

**Submission by the Russian Federation on matters relating to the  
Sharm el-Sheikh mitigation ambition and implementation work programme  
referred to in decision 4/CMA.4**

*January 2024*

**1. Introduction**

The Russian Federation pursuant to paragraph 12 of decision 4/CMA.4 of the Conference of the Parties to the Paris Agreement welcomes the opportunity to submit suggested topics for the global dialogues under the Sharm el-Sheikh mitigation ambition and implementation work programme (hereinafter referred to as MWP) scheduled for 2024.

**2. Approach to topic selection**

According to Decision 4/CMA.4, all sectors covered in the 2006 IPCC Guidelines for National Greenhouse Gas Inventories of the Intergovernmental Panel on Climate Change should be included in the MWP.

In 2023 global dialogues were focused on accelerating just energy transition and touched upon energy and transport sectors. In accordance with Decision -/CMA.5, paragraph 8, it was decided that successive global dialogues should cover different topics. Pursuant to the submission of the Russian Federation of the 26<sup>th</sup> of January 2023 we propose to focus on the sector of Agriculture, Forestry and Other land Use (AFOLU) and choose the following topic for the discussion during global dialogues in 2024 – *“Carbon removal intensification through nature-based solutions”*.

**3. Explanation and relevance of the topic**

According to the IPCC AR6, in 2019 the AFOLU sector was responsible for 22% of anthropogenic GHG emissions mainly from deforestation and agricultural emissions from livestock, soil and nutrient management.

AFOLU is unique since the mitigation potential is derived from both an enhancement of removals of greenhouse gases (GHG), as well as reduction of emissions through management of land and livestock. The land provides a multitude of ecosystem services climate change mitigation is just one of many that are vital to human well-being.

The IPCC recent assessments indicate that large-scale carbon removals are required in all pathways to limit global warming to 1.5–2°C with limited or no overshoot. The deployment of carbon removals to counterbalance hard-to-abate residual emissions is unavoidable if net zero CO<sub>2</sub> or GHG emissions are to be achieved. Carbon removals in the AFOLU sector include a wide range of measures that imply removing CO<sub>2</sub> from the atmosphere and storing it in ecosystems reservoirs, which refer to existing and potential anthropogenic activities.

Nature-based solutions could provide more than 30% of the cost-effective mitigation measures needed by 2030 to stabilize global warming below 2°C. According to the UN

Environment Programme (UNEP) and International Union for Conservation and Nature (IUCN) for 2021, by 2030 nature-based solutions implemented across all ecosystems can deliver emission reductions and removals of at least 5 GtCO<sub>2</sub>e per year, with a maximum estimate of 11.7 GtCO<sub>2</sub>e per year. By 2050, this rises to at least 10 GtCO<sub>2</sub>e per year, of a maximum estimate of 18 GtCO<sub>2</sub>e per year. The largest share of this contribution (circa 62%) is estimated to come from nature-based solutions related to forests, with circa 24% from solutions in grasslands and croplands, and 10% from additional solutions in peatlands. The remaining 4% will come from solutions implemented in coastal and marine ecosystems.

Methods and levels of carbon removals in global modelled mitigation pathways differ in terms of removal process, timescale of carbon storage, technological maturity, mitigation potential, cost, co-benefits, adverse side-effects, and governance requirements. Thus, it gives a broad basis for discussion within global dialogues of a variety of topics related to afforestation and reforestation, restoring natural ecosystems, including peatlands, wetlands and coastal habitats, biochar utilization, bioenergy with carbon capture and storage (BECCS) technology development, soil carbon sequestration, macroalgal cultivation for sequestration, ocean carbon capture and storage (OCSS), ocean fertilization, artificial ocean upwelling, crop residue oceanic carbon sequestration.

Each carbon removal solution and measure offers a unique set of benefits beyond removing carbon, but may as well carry certain risks. Carbon removal methods such as soil carbon sequestration and biochar can improve soil quality and food production capacity. Ecosystem restoration and reforestation sequester carbon in plants and soil, and can enhance biodiversity and provide additional biomass, but can displace food production and livelihoods as well. Thus, integrated approaches to land-use planning are needed.

Forests play a key role in climate change and are essential for the implementation of mitigation measures. In accordance with the FAO's report «Agriculture, Forestry and Fisheries in the NDC» 2021, 79% of NDCs refer to the role of forest-based solutions in mitigating climate change. According to the IPCC, ending deforestation and increasing forest coverage are cost-effective mitigation solutions that reduce emissions by more than 5 GtCO<sub>2</sub>e equivalent annually, which is about 11% of total annual emissions. By protecting these ecosystems, forest and landscape restoration can create permanent carbon sinks that remove CO<sub>2</sub> from the atmosphere. In terms of mitigation, the global potential for reforestation and afforestation by 2050 is 3.9 GtCO<sub>2</sub>e per year.

#### **4. Best national practices**

The AFOLU plays an important role in the implementation of Russian long-term climate goals, including the achievement of carbon neutrality by 2060. According to the Strategy of socio-economic development of the Russian Federation with low greenhouse gas emissions until 2050, a significant role is given to increasing the volume of greenhouse gas emissions removals by forests and other ecosystems. Russia rigorously monitors and controls forest use, carries out large-scale reforestation works and pest control activities,

expands the boundaries of specially protected natural areas, conducts fire protection policies.

In agriculture, Russia also implements a set of measures aimed at the reduction of greenhouse gas emissions. For example, we are using mineral fertilizers with urease inhibitors and nitrification, and developing of crop-based biodiesel. We are developing activities for conserving and building up carbon in arable soils which will ensure soil fertility in the context of climate change.

Beside, in Russia a project of carbon polygons was launched in 2021. It focuses on creating a network of scientific and educational test sites for the development, testing, and validation of climate-efficient technologies that quantify GHG removals rates across different types of ecosystems. As of early 2024, there are 18 active polygons, including 3 off-shore ones, operating in Russia with a total area of 39.2 thousand hectares. Carbon polygons will contribute to the formation of a reliable national system for monitoring GHG flows in the country's ecosystems and the carbon cycle.

In 2022 we adopted the Federal Science and Technology Programme of the Russian Federation in the areas of environmental improvement and climate change for 2021–2030, and launched an Integrated national monitoring system for climate impacting substances, within the framework of which we are creating a system for monitoring greenhouse gases flows and pools of carbon in the country's terrestrial ecosystems.