Case Study of the Dominant Project Type*, Climate Strategies, 2008.

could present itself as a model for an environmentally advanced country, having, as written in the *Rossiskaya Gazeta*, “managed to cut GHG emissions by one-third in ten years. This is about 60 % of the total decline in the world.”<sup>161</sup> Russia had, by 2012, achieved the largest absolute reduction of GHG emissions of any country in the world.<sup>162</sup> In its NIR, Russia reported that the reduction was about 1.8 Gigatons of CO<sup>2</sup>-equivalent or about 50% of its 1990 GHG emissions.<sup>163</sup> Therefore, Tynkkynen argues that Russia's role in international climate politics was that of an ecological donor.<sup>164</sup> Therefore, Russia could utilize this position as leverage in issues outside of the environmental realm, another way in which it could perversely incentivize emission reductions to meet its domestic agenda goals rather than the goals of the Kyoto Protocol.

Russia had the opportunity for both economic and political incentives under the mechanisms of the Kyoto Protocol. However, as presented in this section, Russia did not prioritize utilizing the economic incentives presented under the flexibility mechanisms. Instead, what was utilized to its full extent were the carbon credits it received from the LULUCF sector. The economic benefit Russia could receive from implementing a flexibility mechanism involved more effort than the emission reduction benefits it could get from not doing anything with the credits. It took years for Russia to erect a system through which it could approve JI projects, and the process of trading emissions required Russia to comply with the standards of other countries. However, Russia immediately received credits from its LULUCF sector, with no additional effort. The incentive to do nothing and gain reduction credits that could be utilized to justify

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<sup>161</sup> *Rossiskaya Gazeta*, September 4, 2002, In “Russia and Global Climate Governance,” authored by Nina Tynkkynen, (Paris: 2014).

<sup>162</sup> Igor Makarov, Henry Chen, and Sergey Paltsev, “Impacts of Climate Change Policies Worldwide on the Russian Economy,” *Climate Policy* 20, no. 10 (2020): 1243.

<sup>163</sup> UNFCCC, “2017 National Inventory Report (NIR)” 2017), In “Impacts of Climate Change Policies Worldwide on the Russian Economy,” *Climate Policy* 20, no. 10 (2020): 1243.

<sup>164</sup> Tynkkynen, “Russia and Global Climate Governance,” 10.

more emissions from the energy sector outweighed the incentive to gain money from emissions trading and JI implementation, which involved more work and was less certain in its results.

### Perverse incentives

With every incentive, there is the possibility of achieving the opposite of its intended result. Most famously coined as the “cobra effect” by economist Horst Siebert, a perverse incentive is an incentive that has an unintended and undesirable result contrary to the intentions of its designers.<sup>165</sup> A primary worry for the Kyoto Protocol was the possibility of countries implementing perverse incentives under its rules to negate genuine climate change mitigation efforts. Though the UNFCCC tried to set up regulations that would dissuade and prevent Parties from taking advantage of the flexible mechanisms and accounting regulations in such a way, due to lack of oversight and strict accounting guidelines, there was a high-risk such activities would happen. In the following section, the perverse incentives that Russia could and did utilize under the first commitment period are discussed.

On at least one researched occasion, Russia took advantage of the Kyoto Protocol flexible mechanisms. An essential economic incentive provided by the Kyoto Protocol for Russia was the mechanism of JI. The domestic approval system in Russia for these projects was launched only in 2005, and the adjustments to the regulations continued up to 2011. This delay left little time for implementing the mechanism before Kyoto Protocol's first commitment period expired at the end of 2012. Yet, in 2011-2012 the mechanism resulted in over 150 projects in Russia, some of which were perversely utilized.<sup>166</sup>

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<sup>165</sup> Siebert, *Der Kobra-Effekt: Wie Man Irrwege Der Wirtschaftspolitik Vermeidet*.

<sup>166</sup> Tynkkynen, “Russia and Global Climate Governance,” 16.

A risk related to JI projects under the Kyoto Protocol was that revenues from credits could significantly exceed the cost of reducing GHG emission and, in some instances, the costs of producing the main product<sup>167</sup>. Lambert Schneider and Anja Kollmuss, associates at Stockholm Environment Institute, investigated Russia's implementation of such perverse incentives. The Stockholm Environment Institute is a non-profit, independent research and policy institute established as an initiative of the Government of Sweden, specializing in sustainable development and environmental issues.<sup>168</sup> Schneider and Kollmuss argue that the potential revenue gained from selling GHG reduction credits created perverse incentives for plant operators to increase production or waste generation beyond levels that would occur without crediting.<sup>169</sup>

In their research, published in *Nature Climate Change*, a prominent monthly peer-reviewed scientific journal, Schneider and Kollmuss reveal that "several Russian chemical plants increased production of highly potent GHG waste to 'unprecedented levels' after they concluded they could reap financial benefits from their disposal under JI."<sup>170</sup> In the article, Schneider estimates that between 28 million and 33 million worth of extra credits were issued to these Russian plants.<sup>171</sup>

Similar to the risks associated with flexible mechanisms, economic incentives for sequestering atmospheric CO<sup>2</sup> in forests were considered an effective way to meet GHG reduction commitments under the Kyoto Protocol. One concern raised was that the Kyoto

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<sup>167</sup> Schneider and Kollmuss, "Perverse Effects of Carbon Markets on HFC-23 and SF 6 Abatement Projects in Russia," 1061.

<sup>168</sup> Ibid.

<sup>169</sup> Ibid.

<sup>170</sup> Ibid.

<sup>171</sup> Ibid.



Protocol may create unintended incentives to excessively harvest existing forests if regenerated forests qualify for carbon credits under the reforestation provision of Article 3.3.<sup>172</sup> As already mentioned, Murray calculated that this perverse incentive was not likely to occur under LULUCF accounting due to the high cost credits needed to be valued to incentivize such action. In addition, the lack of a trading scheme in place for RMU units in the EU Emission Trading System dissuaded over-harvesting for such credits.

Under LULUCF, there is the possibility of a perverse incentive due to natural disturbances occurring on unmanaged lands that could be reforested and thus providing a carbon credit while not accounting for the initial emissions from the natural disturbance. If allowed, this would be of use to Russia due to its increase in wildfires and disease in its forests in recent years. However, as described earlier in this chapter, the managed land proxy required that emissions from natural disturbances on managed land be included in the accounting under the first commitment period of the Kyoto Protocol for mandatory and elected activities. Emissions from natural disturbances on unmanaged lands were not included in the accounting so long as those lands continued to be identified by the country as unmanaged. Therefore, Russia could not gain credit for planting trees on a previously unmanaged area that had experienced a forest fire without having to account for the emission from the fire.

Lastly, the cap on credits from LULUCF activities resulted in Russia having no incentive to overestimate carbon sinks under LULUCF accounting. As discussed, in the first commitment period of the Kyoto Protocol, a cap was negotiated individually for each Party under the Kyoto

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<sup>172</sup> Murray, “Carbon Values, Reforestation, and Perverse Incentives under the Kyoto Protocol: An Empirical Analysis,” 271.

Protocol. For all Parties, the removals from FM exceeded the cap established, as represented in Figure 2 below.

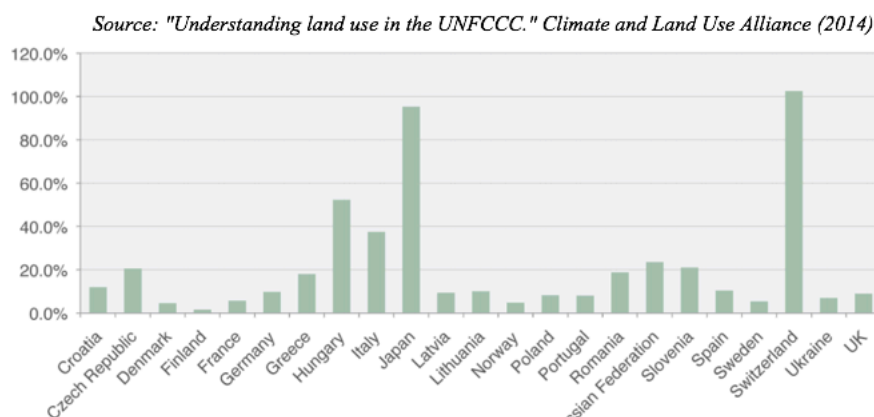


Figure 2: The cap as a % of total FM removals in the 1st commitment period of the Kyoto Protocol

Russia's cap only accounts for 20% of its FM removal.<sup>173</sup> Iversen, Lee, and Rocha argue that because most Parties had removals far beyond the cap, "no economic incentive or disincentive to enhance forests management policies or mitigation actions under LULUCF activities existed."<sup>174</sup> Though having a cap on carbon sink credits provided no incentive to improve upon FM, not having a cap was also seen as a problem due to the potentially excessive contributions that would further unbalance the accounting of GHG emissions.<sup>175</sup> Though the cap was effective in providing some limit to Russia's accounting of carbon sinks, due to Russia's low reduction commitments, it ultimately did not matter because it could utilize all 33 TgCyr-1 toward offsetting emission from carbon sources.

Russia had, by 2012, achieved the largest absolute reduction of GHG emissions of any country in the world. The reduction was about 1.8 Gigatons of CO<sup>2</sup>-equivalent or about 50% of

<sup>173</sup> Iversen, Lee, and Rocha, "Understanding land use in the UNFCCC," 29.

<sup>174</sup> Ibid.

<sup>175</sup> Ibid.

its 1990 GHG emissions.<sup>176</sup> Therefore, under LULUCF activities, the perverse incentives under the Kyoto Protocol were not directly economic in nature, but emission reductive. The inclusion of a cap resulted in a disincentive for sustainable FM practices in Russia as they already met the cap with no action taken. Due to Russia's low emission reduction commitment, the carbon sink credits gained from LULUCF credits were used to offset emissions from the rest of the sectors under the Kyoto Protocol and dissuade genuine mitigation efforts for reduction.

