

New Aspects of Greenhouse Gases Sequestration by Russian Forests in Context of Paris Agreement on Climate Change

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Key words: Forests, carbon sink, carbon balance assessment, carbon sequestration by forests, Paris agreement, United Nations Framework Convention on Climate Change

The problem of full accounting of Russian forests' sequestration capacity is of paramount importance in context of the Paris agreement. The forest sequestration capacity estimated on a basis of methodology for the national report on inventory of anthropogenic emissions by sources and removals by sinks of greenhouse gases (GHG) in accordance with international agreements and obligations of the Russian Federation discussed.

The key factors influencing on total CO₂ absorption by forests identified. The underestimation of forest carbon stocks associated with including to the counting categories «managed forests», protective and exploitable forests only. «Inaccessible» forests on remote areas and some other categories of forest lands such as natural sparse forests, non-closed forest cultures, forest nurseries and plantations, were excluded from national GHG inventory report. As a result, forest carbon sequestration of Russian forests in national reporting 2015 underestimated on ~ 340 million tons C / year. For a full account of carbon storage the counting units of the national GHG inventory have to be revised. We suggest to include all forest estate lands (Forest Fund lands, according with Russian terminology) and all forest lands, not included in forest estate to «managed forests» for reporting on International climatic agreements. Overestimation of carbon emissions comes from double counting of harvesting and timber removal losses also and inclusion losses from all destructive fires not just the fires caused by human activity. Because of methodological errors, the carbon losses on forest land are overestimated on about 40 million tons C/year in the national GHG inventory report of Roshydromet (2015).

National reports on LULUCF sector should be improved and reporting methodology should be modified. For full accounting of carbon absorption by Russian forests and carbon balance prompted to rethink the basic technique and eliminate the revealed discrepancies. The obligatory requirement for more precise calculation of carbon sequestration by Russian forests is to switch from using State Forest Register Data for the State Forest Inventory Data. A similar approach for the national inventory of emissions and sinks of greenhouse gases has been successfully applied in many countries of the world.