

Dear readers, we prepared this e-newsletter to provide the first insight to an innovative international project regarding climate change mitigation potential of organic soils – LIFE OrgBalt.

We truly hope that you will find here useful infromation on the project scope, objectives and expected outcomes. Besides, we already have some deliverables to share with you, here you can find interesting quotes regarding climate change mitigation potential of nutrient rich organic soils in Baltic States and Finland.

With kind regards, OrgBalt team

An innovative international project "Demonstration of climate change mitigation potential of nutrient rich organic soils in Baltic States and Finland" (LIFE OrgBalt) has been launched in 2019 to demonstrate the potential of climate change mitigation in organic soils.

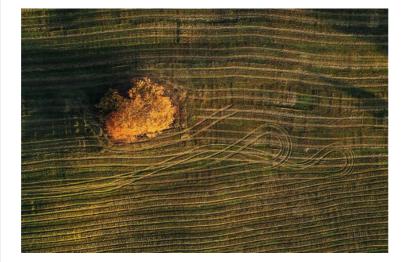


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1. Climate change mitigation potential of nutrient rich organic soils

Climate change is one of the greatest environmental, social and economic challenges of our days and the warming of the climate system is unequivocal. Greenhouse gases (GHG) emissions caused by human activities are the most significant driver of the observed climate changes since the mid-20th century.



Managed nutrient rich organic soils are one of the largest key sources of GHG emissions in Boreal and Temperate cool and moist (TCM) climate regions in Europe. In these regions, organic soils are usually previously drained peatlands that when efficiently drained can cause very high GHG emissions. Such soils need to be treated differently from mineral soils to sustain their carbon storage function. Therefore, low emission management of organic soils should become the key priority in national climate policies for this region.

In order to fulfil EU's comitment to the Paris agreement and its aims in the EU 2050 long term strategy to reach a climate neutral European economy (Link: https://ec.europa.eu/clima/policies/strategies/2050_en) the low emission land use and management practices of organic soils must play an important role in EU member states' climate change mitigation efforts.

LIFE OrgBalt **focuses** on exploring and demonstrating the potential of GHG emission reduction and carbon sequestration in nutrient rich organic soil management, as well as developing a framework for assessment and implementation of climate change mitigation measures and promoting of scientifically sound approach for land use and climate policy planning documents in the Baltic States (Estonia, Latvia and Lithuania), Finland and Germany.

As already emphasized, organic soils can have high GHG emission as well as carbon storage potential depending on chosen management strategies. The general idea of LIFE OrgBalt project is to suggest innovative measures for low emission management practices by demonstrating how these important territories can be managed also in economically, socially and climate friendly balanced way.



Just to give some inital examples, analyzed low emission measures include such practices as introduction of paludicultures (black alder for construction materials, furniture, energy), conversion of cropland to grassland, controlled drainage, agroforestry, continuous forest cover, wood ash application.

The Project will promote decision making approach that adopts land use management practices based not solely on their climate change mitigation benefits but rather based on whole "production systems analysis" that comprehensively assesses the productivity, resource use, and environmental load of the system including climate benefits.

2. Interesting facts

- Total area of managed organic soils in EU is 34.5 mill. ha (7% of the EU area).
- **GHG emissions** from organic soils in the project countries is **80 mill. tons** CO2 eq./year (61% of GHG emissions from organic soils in EU).
- Share of organic soil emissions in the project countries GHG emissions profiles varies from 5% of the net GHG emissions including LULUCF in Germany to 59% in Latvia
- Managed nutrient rich organic soils are one of the largest key sources of GHG emissions in Boreal and TCM climate regions in Europe.
- In the agricultural sector in Europe organic soils/drained peatlands make only 3 % of the total agricultural area but are responsible for 25% of all agricultural GHG emissions.
- Land use, land use change and forestry (LULUCF) sector has a potential to make an important contribution to climate change mitigation, that is not yet fully explored.

3. An insight in the LIFE Orgbalt project

The aim of the project is implementation of innovative climate change mitigation measures in nutrient rich organic soils in Temperate cool and moist climate region to contribute to the EU policies by reduction of GHGemissions from croplands, grasslands and forest lands on nutrient rich organic soils.

The EU 2020 <u>Climate and Energy Package</u> introduced an approach to achieving a 20% GHG emission reduction target to compare with 1990 levels.

Link- https://ec.europa.eu/clima/policies/strategies/2020_en

European Green Deal aims to reach EUs climate neutrality by 2050 becoming the world's first climate neutral continent.