### LULUCF and Fossil Fuels

As of January 1<sup>st</sup>, 2010, the area of managed forests amounted to 601.7 million hectares, which was 35.2% of the total area of Russia at the time.<sup>177</sup> According to estimates from data collected by Russia's national forest inventory before 2007 and its State Forest Register after 2008, in 1990–2010, the managed forests of Russia absorbed 502.4 Mt CO<sup>2</sup> per year from the atmosphere.<sup>178</sup>

Russia's industrial policy of pushing economic growth based on the extraction of raw materials is a central aspect of Vladimir Putin's policies and worldview. He considers natural resources as the foundation of Russia's economic future and status as a superpower.<sup>179</sup> He addressed these issues in his candidate thesis that he defended at the Mining Institute in 1997. In his thesis, he urged the country's oligarchs to focus on resources and contended that "the state

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<sup>176</sup> UNFCCC, "2017 National Inventory Report (NIR)" 2017), In "Impacts of Climate Change Policies Worldwide on the Russian Economy," 1243.

<sup>177</sup> *Forest Code of the Russian Federation*, (Moscow: Omega-L, 2007).

<sup>178</sup> *National Report of the Russian Federation on Inventory of Anthropogenic Emissions from Sources and Absorption by Absorbers of Greenhouse Gases not Controlled by the Montreal Protocol for 1990–2010, Part I*, (Moscow: Roshydromet, 2012).

<sup>179</sup> Harley Balzer, "Vladimir Putin's Academic Writings and Russian Natural Resource Policy," *Problems of Post-Communism* (Jan./Feb. 2006): 48–54.

has the right to regulate the process of their development and use.”<sup>180</sup> Russia’s forests were fundamental for Russia in securing a carbon cushion for more business-as-usual economic growth under the Kyoto Protocol and forwarding Putin’s domestic policies. Vladimir Putin, commenting in advance of the 2009 Copenhagen climate conference, argued that Russian forests are the “lungs of the world” and asserted that the “ability of Russia’s forest to absorb carbon dioxide be taken into account.”<sup>181</sup> By the end of the first Kyoto commitment period, GHG emissions from Russia had declined by 32.7% without LULUCF and 36.3% with, yet it continued to be one of the world’s largest exporters of fossil fuels.<sup>182</sup>

During the Kyoto protocol negotiations, Russia pushed the agenda to double its GDP. In his 2003 Annual Address to the Federal Assembly of the Russian Federation and repeated in his address in 2004, Putin communicated to the nation his intent to double the GDP in the next ten years.<sup>183</sup> With an economy driven by its production and export of natural resources, it would seem evident that he planned to achieve this goal through the continued reliance on fossil fuels. According to the 2021 Russia’s National Inventory Report, from 2005 to 2012, Russia increased its emissions from the energy sector from 1583.7 to 1623.3 Mt CO<sup>2</sup>-equivalent.<sup>184</sup> Therefore proving to some extent that Russia’s agenda to increase GDP was tied to the increase of its reliance on fossil fuels, and therefore the increase in fossil fuel emissions.

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<sup>180</sup> *Ibid.*, 52.

<sup>181</sup> Elana Wilson Rowe, “A Sylvan Superpower? Russian Forests in International Climate Negotiations,” *Geoforum* 48 (2013): 216-224.

<sup>182</sup> *Nacional'nyj Doklad o Kadastre*, , [National Inventory Report ], 13.

<sup>183</sup> “Poslanie Federal'nomu Sobraniu Rossijskoj Federacii,” [Mission to the Federal Assembly of the Russian Federation], *President of Russia*, May 16, 2003, <http://kremlin.ru/events/president/transcripts/21998>.

<sup>184</sup> *Nacional'nyj Doklad o Kadastre*, , [National Inventory Report], 13.

Counterproductively, the accounting of carbon sequestration under LULUCF activities as carbon credits will only increase the threat climate change poses to the world and forests, not mitigate it. Carbon credits will further increase CO<sup>2</sup> concentrations in the atmosphere because they justify the continued release of carbon stored in fossil fuels in exchange for temporary carbon sequestration in carbon sinks. Since Russia already did not need to reduce its emissions significantly under its commitments, utilizing carbon sinks to offset GHG emissions was a bonus that it could utilize to even further the amount of emissions it could offset from its carbon sources.

## **Chapter 2: The Kyoto Protocol Second Commitment Period (2013-2020)**

The Kyoto Protocol's second phase, called the second commitment period, was established through the Doha Amendment in 2012 and ran from 2013 – 2020. The Doha Amendment strengthened GHG emissions reduction commitments for developed countries and set a goal of reducing GHG emissions by 18% compared to 1990 levels.<sup>185</sup> Russia announced its withdrawal from the second commitment period of the Kyoto Protocol in 2010.<sup>186</sup>

### LULUCF under the Second Commitment Period

Due to the continued advancement of scientific modeling and in response to lessons learned from the first commitment period of the Kyoto Protocol, LULUCF accounting rules continued to evolve. LULUCF regulations were renegotiated in preparation for the second

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<sup>185</sup>“Kyoto’s Second Phase Emission Reductions Achievable But Greater Ambition Needed,” *United Nations*, June 17, 2020, <https://unfccc.int/news/kyoto-s-second-phase-emission-reductions-achievable-but-greater-ambition-needed>.

<sup>186</sup> Tynkkynen, “Russia and Global Climate Governance,” 13.

commitment period. The primary issue with LULUCF under the first commitment period was that, since the LULUCF rules were not finalized until the Marrakesh COP in 2001, Parties had an opportunity to add flexibility, such as using LULUCF credits, to meet their already agreed reduction commitments for the first commitment period.<sup>187</sup> Iversen et al. argues that this occurrence under the first commitment period was the main reason for the push to agree on rules for the second commitment period before, or at the same time as, commitments were finalized.<sup>188</sup>

Russia continued to engage in LULUCF negotiations despite rejecting a second commitment period for the Kyoto Protocol on the belief that work in negotiation groups could serve to form the basis of a new agreement. In the second commitment period of the Kyoto Protocol, a “reference level” approach was adopted for FM.<sup>189</sup> Called the forest management reference level, it allowed countries to propose a quantified amount against which to compare their performance during the second commitment period.<sup>190</sup>

Parties decided to continue enacting FM caps under the accounting of the LULUCF sector for the second commitment period. However, unlike the first commitment period, the cap only applied for credits, and debits were uncapped. Like the first commitment period, the cap was again set at 3.5 % of the total emissions without LULUCF in 1990.<sup>191</sup> Following the managed land proxy, emissions from natural disturbances on managed land were included in the accounting under the first commitment period of the Kyoto Protocol for mandatory and elected activities. Emissions from natural disturbances on unmanaged lands were not included in the accounting so long as those lands continued to be identified by the country as unmanaged. The

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<sup>187</sup> Iversen, Lee, and Rocha, “Understanding land use in the UNFCCC,” 27.

<sup>188</sup> Ibid.

<sup>189</sup> Iversen, Lee, and Rocha, “Understanding land use in the UNFCCC,” 30.

<sup>190</sup> Ibid.

<sup>191</sup> Ibid, 32.

same rule applied for the second commitment period except that a modification was introduced that, under certain conditions and if the country has indicated in its NIR submitted in 2015 that it wishes to do so, emissions and removals that occurred on land subject to natural disturbances and reported as FM or Afforestation and Reforestation may be excluded from accounting.<sup>192</sup> This new provision was introduced to accommodate the national circumstances of some countries, in particular those that are subject to natural disturbances in large areas of managed land like wildfires.<sup>193</sup>

If Russia had signed onto the second commitment, it would likely have tried to utilize the new modification to the natural disturbances accounting under the LULUCF sector. Without accounting for natural disturbances, Russia's carbon absorption would increase immensely. However, considering that caps were still implemented in the second period and Russia did not have issues exceeding the cap when accounting for emissions from natural disturbances under the first commitment period, this provision would not benefit Russia economically, only symbolically. It could then state even greater contributions toward global GHG reductions.

#### Deciding not to Implement the Second Commitment Period

The domestic debate for Russia about joining the second commitment period concentrated on whether it was wise or not to abandon the financial opportunity provided by the Kyoto mechanisms.<sup>194</sup> Anna Korppoo and Adnan Vatansever, the program director of the Finnish Institute of International Affairs and a senior associate in the Energy and Climate

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<sup>192</sup> Ibid., 38.

<sup>193</sup> Ibid.

<sup>194</sup> O. Samofalova, "Ruchkoi pomashem Kiotskomu Protokolu," [Let's wave the Kyoto Protocol], *Vzglyad: Delovaya Gazeta*, October 18, 2012, <http://vz.ru/economy/2012/10/18/603185.html>.

Program at the Carnegie Endowment, respectively, examine that business actors active in JI projects supported Russia's participation in the second commitment period, whereas the Russian leadership assumed that the benefits would dry up relatively soon due to the limited number of participants in Kyoto's second commitment period.<sup>195</sup> The lack of Russian leadership to consider the economic benefit of JI projects showed that the priority for Russia's participation under the Kyoto Protocol was not directly for economic reasons, but for reasons which would forward the nation's domestic agenda.

One month before the December 2009 COP in Copenhagen, Prime Minister Putin announced that Russia would support a new agreement if two conditions were met: that all states representing a significant share of GHG emissions also sign, and that the role of Russia's forests as a carbon sink be considered.<sup>196</sup> Russia would not participate in a second commitment period under the Kyoto Protocol under any circumstances unless the two conditions were met. These conditions support the argument that Russia's primary reason behind participating in the Kyoto Protocol was its need to utilize allowed carbon credits under the LULUCF sector to offset emission reductions from carbon sources. Since the two conditions forwarded by Putin were not both met under the second commitment period of the Kyoto Protocol, Russia instead focused its efforts on influencing the conditions of a new agreement which would include broad participation and a full accounting of forestry. This new agreement would be the Paris Agreement.

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<sup>195</sup> A. Vatansever and A. Korppoo, "A Climate Vision for Russia: From Rhetoric to Action," *Policy Outlook, Carnegie Endowment for International Peace*, August 1, 2012, <http://carnegieendowment.org/2012/08/01/climate-vision-for-russiafrom-rhetoric-to-action/d4tq>.

