



LIFE15 CCM/DE/000138

*Reduction of CO<sub>2</sub> emissions by restoring degraded peatlands in Northern European Lowland*  
(LIFE15 CCM/DE/000138)

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LIFE Peat Restore

Socio-economic impact assessment  
Lithuania

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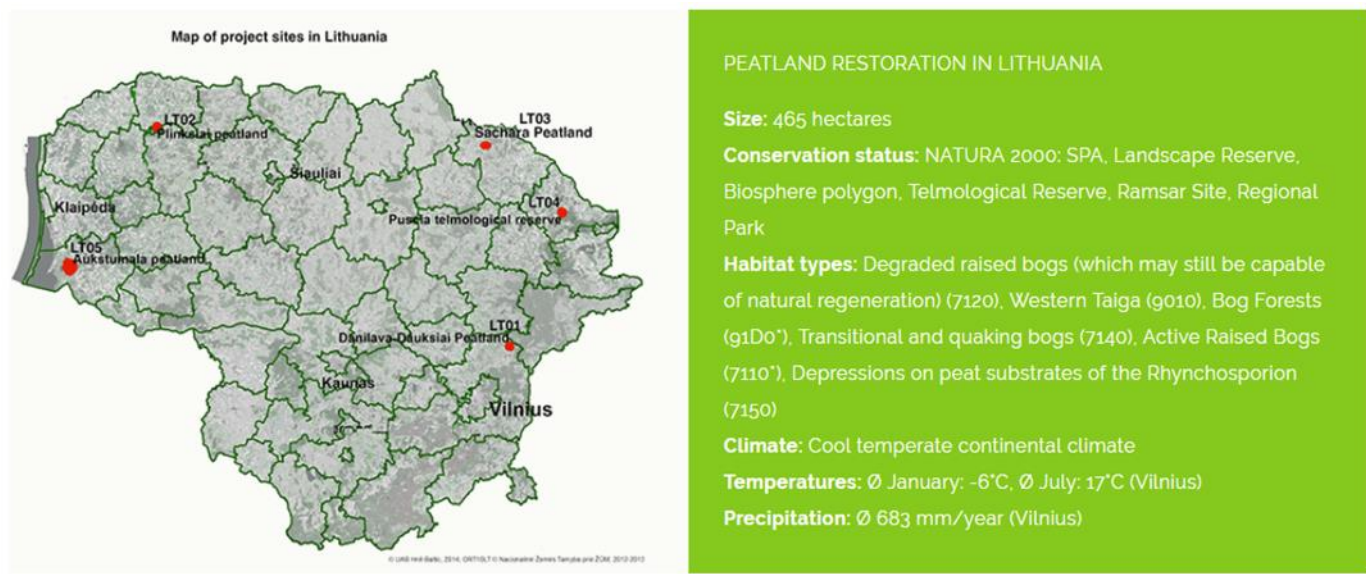
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## SITE LEVEL



### DIRECT ECONOMIC INTERESTS FORM THE SITES

- In Lithuania there are 5 project sites, which are located in degraded and post mined peatlands: Amalvas peatland, Plinkisiai Peatland, Sachara Peatland, Pucia Peatland and exploited part (10 ha) of Aukstumala peatland, they cover totally 465 ha. They are distributed across almost all regions of the country. Therefore, project has different stakeholders, which can be defined by several types: 1) state institutions, which are landowners and supervisors. In project sites LT01, LT02, LT03 State Forestry Enterprise own the forests within project sites; 2) private companies, who are land users, also renting the land on the basis of long-term agreement. This is the case for peatland where active mining is ongoing, e.g., in Project site LT05 mined by Klasmann-Deilmann Silute Ltd.; 3) state institutions, which are supervisors. This type includes administrations of protected areas: State Service of Protected Areas and Ministry of Environment and its affiliates: Administrations of Žemaitija National Park, Žuvintas Biosphere Reserve, Gražute and Sartai Regional Park, which supervise project sites. Also, variety of state bodies, which will be involved into management plans issue permissions for forest clearing, dam building. Additionally other institutions are involved too, e.g., Environmental Protection Department, Lithuanian State Forest Service, Local Road Filial of the Lithuanian Road Administration. All project sites have a protection status and designated solely for nature conservation. No products are harvested directly from the project sites. There are almost no possibilities nor intentions of any economic interests also in the future.

