

Restoring peatlands in Russia (2011 – 2018)

- The project represents one of the largest on-the-ground peatland restoration project in the world to focus on climate change mitigation and adaptation.
- To date, over 35,000 hectares of drained peatlands have been restored using ecological methods with another 10,000 hectares currently underway.
- The total amount of emission reductions achieved is currently estimated at 175,000 to 220,000 ton CO2 equivalent per annum.
- The project uses the state-of-the-art technologies like remote sensing data and GIS to map and monitor the situation with peatland ecosystems in Russia.
- The project has a strong scientific component applying modern methods for precise measurements of flows of greenhouse gases from drained and restored ecosystems.
- The project has introduced paludiculture (wet agriculture on restored peatlands) and sustainable management practices at several sites.



Now the project is being scaled-up to reach other regions in Russia (Tver, Nizhny Novgorod, Vladimir, Ryazan, Kaliningrad, Kaluga, Republic of Bashkortostan) and should ultimately cover at least 0.5 million hectares of ecologically restored peatlands. The approach is based on green engineering solutions and does not demand high investment for its implementation, but does demand highly scientific and engineering inputs, genuine support and understanding by all stakeholders and the involvement of local communities. The approach is being gradually integrated into the day-to-day practice. The problem of fire risk and greenhouse gas emissions in peatlands is of relevance not only in Russia, but also to other countries with peatlands. Therefore, the project is being promoted internationally to share its unique know-how and successes.

More information

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Photos by courtesy of K. Shakhmatov, T. Minayeva, G. Suvorov, G. Rusanov, J. Bednar, F. Edom, I. Kamennova.

Restoring Peatlands in Russia

for fire prevention and climate change mitigation

Technical assistance project in the framework of the Russian-German bilateral cooperation

Winner of United Nations' Momentum for Change Climate Solutions Award in 2017

Goal: to enhance the role of peatlands in climate change mitigation and adaptation and to benefit local communities

Objectives

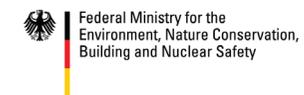
- To stop peat fires in Russia
- To reduce greenhouse gases emissions from drained peatlands
- To improve habitats for biodiversity
- To enhance local livelihoods by restoring and mobilising peatland ecosystem services



Funding:

The project is financially supported by International Climate Initiative (IKI) by the German Federal Ministry for the Environment, Nature Conservation, Building and Nuclear Safety and facilitated by KfW Development Bank

On behalf of:



KfW

of the Federal Republic of Germany

Implementation partners:



in close collaboration with the Ministry of Natural Resources and Environment of the Russian Federation and Moscow Province Government

Natural peatlands fulfil diverse and significant ecosystem services:

- storing around 500 GT of carbon - at least twice as much as all the world's forest biomass
- acting as a significant sink of greenhouse gases
- regulating the water cycle and microclimates
- mitigating droughts and floods
- protecting the permafrost from thawing
- maintaining specific and unique biodiversity
- providing highly productive habitats
- carrying the beauty of intact landscape, playing cultural, social and spiritual roles.

These functions are possible only if peatlands are wet

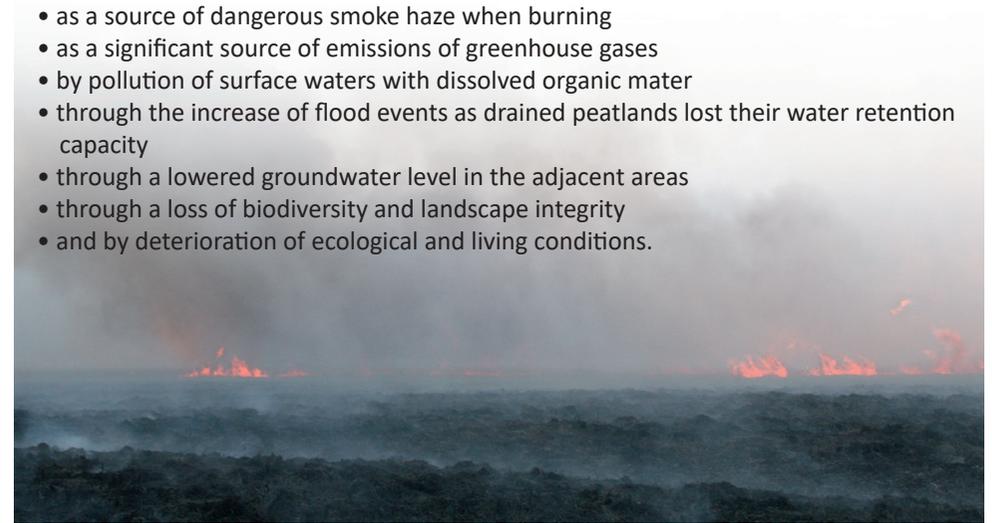


Peatlands cover over 8% of Russia's territory, making up as much as 20 % of the country's land area if shallow peat soils are included. Peatlands in Russia are represented by high variation of types: polygon and palsa mires in the Arctic, raised bogs in taiga zone, sedge and wooded fens in the south. Peatlands of Russia are unique heritage of the world and should be maintained as a source of globally significant biodiversity and ecosystem services.



Drained and abandoned peatlands pose serious hazards to the environment and society:

- as a source of dangerous smoke haze when burning
- as a significant source of emissions of greenhouse gases
- by pollution of surface waters with dissolved organic matter
- through the increase of flood events as drained peatlands lost their water retention capacity
- through a lowered groundwater level in the adjacent areas
- through a loss of biodiversity and landscape integrity
- and by deterioration of ecological and living conditions.



A large portion of peatlands in Russia remains untouched, but several million hectares of peatlands, especially in densely populated part of European Russia, have been drained to be used for agriculture, forestry and peat extraction. When peat extraction and agriculture on peat soils became unprofitable in the 1990s, many of those areas were subsequently abandoned resulting in large-scale land degradation and frequent peat fires.



Emissions from peat fires are extremely dangerous to human health due to the high content of pollutants and noxious gases. Even without being on fire, drained peatlands emit a huge amount of greenhouse gases. Globally, drained peatlands are responsible for nearly 5% of the world's anthropogenic CO₂ emissions - 2 gigatons CO₂ per year.

Peat fires in Russia occur every year in the areas where drained abandoned peatlands are found. The reasons lie both in climate change and economic situation. In 2010, Central Russia experienced an anomalous heatwave during the prolonged period of time when large areas of drained peatlands caught fire. It is estimated that due to the dense haze caused by those fires in combination with extreme heat and dry air could have caused premature mortality of over 50,000 people in the Moscow region.