<sup>196</sup> Henry and Sundstrom, "Russia and the Kyoto Protocol: From Hot Air to Implementation," 123.



### What did Russia do without the Kyoto Protocol?

Though Russia did not sign on the second commitment period, it continued participating in the UNFCCC, reporting on its emissions, and passing domestic environmental policy during this time. The Presidential Decree “On the reduction of GHG emissions” adopted in 2013 set national targets for reducing GHG emissions and thus contributed to the first actual steps in this direction. The goal established by the decree aimed at decreasing emissions by 25% by 2020, compared to 1990 levels, a large increase from its zero commitment under the Kyoto Protocol.<sup>197</sup> However, this target was heavily criticized by the expert community, since Russia's emission levels in 2012 amounted to more than 30% of reductions compared to 1990, therefore giving Russia room to continue to increase emissions.<sup>198</sup> The emission reduction commitment of 2013 was the basis for the 30% reduction Russia committed to under the Paris Agreement.<sup>199</sup> Again, Russia was setting itself up to have a low emission reduction target in the future, which would allow for it to be met by purely carbon sequestering from carbon sinks, and without genuine carbon reduction efforts from carbon sources.

### Chapter 3: The Paris Agreement (2015-)

The Kyoto Protocol only obligated developed countries in Annex I to reduce GHG emissions, a sentiment which was in line with the status of the global economy in the 1990s. However, as reported by Alexey Kokorin, head of the Climate and Energy Program at the WWF

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<sup>197</sup> “Ukaz Prezidenta Rossijskoj Federacii ot 30.09.2013 g. No 752,” [Decree of the President of the Russian Federation of September 30, 2013, No. 752], *President of Russia*, October 1st, 2013, <http://www.kremlin.ru/acts/bank/37646>.

<sup>198</sup> Gusev, “Evolution of Russian Climate Policy: from the Kyoto Protocol to the Paris Agreement,” 42.

<sup>199</sup> *Ibid.*

and one of the leading Russian experts on climate change, in 2016 developing countries were responsible for 60% of global emissions, and the goal of keeping global warming at the 2-degree level required more collective action.<sup>200</sup> Therefore, following the Kyoto Protocol, a new agreement was developed to meet the new global economic and environmental conditions. This new agreement on climate change was the Paris Agreement.

The Paris Agreement is based on a “bottom-up” approach, which implies that countries define their obligations and targets to reduce GHG emissions on the national level and develop an adaptation plan.<sup>201</sup> National targets were to be submitted to the UNFCCC by 2020 and were considered contributions to global actions to mitigate climate change. The UNFCCC states that “the goal of the Paris Agreements is to limit global warming to well below 2, preferably to 1.5 degrees Celsius, compared to pre-industrial levels.”<sup>202</sup> Additionally, another primary goal for Parties under the Paris Agreements is to “reach global peaking of greenhouse gas emissions as soon as possible.”<sup>203</sup> The new agreement on climate change was adopted at the UNFCCC conference in Paris on December 12th, 2015, and entered into force on November 4th, 2016.<sup>204</sup>

The Paris Agreement provides a framework for coordinating national policies regarding climate change. Unlike the Kyoto Protocol that preceded it, the Paris Agreement does not include any binding commitments on emissions reduction. Instead, the Parties have specified indicative

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<sup>200</sup> Alexey Kokorin, “New Factors and Stages of the Global and Russian Climate Policy,” *Economic Policy* 1 (2016): 160.

<sup>201</sup> Gusev, “Evolution of Russian Climate Policy: from the Kyoto Protocol to the Paris Agreement,” 46.

<sup>202</sup> *The Paris Agreement*, 3 <https://unfccc.int/process-and-meetings/the-paris-agreement/the-paris-agreement>.

<sup>203</sup> *The Paris Agreement*, 4, <https://unfccc.int/process-and-meetings/the-paris-agreement/the-paris-agreement>.

<sup>204</sup> Ibid.

targets in Nationally Determined Contributions (NDCs), generally set for 2030.<sup>205</sup> As part of the implementation of the Paris Agreement, Russia announced in its NDC a target for limiting GHG emissions, which provides for a reduction in GHG emissions by 2030 to 70 % relative to the 1990 level, taking into account “the maximum possible absorptive capacity of forests and other ecosystems and subject to sustainable and balanced social economic development of the Russian Federation.”<sup>206</sup>

### Negotiations and ratification

In its NDC, submitted in November of 2020, Russia committed itself to a reduction in GHG emissions by 2030 at 70 % relative to the 1990 level, taking into account “maximum possible absorptive capacity of forests and other ecosystems and subject to the sustainable and balanced social-economic development of the Russian Federation.”<sup>207</sup> The inclusion of the language “maximum possible account of absorbing capacity of forests” combined with “balanced social-economic development” indicates that Russia plans to continue utilizing and emphasizing the importance of the inclusion of carbon sinks under the LULUCF sector in support of its economic development.

Marianna Poberezhskaya, a Politics and International Relations professor at Nottingham Trent University, identifies three main factors that influenced Russia’s strategy at the Paris

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<sup>205</sup> *The Paris Agreement*, 3, <https://unfccc.int/process-and-meetings/the-paris-agreement/the-paris-agreement>.

<sup>206</sup> *Nationally Determined Contribution of the Russian Federation*, (Moscow: Russian Federation, 2021), 1.

<sup>207</sup> *Ibid.*

Agreement talks.<sup>208</sup> First, Russia wanted strong recognition of the role forests play in the climate, “putting the country and its 640 billion trees in an excellent position to negotiate emissions reductions.”<sup>209</sup> This is supported by Russia's inclusion of utilizing forests to their “maximum capacity” within its Intended Nationally Determined Contribution (INDC) and NDC.<sup>210211</sup> Second, Russia wanted commitments from other countries before signing up for a deal. These factors not being met are why Russia decided not to sign onto the second commitment period of the Kyoto Protocol. Lastly and most obviously, the country would not commit to a deal that would pressure its economic development.<sup>212</sup>

Just as with the Kyoto Protocol, the accounting for LULUCF activities under the Paris Agreement was one of the most contentious parts of the agreement. Annalisa Savaresi and Lucia Perugini, Director for Europe for the Global Network on Human Rights and the Environment and an expert in the LULUCF sector and part of the negotiating process under the UNFCCC as part of the Italian delegation, respectively, forward the argument that the fragmented approach to the LULUCF sector under the UNFCCC and the Kyoto Protocol has been criticized for its lack of oversight and for not providing adequate incentives for promoting sustainable land-based mitigation activities.<sup>213</sup> In support of this thesis, they believe that “this approach has also

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<sup>208</sup> Marianna Poberezhskaya, “Paris Climate Talks: Russia will use its Huge Forests as a Bargaining Chip,” *The Conversation*, November 19, 2015, <https://theconversation.com/paris-climate-talks-russia-will-use-its-huge-forests-as-a-bargaining-chip-49386>.

<sup>209</sup> Ibid.

<sup>210</sup> *Intended Nationally Determined Contribution of the Russian Federation*, (Moscow:Russian Federation, 2015), 1.

<sup>211</sup> *Nationally Determined Contribution of the Russian Federation*, 1.

<sup>212</sup> Poberezhskaya, “Paris Climate Talks: Russia will use its Huge Forests as a Bargaining Chip,” <https://theconversation.com/paris-climate-talks-russia-will-use-its-huge-forests-as-a-bargaining-chip-49386>.

<sup>213</sup> Savaresi, Annalisa, and Lucia Perugini, “Sinks, Reservoirs of GHGS and Forests,” In *THE PARIS AGREEMENT ON CLIMATE CHANGE*, (Edward Elgar Publishing, 2021), 10.

engendered perverse outcomes...leading to no net mitigation”<sup>214</sup> Therefore, the goal of the Paris Agreement should have been to address these criticisms and provide resolutions to them.

While the Paris Agreement addressed shared obligations concerning reporting, no new accounting rules for the land-use sector have been adopted. Instead, when accounting for the impact of their mitigation actions, the Paris Agreement states that all Parties “shall promote environmental integrity, transparency, accuracy, completeness, comparability, and consistency, and ensure the avoidance of double counting.”<sup>215</sup> As a result, a great deal of uncertainty surrounds the methodologies and procedures that Parties will deploy to report and account for their LULUCF activities. This uncertainty is likely to result in Russia employing methodologies that aim to promote their domestic agenda of economic growth rather than the Paris Agreement’s agenda of reducing GHG emissions.

During the Paris Agreement negotiations from 2015 to 2018, Parties developed the Katowice Rulebook, a precise and detailed agreement that sets out the basic procedures and mechanisms underlying the implementation of the Paris Agreement.<sup>216</sup> However, Savaresi and Perugini observe that “the Katowice Rulebook largely leaves it to Parties to choose the modalities and procedures for accounting their emission reductions to be used in their NDCs.”<sup>217</sup> In combination with the rulebook, Parties are encouraged under the Paris Agreement to rely on

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<sup>214</sup> Ibid.

<sup>215</sup> *The Paris Agreement*, 5, <https://unfccc.int/process-and-meetings/the-paris-agreement/the-paris-agreement>.

<sup>216</sup> “The Katowice Rulebook – main principles of the document” *United Nations*, <https://cop24.gov.pl/news/news-details/news/the-katowice-rulebook-main-principles-of-the-document/>

<sup>217</sup> Savaresi and Perugini, “Sinks, Reservoirs of GHGS and Forests,” 11.

extant guidance, either under the Kyoto Protocol or the UNFCCC.<sup>218</sup> This means that the rules of the LULUCF sector under the Paris Agreement are almost the same as under the Kyoto Protocol.

The same issues, such as non-permanence, uncertainty in accounting, and the allowance to choose which LULUCF activities to include in accounting are still present under the Paris Agreement and therefore can continue to be utilized perversely. Savaresi and Perugini conclude that, in the LULUCF sector, like in many others, the Paris Agreement relies on Parties' willingness to do the right thing, while giving them little incentives to do so.<sup>219</sup> Based on this conclusion and Russia's initial implementation of the LULUCF sector under the Kyoto Protocol, it is likely that Russia will choose an accounting model which will result in the largest value of carbon absorption from its carbon sinks, and therefore the largest amount of carbon credits it could use to offset its emission from its fossil-fuel driven economy.