### INDIRECT IMPACT

- The project sites are part of more complicated hydrological system, which might influence economic use of surrounding forests. Therefore, while preparing the hydrotechnical plans for restoration, special measures were proposed to not disturb the surrounding areas.
- Hydrological modelling shows that project implementation should not influence water conditions on third party lands.
- The chosen Lithuanian project sites are very remote and without any neighborhood of any settlements.



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- Project actions had impact on the local landscape, as the chosen sites become wetter and more open (tree cutting). However, these measures will indirectly reduce the fire risk in the future.

#### PUBLIC AWARENESS AND ATTITUDE TO THE NATURE CONSERVATION & BOGS CONSERVATION

- In order to raise public awareness about the peatland role in climate change mitigation meetings with local communities, school students, public discussions, seminars were organized. Thus, the public attitude and knowledge about peatland restoration was improved.
- In addition, for raising the public awareness, LFN staff took part in the international biodiversity day, where alternative for peat substrates were presented. For this purpose, the survey about peat use in domestic horticulture was delivered. The analysis of this survey shows that majority of respondents were not informed about the peatland role in climate change and alternatives for peat substrates existence.
- Publication “Peatlands and climate change” was published and presented to the society giving a special emphasis for the use of abandoned peatlands. Peatland owners, environmentalists, representatives of Ministry of environment and broad public were informed about the potential of GHG emission reduction by restoring peatlands or using them in a sustainable way.

#### TOURISM

- Project actions were not focused on the creation of tourism infrastructure, except for the informational boards, which were installed in every project site. There is not too much data on how implemented actions have changed the number of visitors in the sites. Also, it should be noted that all project sites have conservation status, which restricts the period of visiting during the year. Nevertheless, in some sites (e. g. Sachara), local communities started to organize excursions in the restored sites.
- Project team has organized or were involved in the organization of excursions for environment specialist, who are particularly interested in the restoration of ecosystems. Thus, the message about the peatland restoration activities was spread among the environmentalists, who will keep coming in these sites in the future.
- From all project sites, Aukštumala (Šilutė distr.) and Pūsčia (Zarasai distr.) are located in the regions which are most visited by the tourists. However, these regions are already characterized by a big number of attractive objects. Whereas sites such as Plinkšiai (Mažeikiai distr.), Sachara (Rokiškis distr.) are not the most popular tourism destinations and restored peatland sites might help to attract more visitors. Nature management plan of Plinkšiai site foresees the installment of educational trail in the peatland after the implementation of restoration actions.

#### JOBS MARKET, LOCAL SERVICE MARKET

- Local accommodation providers and maintaining service sector as well as tourism companies near the project sites are the direct beneficiaries of the project actions. As well as people employed and companies hired by the project as the contractors for nature management implementation.
- For the implementation of project action 15 different companies were hired. These companies were responsible for preparing the hydrotechnical plans (technical designs), dam building, tree cutting, publishing and designing the informational material. For the implementation of nature management actions (dam building, tree cutting), the priority for local companies was given.



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The same principal was followed for companies which were responsible for the cattering of various events.

- The project provided job for ca 30 local persons during the project time (trees removing, ditches blocking). Nevertheless, new permanent job positions had not been created, because these actions are temporary.

#### REGIONAL LEVEL

The work with regional level, so as the regional level impact did not take place in the Lithuanian part of the project. No useful data on the regional level are available.