Link https://ec.europa.eu/info/strategy/priorities-2019-2024/european-green-deal_en

LIFE OrgBalt project contributes to climate goal achievement by sharing scientific based knowledge of sustainable and climate-smart land management.

Project aim will be reached by demonstrating the climate change mitigation management approaches, offering solutions, developing practical tools, making them publicly available and providing information.

4. Main project outcomes

Aims of the project:

1. Improved activity data and GHG inventory methods used in assessment and projections of GHG emissions and carbon sequestration in relation to the management of nutrient rich organic soils. Improved GHG accounting methods to support the futher elaboration of national LULUCF policy documents in the project partner countries.



- **2. Established demonstration sites** in the Baltic States and Finland to demonstrate in practice climate change mitigation measures for the management of nutrient rich organic soils in croplands, grasslands and forest lands, to stimulate their preservation while maintaining profitability.
- **3.** Created tools (simulation model for modelling socio-economic and climate impacts of climate change mitigation) and proposals for incorporating identified measures into agricultural, forestry and climate policy planning documents.

Based on the implemented project activities, it is expected to:

- **1. Improve the knowledge base** for the assessment, monitoring, projection and implementation of effective climate change mitigation measures in the management of nutrient rich organic soils;
- **2.** Enhance the capacity of national and local authorities to apply the obtained knowledge in practice in the TCM climate zone;
- 3. Contribute to the **demonstration of innovative climate change mitigation technologies, systems, methods and instruments** that are suitable for being replicated, transferred or mainstreamed for management of nutrient rich organic soils in TCM climate zone in Europe and beyond its borders;
- 4. Contribute to sustainable land use, agriculture and forestry by creation of tools and guidelines for implementation of climate change mitigation measures in nutrient rich organic soils, as well as socio-economic analysis of the initiated actions.

5. An introduction with the project partners

The project unites public administration institutions, scientific and non-governmental organisations.

Leading partner – Latvian State Forest Research Institute "Silava" - implements the project in cooperation with the Ministry of Agriculture of the Republic of Latvia, Latvia University of Life Sciences and Technologies, Association "Baltic Coasts" (Latvia), University of Tartu (Estonia), Lithuanian Research Centre for Agriculture and Forestry, Natural Resources Institute Finland and Michael Succow Foundation – Partner in the Greifswald Mire Centre (Germany).

More information about the project partners and their fields of research is presented in the following.

<u>Latvian State Forest Research Institute (LSFRI)</u>
<u>"Silava" (Latvia)</u>

Latvian State Forest Research Institute "Silava" is one of the core forest research centers in the Baltic States. The goal of "Silava" is obtaining new knowledge, based on scientific methods, and developing the innovative technologies to promote sustainable development and competitiveness of the forest sector.



The main areas of activity are research on the increase of forest value, interaction of forest and environmental factors, forest ecosystem services, tree plantations outside forests, forest operations, forest ecology, forest goods and wildlife management.

Role in project

"Silava" is responsible for development of the LIFE OrgBalt project implementation framework, general project management, monitoring and coordination of the tasks within the core implementation actions.

Web page

<u>Ministry of Agriculture of the Republic of Latvia</u> (<u>Latvia</u>)



Ministry of Agriculture of the Republic of Latvia is the leading state administration institution of Latvia in the agriculture, forestry and fishing sectors.

Its functions are to develop and organise the implementation of the policy of agriculture, forestry and fisheries, as well as to ensure international cooperation.

Ministry of Agriculture is involved in quality assessment of National GHG emission inventory and projection reports of LULUCF and agriculture sectors as well as is responsible for development of all policy planning documents regards these sectors.

Role in project

Ministry is responsible for development of the LIFE OrgBalt project strategies and action plans as well as integration of project outcomes in policy planning and decision making.

Web page

<u>Latvia University of Life Sciences and Technologies</u> (<u>LLU</u>) (<u>Latvia</u>)



Latvia University of Life Sciences and Technologies is specializing in agricultural science, forestry, food technology and related areas.

Priority research areas include climate change mitigation and environmental technologies, hydrology and agricultural research, as well as land and property management studies and research on soil and land as core agricultural resources.

University prepares an annual inventory and projections of GHG emissions for the sector of agriculture in Latvia.

Role in project

LLU is responsible for implementation of CCM measures in the project LIFE OrgBalt selected demo sites and development of replicability tools.

Web page

<u>Association "Baltic Coasts"</u> (<u>Latvia</u>)



Association "Baltic Coasts" is a non-governmental organisation, founded in 2007.