#### LULUCF under the Paris Agreement

The 2019 IPCC Special Report on Land and Climate Change emphasizes that meeting the Paris Agreement's temperature goal will not be possible without radical changes in how land resources are utilized.<sup>220</sup> The Paris Agreement goes beyond assigning commitments to only developed countries. Under the Paris Agreement, all Parties must pursue domestic mitigation measures and strive to "achieve a balance between anthropogenic greenhouse gas emissions by

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<sup>218</sup> Ibid., 10.

<sup>219</sup> Ibid.

<sup>220</sup> P. R. Shukla, J. Skea, E. Calvo Buendia, V. Masson-Delmotte, H. O. Pörtner, D. C. Roberts, P. Zhai et al, "IPCC, 2019: Climate Change and Land: an IPCC special report on climate change, desertification, land degradation, sustainable land management, food security, and greenhouse gas fluxes in terrestrial ecosystems," (2019).

sources and removals by sinks be achieved in the second half of this century.”<sup>221</sup> Furthermore, all Parties are encouraged to “take action to conserve and enhance, as appropriate, sinks and reservoirs of greenhouse gases... including forests.”<sup>222</sup>

Under the Paris Agreement, the goal is that contributions outlined in countries' NDCs will be sufficient to achieve carbon neutrality in 2050, implying that by 2050 all emissions are balanced by removals, such as carbon sinks. However, no defined rules on what aspects of LULUCF need to be accounted for, how they are accounted for, and which methods are to be applied, were established.<sup>223</sup> The explicit language regarding accounting stated in the Paris Agreement is that “Parties shall account for their nationally determined contributions. In accounting for anthropogenic emissions and removals corresponding to their nationally determined contributions, Parties shall promote environmental integrity, transparency, accuracy, completeness, comparability, and consistency, and ensure the avoidance of double counting...” and provide “information necessary to track progress made in implementing and achieving its nationally determined contributions.”<sup>224</sup> <sup>225</sup> Therefore, it is understood that the member states are to design their accounting system individually as long as it is compatible with its NDC and consistent with IPCC guidelines, which come with their own inherent issues and potential risks.

Anke Herold and Hannes Böttcher, senior researchers at the Öko-Institut, examine that the LULUCF sector is included in Parties' NDCs using a variety of accounting systems, namely: as an absolute mitigation target relative to a base year (48 countries); as a mitigation target vis-a-

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<sup>221</sup> *The Paris Agreement*, 4, <https://unfccc.int/process-and-meetings/the-paris-agreement/the-paris-agreement>.

<sup>222</sup> *Ibid.*, 6.

<sup>223</sup> Savaresi and Perugini, “Sinks, Reservoirs of GHGS and Forests.”

<sup>224</sup> *The Paris Agreement*, 5, <https://unfccc.int/process-and-meetings/the-paris-agreement/the-paris-agreement>.

<sup>225</sup> *Ibid.*, 17.

vis an economy-wide business as usual scenario (41 countries); and as a separate LULUCF target (17 countries).<sup>226</sup> Russia falls under the first category. Therefore, Russia has chosen a target of an emission reduction against a base year, and the total net emissions and removals including the land-use sector are compared to this base year. This target type, in combination with Russia's choice to use 1990 as a base year again, means that it is in a similar position as it was under the Kyoto Protocol where it needs to do very little in terms of mitigation efforts to meet its target.

For Russia, with the inclusion removals from the LULUCF, in 2011 the total emission value was 1,692.4 MtCO<sup>2</sup>-equivalent which was 49.3% of the total emission in 1990 or 106.5% of total emission in 2000.<sup>227</sup> This further proves how vital the base year of 1990 is for Russia in its accounting, because without this year, even with accounting for LULUCF activities, Russia would greatly exceed any reduction targets. This is why under the Paris Agreement Russia has continued to use 1990 as a base year.

The Paris Agreement makes specific reference to land use, reaffirming the intention of countries to utilize the LULUCF sector to meet its reduction commitments. Under Article 6 of the Paris Agreement, emissions and removals in the LULUCF sector may be used in the context of the 'voluntary cooperation' implementation of Parties' NDCs.<sup>228</sup> Article 5 of the Paris

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<sup>226</sup> Anke Herold and Hannes Böttcher, 'Accounting of the Land-Use Sector in Nationally Determined Contributions (NDCs) under the Paris Agreement' (Deutsche Gesellschaft für Internationale Zusammenarbeit 2018), [https://www.transparencypartnership.net/system/files/document/Guide%20Accounting%20of%20landuse%20sector%20in%20NDCs%28vf%29\\_20181010.pdf](https://www.transparencypartnership.net/system/files/document/Guide%20Accounting%20of%20landuse%20sector%20in%20NDCs%28vf%29_20181010.pdf).

<sup>227</sup> First Biennial Report of the Russian Federation, (Moscow: Russian Federation, 2014) [https://unfccc.int/files/national\\_reports/biennial\\_reports\\_and\\_iar/submitted\\_biennial\\_reports/application/pdf/1br\\_rus\\_unofficial\\_translation\\_eng.pdf](https://unfccc.int/files/national_reports/biennial_reports_and_iar/submitted_biennial_reports/application/pdf/1br_rus_unofficial_translation_eng.pdf).

<sup>228</sup> *The Paris Agreement*, 7, <https://unfccc.int/process-and-meetings/the-paris-agreement/the-paris-agreement>.



Agreement is mainly dedicated to forests. The first two paragraphs of Article 5 address the inclusion of forests:

5.1. Parties should take action to conserve and enhance, as appropriate, sinks and reservoirs of greenhouse gases as referred to in Article 4, paragraph 1 (d), of the [UNFCCC] , including forests.

5.2. Parties are encouraged to take action to implement and support, including through results-based payments, the existing framework as set out in related guidance and decisions already agreed under the [UNFCCC] for: policy approaches and positive incentives for activities relating to reducing emissions from deforestation and forest degradation, and the role of conservation, sustainable management of forests and enhancement of forest carbon stocks in developing countries; and alternative policy approaches, such as joint mitigation and adaptation approaches for the integral and sustainable management of forests, while reaffirming the importance of incentivizing, as appropriate, non-carbon benefits associated with such approaches.<sup>229</sup>

The first refers to land use as dealt with under the UNFCCC, while the second refers to frameworks, decisions, and guidance adopted over the years as they relate to forests. Together these two paragraphs integrate the complete forest-related legal framework as previously defined by the UNFCCC and decisions adopted.<sup>230</sup>

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<sup>229</sup> *The Paris Agreement*, 6, <https://unfccc.int/process-and-meetings/the-paris-agreement/the-paris-agreement>.

<sup>230</sup> “Forests and Land Use in the Paris Agreement,” *Climate Focus*, December 22, 2015, <https://www.climatefocus.com/sites/default/files/20151223%20Land%20Use%20and%20the%20Paris%20Agreement%20FIN.pdf>.

The language under Article 5 has specifically been addressed by Russia in its NDC. In its NDC, Russia states that its inclusion considering the maximum possible absorptive capacity of forests is intended to “demonstrate the importance of protecting and improving the quality of sinks and sinks of greenhouse gases, as mentioned in Article 5 of the Paris Agreement.”<sup>231</sup> Therefore, giving Russia the ability to utilize the inclusion of forests perversely to increased reductions under the guise of fulfilling the intended goals of the Paris Agreement.

Before further analyzing the inclusion of LULUCF under Russia’s NDC and the Paris Agreement, it is of note to mention Russia’s implementation of flexibility mechanisms under the Paris Agreement. Under the Kyoto Protocol, three flexibility mechanisms were created: emissions trading, JI projects and the CDM. Under the Paris Agreement, the inclusion of such mechanisms is referred to and still being negotiated. What is of note to bring up is Russia’s inclusion of flexibility mechanisms under its INDC and NDC. Under the INDC, released in 2015, Russia initially stated that “Указанная величина INDC будет достигнута без использования международных рыночных механизмов.”<sup>232</sup> Therefore, Russia was tentatively committing itself to achieve emission reduction without the added incentive of flexibility mechanisms. It is relevant to note that in 2015, oil prices were low as between mid-2014 and early 2016, the global economy faced one of the largest oil price declines in modern history.<sup>233</sup> Russia’s economy is heavily dependent on the price of oil since its fossil fuels are the foundation of its economy.<sup>234</sup> Therefore, it is plausible to assume that Russian leadership at the time was

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<sup>231</sup> *Nationally Determined Contribution of the Russian Federation*, 1.

<sup>232</sup> *Intended Nationally Determined Contribution of the Russian Federation*, 1.

<sup>233</sup> Marc Stocker, and John Baffes, and Dana Vorisek, “What triggered the oil price plunge of 2014-2016 and why it failed to deliver an economic impetus in eight charts,” *World Bank Blogs*, January 18, 2018, <https://blogs.worldbank.org/developmenttalk/what-triggered-oil-price-plunge-2014-2016-and-why-it-failed-deliver-economic-impetus-eight-charts>.

<sup>234</sup> International Energy Agency, *Key World Energy Statistics*.

thinking it may want to more strictly enact policies that would diversify its economy and reduce its reliance on fossil fuels, therefore reducing the need to include carbon reductions from flexibility mechanisms.

However, under their NDC, published in December of 2020 when oil prices were rising following the Russia–Saudi Arabia oil price war earlier in the year, Russia goes back on this declaration and states that “исходит из важности сохранения и увеличения поглощающей способности лесов и иных экосистем, а также необходимости ее максимально возможного учета, в том числе при реализации механизмов Соглашения.”<sup>235236</sup> The former would require Russia to implement domestic policies and actions regarding the reduction of emissions while the latter would not. This is relevant to note because Russia’s initial commitment not to include these reductions in their calculation of meeting emission reductions implies a change in focus for Russia regarding implementing domestic policies to meet commitments under the Paris Agreement. However, Russia going back on this declaration and including more vague language regarding mechanisms in its official NDC reasserts the argument that Russia’s utilization of incentives under international agreements on climate change is focused on meeting reductions without implementing domestic policies that impede economic growth. Even with low oil prices and the evidence that a fossil fuel economy posed to be very volatile for Russia’s economy, the change did not happen.