#### NATIONAL LEVEL

##### PEAT & PEAT EXTRACTION

- The list of abandoned peatland quarries was prepared and presented to appropriate institutions, decision makers and companies such as Lithuanian Geological Survey, Ministry of Environment etc. The list provides information about the size, location, natural values, protection status, main land use categories and ownership of different abandoned peatlands. In addition, preliminary proposals of sustainable management (nature management, paludiculture, etc.) for each peatland were prepared. This list will become background for the further sustainable use of abandoned peatlands and will help to achieve goals in climate change mitigation and improving the biodiversity status.
- According to the CO<sub>2</sub> emissions from degrading wetlands and peatlands, Lithuania is ranked in the top 10 in the world by 9th place (2008 - 0.93 t / ha). However, different authors receive several times higher emissions, ranging from around 7-8 million to the updated Intergovernmental Panel on Climate Change (IPCC) emission factors. This represents about one third of the country's total emissions in non-ETS sectors. Although in Lithuania peatlands occupy about 10%. (655,488 ha) of the country's land, but most (¾) of the country's wetlands are drained. It is estimated that sustainable use and restoration of hydrological regime might significantly reduce the GHG emissions by at least 63%.
- Project actions will have a positive impact on GHG emission reduction. Based on the Project scenario, the total amount of GWP emissions in Lithuanian sites (465 ha) will be reduced by 69% (5844.5 t CO<sub>2</sub>-eq /yr.). The average GWP reduction per 1 ha in management area is approximately 14 t CO<sub>2</sub>-eq /yr.
- The above-mentioned figures were provided in the Publication "Peatlands and climate change", which was presented to the decision makers. As a result, abandoned peatland quarries are currently considered as a "low hanging fruit" to reach National climate change mitigation goals.
- Due to the peatland fires 11,2 thous. m<sup>3</sup> of peat are lost in Lithuania annually. Damage to the environment might costs up to 39 thous. EUR per year; 76% of these costs is caused by CO<sub>2</sub> emissions (Valatka & Oskolokaitė, 2010). Long term drainage causes that abandoned peatlands are on the constant fire risk. Project actions could prevent all LT sites from the fire risk by improving the hydrological conditions and raising water level in degraded raised bogs. Estimation of costs and gained value in this case is complicated, because every case of fire accidents is very different and depends not only on the loss of natural recourses (timber, peat, protected species etc.), but on the amount of CO<sub>2</sub> that is released.



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	INDICATORS								
	DIRECT					INDIRECT			
Units	Economic contribution	Ecosystem regulating services (GHG emissions, water quality, biodiversity)	Awareness raising	Scientific knowledge	Social capital	Ecosystem supporting services	Ecosystem provisioning services	Fire/flood prevention	Ecosystem cultural services
Stakeholder and Duty holder involvement			22		21				
Information boards/panels	5		5	5	5				
Employment (Individuals/companies hired by the project)	15								
Amount spent (€) <sup>1</sup>	€1250000								
Number of jobs (FTE and PTE)	6								
Number of events and conferences organised / participated	21		21	14	21				

<sup>1</sup> The sum of costs from external assistance, consumables, travels, other costs.



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<b>Number of participants in Events / Conferences</b>			1350	1350	1350				
<b>Number of hectares restored</b>		450 ha				450 ha	450 ha	450 ha	450 ha
<b>GWP reduction<sup>2</sup> (tons CO2-eq /yr)</b>		5,844 t							
<b>Website - downloads<sup>3</sup> (to Website in Lithuanian) 01/06/2017- 28/02/2022</b>			179	179	179				
<b>Website - visits<sup>4</sup> (to website in Lithuania) 01/07/2017- 28/02/2022</b>			7,868	7,868	7,868				
<b>Number of peat related industries contacted</b>			6		6				

<sup>2</sup> Reduction by tons CO2-eq/ha/yr.

<sup>3</sup> Due to the recent EU Data Protection Law (GDPR), which allows visitors the option to block statistical tracking of the website traffic; it is assumed the figures may be higher.

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<b>Number of Print media</b>			12	12	12				
<b>Number of Publications / Reports, promotional material produced</b>			133	133	133				



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