The main fields of "Baltic Coasts" experience are related to ecosystem services, economic evaluation of natural resources, biological diversity, climate and resource policies, coastal erosion and integrated coastal planning and support for policy makers in decision making and public education and awareness rising on environmental issues.

Role in project

Association is responsible for the project LIFE OrgBalt socioeconomic analysis and impact monitoring, private and public partnership development and is leading actions of communication, dissemination and awareness raising.

Web page

<u>University of Tartu</u> (<u>Estonia</u>)



The University, founded in 1632 is one of the leading scientific and research institutions in Estonia in several fields, including environmental sciences and ecology, plant and animal sciences, biology, social sciences etc.

University of Tartu has the richest experience among the Baltic States in researching and modelling GHG emissions from organic soils. National emission factors developed by University of Tartu are used to calculate GHG emissions from wetland management in Estonia.

Role in project

University is providing scientific support for the measurment and calculation of GHG emissions and is responsible for monitoring of the impact of the project actions.

Web page

<u>Lithuanian Research Centre for Agriculture and Forestry</u>
(<u>LAMMC</u>) (<u>Lithunania</u>)



The Lithuanian Research Centre for Agriculture and Forestry (LAMMC) is a State Research institute.

Mission of the LAMMC is to conduct research and development relevant for science, national economic development, horticulture, agronomy, forestry, ecology, biology, biophysics, botany, zoology, sustainable use of land and environmental resources, as well as dissemination of new scientific knowledge to the public and promotion of sustainable land use development of forest economy and rural development.

Role in project

LAMMC responsibility in the LIFE OrgBalt project is linked to the development of tools for modelling of impact of climate change on GHG emissions.

Web page

Natural Resources Institute Finland
(Luke) (Finland)

Luke is an independent governmental research organisation under the Ministry of Agriculture and Forestry. Luke was launched in 2015 and works to advance bioeconomy and sustainable use of natural resources, being one of the biggest clusters of bioeconomy



expertise in Europe. One of Luke's strategic objectives is climate smart carbon cycle, with focus on soil carbon sequestration and emission reduction, carbon neutral primary production and value networks, and means of control and incentive schemes to combat climate change.

Luke also carries out statutory government work. We monitor natural resources, certify plant production, inspect control agents, store genetic resources, produce data on greenhouse gases, support natural resource policies and produce Finland's official food and natural resource statistics.

Role in project

LUKE's responsibility in the LIFE OrgBalt project is to provide support and expertise as well as coordinate networking and fill the knowledge gaps on GHG emissions.

Web page

<u>Michael Succow Foundation (MSF) – Partner in the Greifswals Mire Centre (Germany)</u>



Michael Succow Foundation is a German nature conservation NGO established in 1999.

MSF uses a science based landscape-ecology approach for developing and implementing ecosystem based conservation, restoration, and sustainable landuse projects.

Amongst MSF focus areas are: Development of international conservation areas (following the Biospehre reserve approach); Conservation, restoration and paludiculture (low emission wet utilisation) of peatlands.

MSF is partner in the *Greifswald Mire Centre* (GMC), an internationally renowned institution dealing with peatlands on research, conservation, paludiculture, and consultancy level.

MSF conducted with partners from Estonia, Latvia, and Lithuania a feasibility study for the implementation of paludiculture in the Baltic States in a current project in the European climate initiative (EUKI) of the German Ministry for Ennvironment (BMU).



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Partner in the

Role in project

MSF role in the LIFE OrgBalt project is to provide support and expertise, coordinate development of demonstration sites and provide expertise in implementation of paludiculture measures.

MSF Web page

GMC Web page

6. Events

Kick-off meeting



On 24 October, 2019 the kick-off meeting of the project gathered all 8 partners from 5 countries to discuss in detail the implementation of the project. The venue of kick-off meeting was Ministry of Agriculture of Latvia.

At the first part of meeting the project coordinator – Mrs. Ieva Licite introduced participants with the project scope and main objectives. Further information about LIFE program was given by the NEEMO EIG-ELLE representative.

Project partners discussed the project management and preparatory actions, communication and dissemination activities, establishement of demo sites, GHG measurements and monitoring of the impact of the project actions. Ideas on development of the proposals for national strategies and action

plans, as well as creation of simulation model for projections of GHG emissions and socio-economic outputs were discussed as well.

Kick-off meeting presentations

Steering group meeting

On 29 January, 2020 the first project Steering group was held, with the involvement of specialists, scientists and policy makers from the participating countries. The members of Steering group were introduced with the project aims, objectives, expected results and prepared reports.