Under the “bottom-up” approach embedded in the Paris Agreement, Parties are left free to select the sectors to be included in the context of the voluntary cooperation activities outlined

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<sup>235</sup> “Crude Oil Prices - 70 Year Historical Chart, “<https://www.macrotrends.net/1369/crude-oil-price-history-chart>.”

<sup>236</sup> *Nationally Determined Contribution of the Russian Federation*, 10.

by Article 6.<sup>237</sup> In accordance with referring to extant rules from the UNFCCC and Kyoto Protocol, Parties can implement caps on their carbon credits from changes in forestry management, such as were present under the Kyoto Protocol. The EU, a country committed to reducing its GHG emissions, plans to implement a 3.5% cap on its FM credits under the Paris Agreement.<sup>238</sup> Elana Rowe, a senior research fellow at the Norwegian Institute of International Affairs, argues that these caps were initially established because “a full accounting of the forestry sink would have been politically unacceptable to developing countries, who argued that full accounting would water out the climate change mitigation process and allow developed countries to shirk the responsibility generated by their high historical emissions.”<sup>239</sup> However, due to the suggestive nature of regulations under the Paris Agreement, it will not be surprising if nations, such as Russia, include carbon credits in their calculation with no cap. Given the condition of “maximum possible account of absorbing capacity of forests” provided in Russia’s NDC, this thesis argues that, going with Russia’s previous utilization of the LULUCF sector, Russia will probably not implement a cap in its accounting of the sector.<sup>240</sup> A cap would limit the amount of carbon reductions Russia could utilize to offset fossil fuel emissions. A cap which upon its implementation Russia immediately disagreed with and negotiated to increase.

Reducing emissions from deforestation and forest degradation (REDD+) is a framework created by the UNFCCC to guide activities in the forest sector that reduce emissions from deforestation and forest degradation, and the sustainable management of forests and the

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<sup>237</sup> *The Paris Agreement*, 7, <https://unfccc.int/process-and-meetings/the-paris-agreement/the-paris-agreement>.

<sup>238</sup> Annalisa Savaresi and L. Perugini, ‘The Land Sector in the 2030 EU Climate Change Policy Framework: A Look at the Future’ *Journal for European Environmental and Planning Law*, 16 (2019), 148

<sup>239</sup> Rowe, “A Sylvan Superpower? Russian Forests in International Climate Negotiations,” 224.

<sup>240</sup> *Nationally Determined Contribution of the Russian Federation*, 1.

conservation and enhancement of forest carbon stocks in developing countries.<sup>241</sup> This framework includes reference levels, social and environmental safeguards, measurement, reporting, and verification. A priority for the UNFCCC regarding forests is to implement REDD+ to help support developing countries in their management of forests.<sup>242</sup> However, since Russia is not a part of REDD+, this thesis does not provide an analysis of or REDD+, but believes that it is important to mention other areas under which the UNFCCC is managing LULUCF activities.

Under the Paris Agreement, the accounting of the LULUCF sector has not changed. Instead, it has allowed countries to have even more agency regarding how they plan to conduct their accounting. Far from having resolved the challenges associated with emissions and removals in the land-use sector, Savaresi and Perugini argue that the Paris Agreement has, “imported these [challenges] into the post-2020 architecture, and made them worse, by failing to develop a new set of accounting rules applicable to all Parties, and by leaving undetermined the scope to use these activities in the context of Article 6’s voluntary cooperation mechanism.”<sup>243</sup> The continuation of a lack of defined accounting rules and scope for included LULUCF activities provides Russia the continued incentive to perversely utilize this sector without consequences.

### Implementation So Far

In its NDC, Russia does not report on what model of accounting it will proceed with to achieve the “maximum possible account of absorbing capacity of forests.” The NDC doesn’t

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<sup>241</sup> “What is REDD+?,” *United Nations*, <https://unfccc.int/topics/land-use/workstreams/redd/what-is-redd>.

<sup>242</sup> *Ibid.*

<sup>243</sup> Savaresi and Perugini. “Sinks, Reservoirs of GHGS and Forests,” 10.

mention forests in any capacity outside of stating that they will be taken into account when Russia calculates its reductions in greenhouse gas emissions.<sup>244</sup> Due to the vague nature of Russia's NDC and the lack of strict guidelines for LULUCF under the Paris Agreement, Russia will likely forward a calculation model which will account for the maximum possible amount of carbon absorption it can justify. This will allow Russia to meet its commitments and not have to reduce emissions from its fossil fuel industry.

A significant aspect of how Russia will implement its commitments under the Paris Agreement will be how it defines the "maximum possible absorptive capacity of forests." In a February 2021 directive, Russia's Environment Ministry decreed that, for the purposes of carbon accounting, Russia's unmanaged "reserve" forests would be treated equally to its managed forests.<sup>245</sup> In a statement, the ministry claimed that this move alone could increase absorption figures by almost half a billion MtCO<sub>2</sub> annually.<sup>246</sup> However, under IPCC guidelines, unmanaged forests which are neither commercially exploited nor protected by humans may not be added, as their GHG absorption is considered part of the natural carbon cycle.<sup>247</sup> Russia's approach to carbon accounting aims to abolish this distinction. This is indicative that under the Paris Agreement, Russia will continue to utilize its carbon sinks to their maximum capacity and

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<sup>244</sup> *Nationally Determined Contribution of the Russian Federation.*

<sup>245</sup> "Minprirody Rossii razrabotalo rasporyazhenie o vnesenii izmenenij v Metodicheskie ukazania po kolicestvennomu opredeleniu ob"ema poglosenia parnikovyh gazov," [The Ministry of Natural Resources of Russia has developed an order on amendments to the Methodological Guidelines for the quantitative determination of the volume of absorption of greenhouse gases], Ministry of Natural Resources and Ecology of the Russian Federation, February 21, 2021, [https://www.mnr.gov.ru/press/news/minprirody\\_rossii\\_razrabotalo\\_rasporyazhenie\\_o\\_vnesenii\\_i\\_zmeneniy\\_v\\_metodicheskie\\_ukazaniya\\_po\\_kolich/](https://www.mnr.gov.ru/press/news/minprirody_rossii_razrabotalo_rasporyazhenie_o_vnesenii_i_zmeneniy_v_metodicheskie_ukazaniya_po_kolich/).

<sup>246</sup> *Ibid.*

<sup>247</sup> Felix Light, "Russia Says Its Forests Neutralize Billions of Tons of Greenhouse Gases. Scientists Have Their Doubts," *The Moscow Times*, July 5, 2021. <https://www.themoscowtimes.com/2021/07/05/russia-says-its-forests-neutralize-billions-of-tons-of-greenhouse-gases-scientists-have-their-doubts-a74428>.

establish accounting methods under the recommended rules which benefit the country's economic agenda.

Even before the decree, Russia was already overstating its proportion of managed forests, and therefore its carbon absorption, says scientist Alexei Yaroshenko, head of the forestry department at Greenpeace Russia.<sup>248</sup> Though 77% of Russian forests would be considered “managed” by IPCC standards, individual countries are free to set their own definitions of the term.<sup>249</sup> As a result, Yaroshenko observes that Russian forest statistics classify fire control zones, which are areas of remote woodland where authorities do not have to extinguish fires if they do not pose a risk to human life, as managed forests.<sup>250</sup> He argues that this occurrence makes it evident that the authorities want the forest's estimate to be as high as possible and are defining managed forest not to the standards of the IPCC, but to their own benefit.<sup>251</sup>

Another critical aspect of Russia’s implementation of the LULUCF sector is the possible incentives it can gain through doing so under the Paris Agreement. For example, removals from the land sector can be used to create credits to be traded on carbon markets, which are to be included again under the Paris Agreement. However, an issue that is still present is the lack of inclusion of forest credits under the EU trading emissions scheme. This issue was analyzed in the “Flexibility Mechanisms” section of Chapter 1. However, Artur Runge-Metzger, the director of the European Commission’s Department for Climate Action, recently reported in an interview that the EU is working on a certification system for carbon removals from forests that should be

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<sup>248</sup> Ibid.

<sup>249</sup> Ibid.

<sup>250</sup> Ibid.

<sup>251</sup> Ibid.

ready by 2023.<sup>252</sup> Therefore, in the future Russia could be given the opportunity to utilize its carbon reduction credits from the LULUCF sector for economic incentives. However, these incentives and the value of these credits on the market will need to be valued at a greater price than they would be as credits that Russia could use to offset emissions from fossil fuels.

In contrast to his early participation in the Kyoto Protocol, Putin has been fairly vocal in supporting the Paris Agreement. On November 3<sup>rd</sup>, 2020, President Vladimir Putin signed Decree 666 ordering the Russian government to work towards meeting the 2015 Paris Agreement to fight climate change.<sup>253</sup> In this decree, he stressed any action must be balanced with the need to ensure strong economic development and reiterates taking into account the maximum possible absorbing capacity of forests, essentially repeating Russia's pledge under its NDC.<sup>254</sup> Vladimir Slivyak, co-chair of the environmental group Eko-Zashchita, states that this decree "confirms that there have been no changes in Russia's energy policy."<sup>255</sup> In support of this thesis, he concludes, Moscow would seem to be counting on using its significant forest coverage as a carbon sink to achieve emissions reductions rather than embracing the clean energy transition and reducing its reliance on the highly emissive fossil fuel industry.<sup>256</sup> Putin, now with the knowledge he has gained from seeing how Russia could utilize its forests under the

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<sup>252</sup> Frédéric Simon, "Official: EU Taking First Steps to Bring Forestry into Carbon Market," *EURACTIV*, October 23, 2020, <https://www.euractiv.com/section/energy-environment/interview/official-eu-taking-first-steps-to-bring-forestry-into-carbon-market/>.

<sup>253</sup> Andrew Osborn, "Putin orders Russian government to work towards Paris climate goals," *Reuters*, November 5, 2020, <https://www.reuters.com/article/us-russia-climatechange/putin-orders-russian-government-to-work-towards-paris-climate-goals-idUSKBN27L2AS>.

<sup>254</sup> *Ibid.*

<sup>255</sup> Philippa Nuttall Jones, "Russian Climate Decree Raises False Hopes," *Energy Monitor*, November 6, 2020, <https://energymonitor.ai/policy/russian-climate-decree-raises-false-hopes>

<sup>256</sup> *Ibid.*



Kyoto Protocol to continue emitting fossil fuels yet be considered a great contributor toward global GHG reduction, plans to replicate the circumstance under the Paris Agreement.

Presented in Figure 3 below are Russia's GHG emissions since 1990. Russia's GHG emissions have stayed relatively consistent in the last two decades.

Source: *Russia National Inventory Submissions 2021*

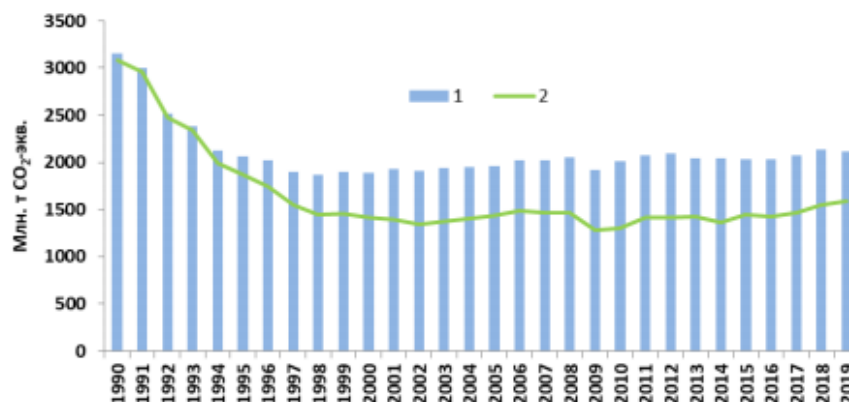


Figure 3: Total anthropogenic GHG emissions in Russia, excluding (1) and taking into account (2) the LULUCF sector

Even without the inclusion of LULUCF carbon sinks, Russia met its emission reduction commitments under the Kyoto Protocol. However, this is not due to reduction efforts implemented by the Russian government related to its fossil-fuel-driven economy. Russia's energy sector accounted for 79% of all emissions without LULUCF in 2018, which is the last year for which data is available.<sup>257</sup> How Russia could meet its emission reduction commitment is due to the low emission reduction commitments Russia negotiated for, the use of 1990 as its base year, and the inclusion of the LULUCF sector. Under the Paris Agreement, Russia has again committed itself to a reduction target compared to its highly emissive 1990 base year which allows it to emit on a business as usual scenario. Additionally, in its Energy Strategy to 2035

<sup>257</sup> IEA, "World Energy Outlook 2019," In *Energy Digest* 10, (2019), <https://doi.org/10.1049/ep.1977.0180>.

which was adopted in 2020, Russia states that it will continue to focus on expanding its domestic production and consumption of fossil fuels, with a strong emphasis on expanding natural gas exports.<sup>258</sup>

Conversely, Russia's adoption of renewable energy continues to fall short, and Russia is not on track to meet its modest near-term targets.<sup>259</sup> There continues to be a general lack of action by Russia across the board on climate policy under the Paris Agreement. As a result, Climate Action Tracker, an independent scientific analysis that tracks government climate action and measures it against the globally agreed Paris Agreement, has given Russia a rating of "Critically Insufficient."<sup>260</sup> Therefore, with no evidence of Russia implementing climate policies that plan to reduce emissions in the energy sector, it is apparent that it will continue under the Paris Agreement to prioritize its carbon credits from the LULUCF sector over reductions from carbon sources.

Under the Paris Agreement, the goal is to reduce global GHG emissions, as well as for countries to reach peak emission as soon as possible.<sup>261</sup> However, this is not the case for Russia. Alexander Novak, Minister of Energy of Russia, in an interview with the Guardian, said that Russia did "not see that we will achieve a peak in [gas] production anytime soon."<sup>262</sup> Therefore,

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<sup>258</sup> "Pravitel'stvo Rossijskoj Federacii Odobrilo Energeticeskuu Strategiu Rossii na Period do 2035 goda," [the Government of the Russian Federation Approved the Energy Strategy of Russia for the Period up to 2035], Ministry of Energy of the Russian Federation, April 2, 2020, <https://minenergo.gov.ru/node/17491>.

<sup>259</sup> "Russian Federation," *Climate Action Tracker*, September 22, 2020, <https://climateactiontracker.org/countries/russian-federation/>.

<sup>260</sup> *Ibid.*

<sup>261</sup> *The Paris Agreement*, <https://unfccc.int/process-and-meetings/the-paris-agreement/the-paris-agreement>.

<sup>262</sup> Jillian Ambrose, "Russia Rules out Cutting Fossil Fuel Production in Next Few Decades," *The Guardian*, November 1, 2020, <https://www.theguardian.com/world/2020/nov/01/russia-rules-out-cutting-fossil-fuel-production-in-next-few-decades>.

what Russia will do to meet its climate targets yet still support its fossil fuel economy, is increase its carbon sinks to the point where high GHG emissions from fossil fuels will be completely offset by carbon sinks.

#### **Chapter 4: Utilization of LULUCF under the International Agreements on Climate Change**

Why is Russia so insistent about acknowledging its carbon sinks when the country lies well under the emission cap assigned to it by the Kyoto Protocol and its self-assigned targets under the Paris Agreement? As analyzed in the previous chapters, Russia's incentive to account for carbon sinks does not primarily lie in economic benefits, but in its potential to substitute emission reductions from other sectors. Carbon sinks allow Russia to offset emissions from other sectors, primarily its energy sector, while still being technically viewed as a great contributor to international GHG emission reductions. Under these circumstances is how the country with more than one-fifth of the world's forests in its territory can continue to be the number one exporter of fossil fuels while concurrently being the most significant contributor of GHG reductions.

##### **Main Issues under both Agreements**

The issues with the LULUCF sector which were present under the Kyoto Protocol continue to be so under the Paris Agreement. The main issues under both agreements under the LULUCF sector which this thesis presents are the uncertainty of accounting under the LULUCF sector, the lack of oversight to verify the accounting of the sector, and the lack of strict definitions for forests and forest management. Additionally, countries are allowed under both agreements to select only those activities in the LULUCF sector through which they expect to

gain credits and ignoring other activities through which they would incur debts. These issues have allowed the LULUCF sector to be utilized perversely.

An issue under both agreements that does not have to do with the LULUCF sector but contributes toward its utilization of perverse incentives is Russia's use of 1990 as a base year. The decision to use 1990 as the base year is an essential aspect of how Russia can meet its carbon reduction targets successfully. Following the collapse of the Soviet Union, Russia's emissions dropped drastically. Therefore, under its commitments for both agreements, Russia has to do very little and can even increase its emissions to meet its GHG reduction commitments.

As argued by Savaresi and Perugini and forwarded by this thesis, far from having resolved the challenges associated with emissions and removals in the land-use sector, the Paris Agreement has largely imported the issues present under the Kyoto Protocol into the post-2020 architecture and arguably made them worse.<sup>263</sup> By failing to develop a new set of accounting rules applicable to all Parties and continuing the voluntary inclusion or exclusion of LULUCF activities, perverse incentives under the LULUCF sector continue to exist. Therefore, the perverse incentives regarding the LULUCF sector present under the Kyoto Protocol continue to exist under the Paris Agreement.

#### Potential for Carbon Sinks to Turn to Sources

Under the Kyoto Protocol and continuing under the Paris Agreement, Russia has no real economic incentive to reduce its emission from carbon sources or enact sustainable FM policies, which threatens the resilience of Russian forests as carbon sinks. Under its current commitments, Russia plans to meet its reduction targets through the use of carbon sinks and without having to

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<sup>263</sup> Savaresi, Annalisa, and Lucia Perugini, "Sinks, Reservoirs of GHGS and Forests," 10.

reduce emissions from carbon sources. However, according to George Safonov, an associate professor at the Higher School of Economics, without a sustainable FM policy, he estimates that Russian forests might turn from net absorbers of CO<sup>2</sup> to net emitters by 2040 because of forest fires, the spread of tree pests and diseases, and other emissive and destructive activities.<sup>264</sup>

The managed forests of Russia absorb 473.8 MtCO<sup>2</sup> per year from the atmosphere on average.<sup>265</sup> However, Zamolodchikov, a member of the Forest Ecology and Production Center Organization at the Russian Academy of Sciences, and other forestry experts argue that if the current levels of forest use, forest protection, and forest regeneration are kept, the absorption of CO<sup>2</sup> will significantly decrease by 2050.<sup>266</sup> Therefore, with Russia's plan to utilize its forest sinks to offset its emissions from its fossil fuel sector and therefore not have to reduce its level of production and export of fossil fuels, development is needed for the system of purposeful forestry activities aimed at maintaining and increasing the carbon-absorbing potential of managed forests.<sup>267</sup> A system that was not incentivized under the Kyoto protocol and still has not been under the Paris Agreement. According to calculations presented in Russian 2021 NIR, Russian forests' absorption of GHG emissions has already been marginally decreasing since 2012.<sup>268</sup> However, this has not dissuaded Russia from continuing to rely heavily on its carbon sinks.

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<sup>264</sup> A. Davydova, "Russia's Silence on Climate Change Helps No One," *The Conversation*, November 25, 2013, <http://theconversation.com/russiassilence-on-climate-change-helps-no-one-20661>.

<sup>265</sup> D. G. Zamolodchikov, V. I. Grabovskii, G. N. Korovin, M. L. Gitarskii, V. G. Blinov, V. V. Dmitriev, and W. A. Kurz, "Carbon budget of managed forests in the Russian Federation in 1990–2050: Post-evaluation and forecasting," *Russian Meteorology and Hydrology* 38, no. 10 (2013): 712.

<sup>266</sup> Ibid.

<sup>267</sup> Ibid.