An insight into the project scope, work plan, objectives, deliverables, monitoring guidelines and plan for awareness rising and stakeholder engagement was given. Furthermore such topics as recent climate policy developments as well as agriculture and forestry policies within the framework of climate policy were discussed.

The project team will share its progress and results with the international Steering group twice a year to facilitate impact on national climate policy planning documents. Next Steering group meeting will take place by July 2020.

Steering group consists of representatives of Ministry of Agriculture of Lithuania, Ministry of Environment of Lithuania, Estonian Ministry of Rural Affairs, Estonian Environmental Agency, Ministry of Environmental Protection and Regional Development of Latvia, Rural Support Service of Latvia, Latvian Environment, Geology and Meteorology Center, State Plant Protection Service of Latvia, Latvian State Regional Development Agency and Ministry of Agriculture and Forestry of Finland.

All presentations from the Steering group meeting are available here

7. Project deliverables developed in 2019



Project work plan including monitoring guidelines

Project work plan provides an insight into the planned work process to successfully implement project activities and to avoid any risks. Within the work plan project activities, responsibilities and time schedule have been described.

Paper also includes monitoring guidelines for the project activities implementation, socio-economic monitoring and monitoring the LIFE program key performance indicators.

To plan actions that could measure the successes of the project implementation, monitoring methods for each monitoring action have been described as well as indicators and criteria have been set.

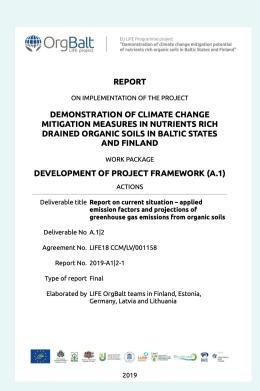
Project work plan is available here

Report on current situation – applied emission factors and projections of greenhouse gas emissions from organic soils

The paper gives overview of organic soil management in Northern regions, paying special attention to the organic soils in the Baltic States and Finland.

Detailed information on current situation, including GHG emission data, management practices and applied GHG emission factors in the Baltic States and Finland is available as well as insight to ways forward.

In spite of similar climate conditions GHG emission factors in the project countries differs up to 10 times for the same land uses.





Report on the identified climate change mitigation targeted management practices on organic soils

The report underlines that organic soils are a significant source of GHG emissions in the TCM climate and may contribute up to 100% of the GHG emissions from cropland and grassland in the LULUCF sector.

According to the report, national policies recognize the role of organic soils in GHG emission reduction, however, only few measures are considered yet.

Policies lack knowledge on the exact impact on GHG emissions that can be achieved by changes in organic soil management practices, and there is insufficient monitoring and reporting ability.

The study highlights the demand for urgent research actions and informs on a wide array of identified climate change mitigation measures that potentially can be applied to organic soils.

Ziņojums pieejams šeit

Plan for awareness rising and stakeholder engagement plan

The plan outlines stakeholder involvement activities and communication channels that will be used throughout the different phases of the project.

Stakeholders have been divided into three main groups according to their level of influence and interest – primary stakeholders, secondary stakeholders and third parties. Priorities, problems, needs, constraints and benefits have been analysed for each stakeholder group.

In order to achieve project goals, representatives from the LULUCF and agricultural sectors, both from public and private sectors, will be involved.

A great focus is given to education, training and awareness raising to increase public attention on climate change mitigation potential within the project results.

Several activities will be dedicated to networking opportunities to create tighter connections between the different interest groups involved.



Report is available here

8. Project in brief

- LIFE Climate Action sub-programme project
- Project partners Latvian State Forest
 Research Institute "Silava"; Ministry of
 Agriculture of the Republic of Latvia;
 Latvia University of Life Sciences and
 Technologies; Association "Baltic
 Coasts", University of Tartu; Lithuanian
 Research Centre for Agriculture and
 Forestry; Natural Resources Institute
 Finland; Michael Succow Foundation
- Funding provided by EU LIFE programme and State Regional Development Agency of the Republic of Latvia.
- Budget 3 360 948 EUR, including EU financial contribution 1 844 004 EUR
- Duration August 1, 2019 until August 31, 2023
- Website: <u>www.orgbalt.eu</u>

Project "Demonstration of climate change mitigation potential of nutrient rich organic soils in Baltic States and Finland" (LIFE OrgBalt, LIFE18 CCM/LV/001158) is implemented with financial support from the LIFE Programme of the European Union and State Regional Development Agency of the Republic of Latvia. www.orgbalt.eu

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