<sup>268</sup> *Nacional'nyj Doklad o Kadastre*, , [National Inventory Report], 246.

Russia's 815 million hectares of forest, which cover half the country's landmass, are and have been at the core of its climate strategy.<sup>269</sup> Russia's Paris Agreement commitments require that its emissions reductions be calculated based on “the maximum possible absorptive capacity of forests and other ecosystems.”<sup>270</sup> And the potential of this capacity in Russia’s mindset is considerable. This year, Vladimir Putin, at the St. Petersburg International Economic Forum stated that “Our country accounts for one-fifth of the world's forests. They absorb several billion tons of CO<sup>2</sup> equivalent on an annual basis.”<sup>271</sup> Putin's declaration followed a claim made by Russia's deputy prime minister for environmental policy Viktoria Abramchenko that Russia's ecosystems, primarily its forests, neutralize as much as 2.5 billion metric tons of GHG emissions a year.<sup>272</sup> However, scientists have argued as to how the Kremlin has calculated such a large estimate. Even accounting for the uncertainty from a general lack of data, the figure of 2.5 billion metric tons stated by the Russian government can't be explained. Sergey Bartalev, head of the Terrestrial Ecosystems Monitoring Laboratory at Russia's Space Research Institute and a co-author of a recent study that increased estimates of Russian forests' carbon sequestration by almost 50% stated that “In good years, when there are fewer forest fires, absorption could be 1.3 or 1.5 billion tons of CO<sup>2</sup> equivalent.”<sup>273</sup>

Even if Russia's carbon sinks technically increase in the next few years due to updates in methodology and data collection, Russia's carbon sinks will eventually turn to sources without

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<sup>269</sup> “Global Forest Resource Assessment 2020,” <http://www.fao.org/forest-resources-assessment/2020/en/>.

<sup>270</sup> *Nationally Determined Contribution of the Russian Federation*, 1.

<sup>271</sup> Light, “Russia Says Its Forests Neutralize Billions of Tons of Greenhouse Gases, Scientists Have Their Doubts,” <https://www.themoscowtimes.com/2021/07/05/russia-says-its-forests-neutralize-billions-of-tons-of-greenhouse-gases-scientists-have-their-doubts-a74428>.

<sup>272</sup> *Ibid.*

<sup>273</sup> *Ibid.*

the implementation of sustainable FM. With climate change accelerating, at a pace faster in Russia than anywhere else, and with limited interest in the massive investments in FM under the current international agreements on climate change, international incentives addressing the issue are limited. Yet, in recent years there has been a shift within Russia that has shown that even with a lack of international incentives to motivate more sustainable FM policies, Russia is implementing domestic solutions to its problem.

### Future of Forestry

Given the vital role that forests play in storing carbon, it is of utmost importance for the world, particularly for Russia, that measures under the Paris Agreement focus on maintaining and restoring the capacity of forests to store carbon. Due to a lack of incentives in place under international agreements on climate change, Russia has started implementing domestic incentives to motivate more sustainable FM practices. Starting in 2022, Russia will start its first trial of a marketplace to trade carbon credits in the remote Far East region of Sakhalin, which will include credits from carbon sinks.<sup>274</sup> Deputy Economy Minister Ilya Torosov states that the goal of this project is to have the region become carbon neutral by 2025, however details of how that would be attained haven't yet been decided.<sup>275</sup>

Additionally, in recent years Russia has steadily increased its rate of reforestation and afforestation. Between 2018 and 2020, according to Russian data, the area of reforestation and

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<sup>274</sup> Anna Andrianova, Pismennaya, Evgenia, "Russia to Begin Carbon-Trading Trial in Far East Next Year," *Bloomberg*, March 26, 2021, <https://www.bloomberg.com/news/articles/2021-03-26/russia-to-begin-carbon-trading-trial-in-sakhalin-next-year>

<sup>275</sup> Ibid.

afforestation activities increased by 225,000 hectares.<sup>276</sup> Compared to rates in 1990, reforestation and afforestation in 2020 were over 375,000 hectares larger.<sup>277</sup> This trend of increased deforestation and afforestation rates in Russia started in 2016, as shown in Figure 4 below, four years after the first commitment period and before Russia ratified the Paris Agreement.

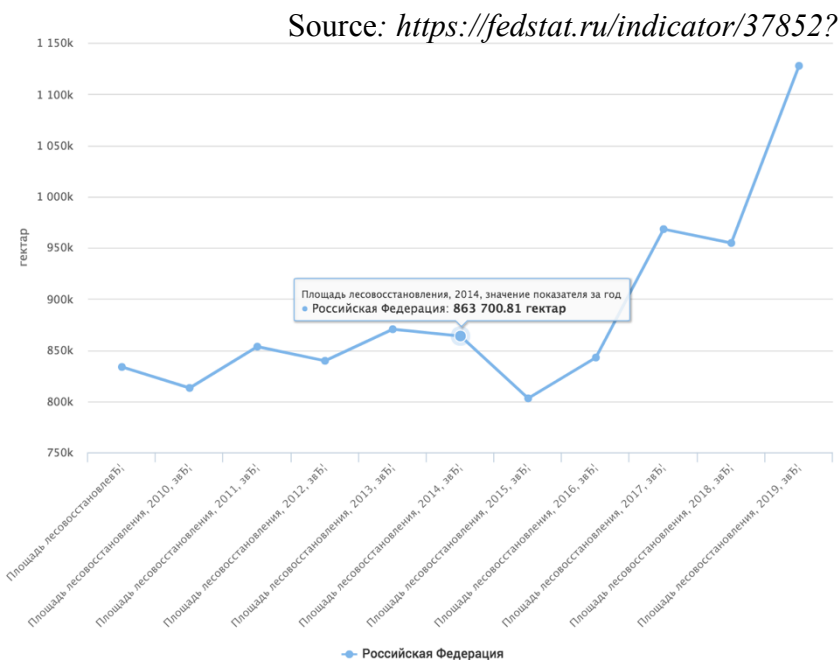


Figure 4: Reforestation Rate in Russia from 2009 to 2019 by Hectare

Furthermore, in the national project “Ecology” launched in 2018, 151 billion rubles have been allocated for the preservation of forests from 2019-2024.<sup>278</sup> The main focus of the policy is on the restoration of deforested land, with an aim to achieve 1,500,000 hectares of reforestation and afforestation.<sup>279</sup>

<sup>276</sup> “Plosad' lesovosstanovlenia,” [Reforestation Rate], *Russian Federation Unified Interdepartmental Information and Statistical System*, <https://fedstat.ru/indicator/37852?>.

<sup>277</sup> Ibid.

<sup>278</sup> “Sohranenie lesov,” [Conservation of forests], *Ministry of Environment and Natural Resources*, 2020, <https://ecologyofrussia.ru/proekt/sohranenie-lesov/>.

<sup>279</sup> Ibid.



Due to the possibility that Russia's carbon forests may turn into a source of carbon instead of a carbon sink in the next half century, the government's recent actions in implementing domestic FM incentives is evidence of some type of understanding among leadership that for Russia to continue to utilize its carbon sinks to their maximum potential, sustainable forests policies must be enacted and implemented.

### Future of Russia's Economy and Energy Sector

Russia first started taking the Kyoto Protocol and its implementation seriously regarding domestic policies under Medvedev's presidency. However, in reality, not much has changed in Russia regarding the reduction of its emissions. Russia is the fourth largest GHG emitter among national economies and one of the major producers of all fossil fuels. In 2017, the oil and gas sector provided about 40% of Russian federal budget revenues and accounted for 70% of exports.<sup>280</sup>

Igor Makarov et al., the founder of Itera, Russia's first independent gas company, argues that it is critically important for Russia to prepare to mitigate the risks associated with the Paris Agreement by adjusting itself to a new global energy landscape where its main trading partners, who are the importers of Russian fossil fuels, are on a path to decarbonize their economies.<sup>281</sup> Even in the scenarios where Russia has no or minimal domestic carbon policy, it will still be affected by other countries that follow the goals of the Paris Agreement, which is to reduce

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<sup>280</sup> Makarov, Chen, and Paltsev, "Impacts of Climate Change Policies Worldwide on the Russian Economy," 1253.

<sup>281</sup> Ibid.

carbon emissions, a product of fossil fuels. Therefore, he argues that the main response open to Russia is diversification of the economy.<sup>282</sup>

Some policy initiatives aimed at diversification have been proposed in Russia since the beginning of the 2000s.<sup>283</sup> However, all these efforts have brought limited success. The share of commodities in Russian exports is higher today than in the early 2000s.<sup>284</sup> The share of oil and gas revenues in the Russian federal budget is still around 40%–50%, and the ruble exchange rate remains dependent on oil prices.<sup>285</sup> Additionally, in its newly adopted Energy Strategy to 2035, Russia continues to focus on expanding its domestic production and consumption of fossil fuels, emphasizing expanding natural gas exports.<sup>286</sup>

Conversely, measures supporting the uptake of renewable energy continue to fall short. In 2019, Russia decided to extend the support program for renewable energy beyond 2024, with 400 billion rubles, equal to 5.6 billion US dollars, allocated to construct 5.3 gigawatts of renewable energy capacity between 2025 and 2035.<sup>287</sup> This is roughly double the 2024 renewable energy capacity target under the previous scheme of 5.6 gigawatts.<sup>288</sup> However, in 2019, only 0.16% of Russia's electricity came from non-hydro renewables compared to the global average of over 10%, indicating that it is unlikely Russia will meet even its modest short-

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<sup>282</sup> Ibid.

<sup>283</sup> Richard Connolly and Philip Hanson, "Import Substitution and Economic Sovereignty in Russia," *Research Paper* (2016): 3-5.

<sup>284</sup> Marek Dabrowski and Antoine Mathieu Collin, "Russia's Growth Problem," *Bruegel Policy Contribution* 4 (2019).

<sup>285</sup> Ibid.

<sup>286</sup> "Russian Federation," <https://climateactiontracker.org/countries/russian-federation/>.

<sup>287</sup> A. Lyrchikova, "The Russian Federation decided to leave 222 billion rubles to the Wind, 148 billion rubles to the Sun in the New "Green" Energy Program," *Reuters*, 2019, <https://ru.reuters.com/article/idrukbn1x922u-orutp>.

<sup>288</sup> "Current Policy Projections," *Climate Action Tracker*, September 22, 2020, <https://climateactiontracker.org/countries/russian-federation/current-policy-projections/>

term renewable energy targets.<sup>289</sup> Also indicating that Russia's current climate mitigation efforts are not focused on diversifying its energy sector, therefore leading it to primarily rely on the LULUCF sector to produce carbon reductions under the Paris Agreement.

Russia will continue to rely on its fossil fuel industry to grow its economy. In the short term, it does not see the necessity to change this or even have the pressures from the international community to do so. As Russia continues to be allowed to include its carbon sinks under its accounting of GHG emissions, Russia has no need to reduce its level of production and export of fossil fuels until there is an economic reason to do so, not an environmental one. This may occur due to its main trade partners and consumers of fossil fuels starting to transition to more sustainable energy sources but currently this does not have a large impact on Russia's export.

In their article, "Climate Change Will Reshape Russia," researchers Cyrus Newlin and Heather Conly from the Center for Strategic and International Studies believe that Russia's overreliance on production from carbon sources is a vulnerability as the world shifts toward low-carbon sources of energy and as countries aim for carbon neutrality under the commitments of the Paris Agreement.<sup>290</sup> They state that "natural gas may serve as a bridge for Russia into a lower-carbon future but global demand for gas is expected to be in sharp decline by mid-century."<sup>291</sup> Yet Russia shows no plans to seriously start transitioning to producing more renewable energy. It still believes that it can continue to produce fossil fuels and utilize its carbon sinks profitably. Alexander Novak, Minister of Energy of Russia, told the Guardian that

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<sup>289</sup> *BP Statistical Review of World Energy 2020*, BP (2020).

<https://www.bp.com/content/dam/bp/business-sites/en/global/corporate/pdfs/energy-economics/statistical-review/bp-stats-review-2020-full-report.pdf>.

<sup>290</sup> Cyrus Newlin and Conly, Heather, "Climate Change Will Reshape Russia," *Center for Strategic and International Studies*, January 13, 2021, <https://www.csis.org/analysis/climate-change-will-reshape-russia>.

<sup>291</sup> *Ibid.*

Russia did “not see that we will achieve a peak in [gas] production anytime soon” because the world’s appetite for gas would continue to grow in the decades ahead despite its growing number of climate targets.<sup>292</sup>

### Benefits of Climate Change

Before concluding this thesis, it is crucial to bring up the point of Russia's denial of climate change, mainly due to this thesis outlining Russia's participation in international agreements on climate change. A challenge for Russia throughout its history has been the detrimental effect of its cold climate, as outlined by Milov, and Hill, and Gaddy and discussed in the introduction of this thesis.<sup>293</sup> Russia’s climate has historically been a detriment to Russia’s development and continues to be a hindrance today but could also lead to new economic opportunities. Russia's cold shortens its growing season and makes access to its lucrative resources near impossible during the winter months. However, a temperature rise would increase the accessibility of the Northern Sea Route, which Russia sees as a promising transport route.<sup>294</sup> A climate change benefit that is already being utilized today since, compared to the 1990s when the period of free navigation along this route was about two months, now navigation is possible for up to four months a year.<sup>295</sup>

Russia has been explicit about its intention to come out ahead as the climate changes. In its national action plan on climate change released in January of 2020, it called on the country to

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<sup>292</sup> Ambrose, “Russia Rules out Cutting Fossil Fuel Production in Next Few Decades, “  
<https://www.theguardian.com/world/2020/nov/01/russia-rules-out-cutting-fossil-fuel-production-in-next-few-decades>.

<sup>293</sup> “Russia Climate Migration Crisis” *New York Times*,  
<https://www.nytimes.com/interactive/2020/12/16/magazine/russia-climate-migration-crisis.html>.

<sup>294</sup> Ibid.

<sup>295</sup> Ibid.

“use the advantages” of warming and listed Arctic shipping and extended growing seasons among things that would provide “additional benefits” to Russia.<sup>296</sup> At the same time, the scale of the real and potential economic losses associated with climate change outweigh the possible benefits. In 2019, Aleksandr Krutikov, Deputy Minister for the Development of the Far East and the Arctic, estimated during an interview with Bloomberg that the current losses of the Russian economy due to global warming amount to between 50 and 150 billion roubles annually, about 650 million to 2 billion US dollars.<sup>297</sup> Russia's belief that climate change may be of benefit for its development negates the purpose of it participating in any international agreements on climate change.

## CONCLUSION

Russia's historical treatment of its environment, particularly its natural resources, and its performance in global climate politics indicate the importance of goals other than environmental ones as the primary motivation of Russia's participation in international agreements on climate change. To justify its continued reliance on the fossil fuel industry under agreements meant to reduce emissions from their sector, Russia utilized perverse incentives within the LULUCF sector under the Kyoto Protocol and plans to continue to do so under the Paris Agreement.

Russia had, by 2012, achieved the largest absolute reduction of GHG emissions of any country in the world. The reduction was about 1.8 Gigatons of CO<sup>2</sup>-equivalent or about 50% of

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<sup>296</sup> “Dmitrij Medvedev utverdil nacional'nyj plan meropriatij pervogo etapa adaptacii k izmeneniam klimata na period do 2022 goda, ” [Dmitry Medvedev approved the national action plan for the first stage of adaptation to climate change for the period up to 2022], *Russian Government*, January 4, 2020, <http://government.ru/news/38739/>.

<sup>297</sup> Szymon Kardaś, “Climate Ambivalence: Russia's Climate Change Policy,” *OSW Center for Eastern Studies*, December 15, 2020, <https://www.osw.waw.pl/en/publikacje/osw-commentary/2020-12-15/climate-ambivalence-russias-climate-change-policy>.

its 1990 GHG emissions.<sup>298</sup> Yet, at the same time, Russia was and still is one of the world's largest exporters of fossil fuels. This was due to 1990, a year during which Russia was part of the highly emissive Soviet Unions, being the base year for comparing GHG reductions under both agreements, as well as the inclusion of carbon sinks in GHG emission accounting. These two factors make it easy for Russia to meet and exceed its GHG reduction targets. Under these circumstances is how the country with more than one-fifth of the world's forests in its territory can continue to be the number one exporter of fossil fuels while concurrently the most significant contributor of GHG reductions.

Although the importance of global climate challenges is growing, Russian actions have been minimal in this area. Russia continues to partake in international agreements to combat climate change, but at the same time has not undertaken very ambitious emission reduction commitments in this regard. The reduction goals which Russia has announced do not require it to make radical changes to the Russian economy. Although the international agreements on climate change create some economic opportunities for Russia, such as through JI and emissions trading, it is unlikely that these will outweigh the profits Russia can receive from its fossil fuels and using carbon credits to offset its emissions.

The Russian authorities have begun to notice the importance of addressing climate challenges, but have primarily addressed them only in the aspect of continuing to utilize its LULUCF activities for carbon credits, which is confirmed by the latest actions Russia has taken in regards to increasing its carbon sink and promoting more sustainable management of its forests. The climate mitigation plan through which Russia plans to address climate change

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<sup>298</sup> UNFCCC, "2017 National Inventory Report (NIR)" 2017), In "Impacts of Climate Change Policies Worldwide on the Russian Economy," 1243.

prioritizes the accounting of carbon sinks under the LULUCF sector in place of enacting genuine climate reductions from carbon sources. Therefore, perversely meeting the commitments of the Kyoto Protocol and Paris Agreement. Under the Kyoto Protocol, Russia traded very little of its emission credits due to the greater incentive to keep the credits to offset its fossil fuel emissions further and stay as a great contributor toward global emission reductions.

Under the Paris Agreement, economic incentives have not been thoroughly outlined. However, it is already evident that Russia plans to continue to rely heavily on its forests to justify emissions from carbon sources. And, as of yet, it has not received any external international pressures to stop doing so. Therefore, this thesis concludes that Russia's utilization of its carbon sinks under the Kyoto Protocol was perverse and will continue to be so under the Paris Agreement. Russia wants to appear like it's cooperating with other global actors regarding international agreements on climate change, which technically it is. However, in reality, it has increased its GHG emissions and reliance on non-renewable resources while relying heavily on its forests as carbon sinks to mitigate the effects of climate change, and has been allowed to do so. As forests continue to be the driving force behind Russia's decline in emissions, Russia continues to find ways to increase its carbon sink instead of addressing its increasing reliance on emitting fossil fuels. However, Russia's forests are on a steady decline due to climate change. Without taking actual actions to reduce its emissions from other sectors, Russia's reliance on forests to balance its emissions will be its downfall. Russia continues to use its forest credits to the fullest extent and has no plans of stopping, as evident by its goal to use the "maximum possible account of absorbing capacity of forests" in its NDC.<sup>299</sup> With the inclusion of carbon sinks under the accounting of GHG emissions in international agreements on climate change,

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<sup>299</sup> *Nationally Determined Contribution of the Russian Federation*, 1.

Russia has no reason to lessen emissions from its other sectors. Therefore, leading to the inclusion of forests under international agreements on climate change as a perverse incentive for Russia.

Russia will continue to rely on what it knows, a fossil fuel-based economy, while it has forests to offset the emissions from this sector. Throughout its years of participating in international agreements on climate change meant to reduce GHG emissions, Russia still has not transitioned toward a less emissive economy. Russia faces significant constraints on its future growth and stability if it cannot diversify its economy. Going forward, if the international community wants to see genuine commitments from Russia, it will need to set stricter limitations and definitions regarding carbon sinks. As Russia runs out of easy and inexpensive methods of reducing emissions, it faces a more difficult road ahead when it will have to implement policies that reduce emissions from its energy sector to meet future commitments under international agreements on climate change. However, once this becomes the case, it does not seem likely that Russia would continue to participate in international agreements on climate change unless there is an economic incentive that is valued greater than the revenue received from its fossil fuel economy. Russia will not change until the economic incentive of reducing emissions outweighs the incentive of revenue from fossil fuels.



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