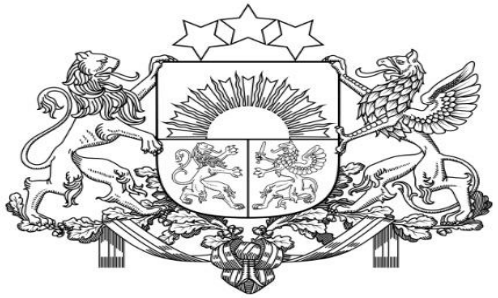

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LIFE OrgBalt project results for developing coherent climate and environment policy for the land use sector

LIFE OrgBalt National seminar in Estonia
08.04.2024.

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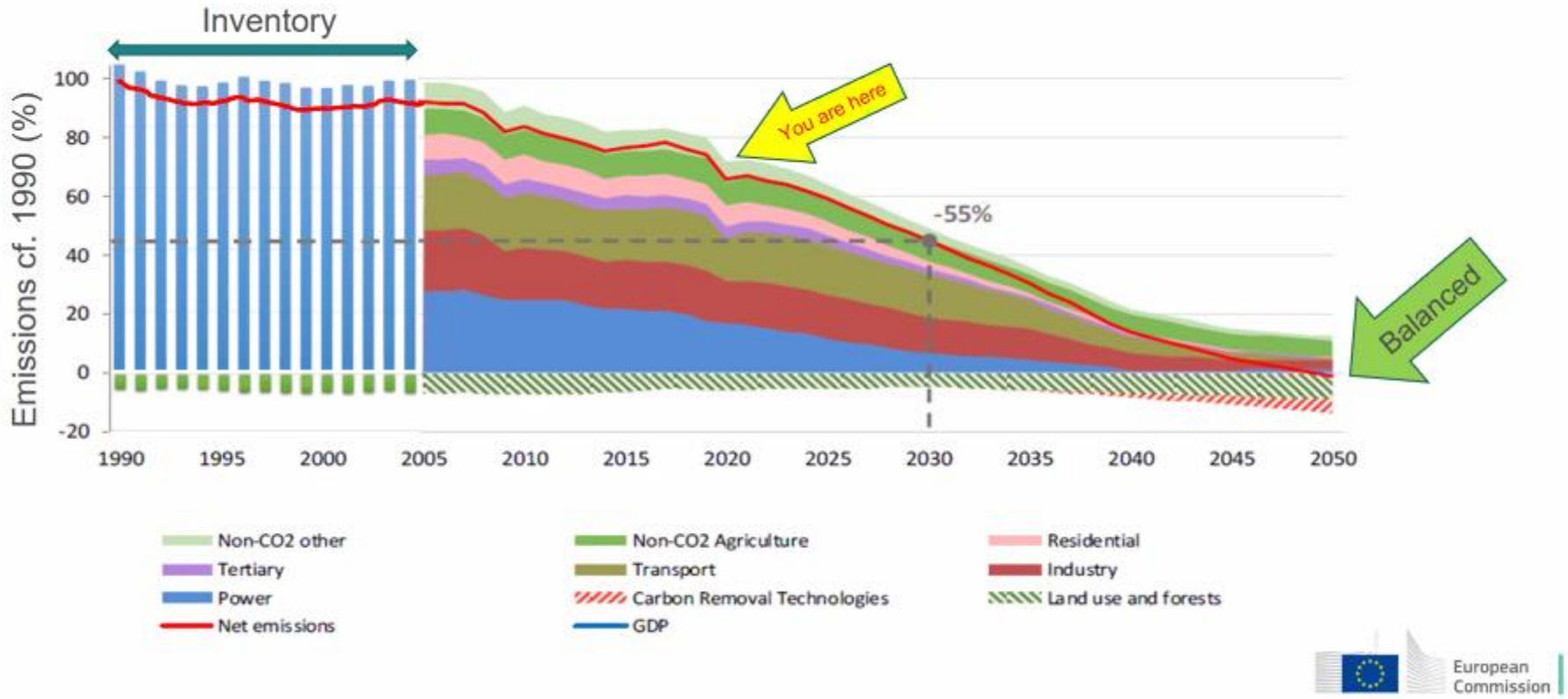
Pathway to climate neutrality



Source: European Commission

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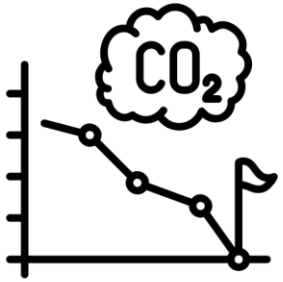
Climate policy in EU



The EU has set a common target for reducing GHG emissions, which is divided into three parts:

- ETS (electricity and heat generation, energy-intensive industry sectors) included activities,
- non-ETS (industry, energy supply and product use, transport, buildings, agriculture, waste management sector) included activities,
- **CO2 sequestration for the LULUCF sector.**

Zemkopības ministrija

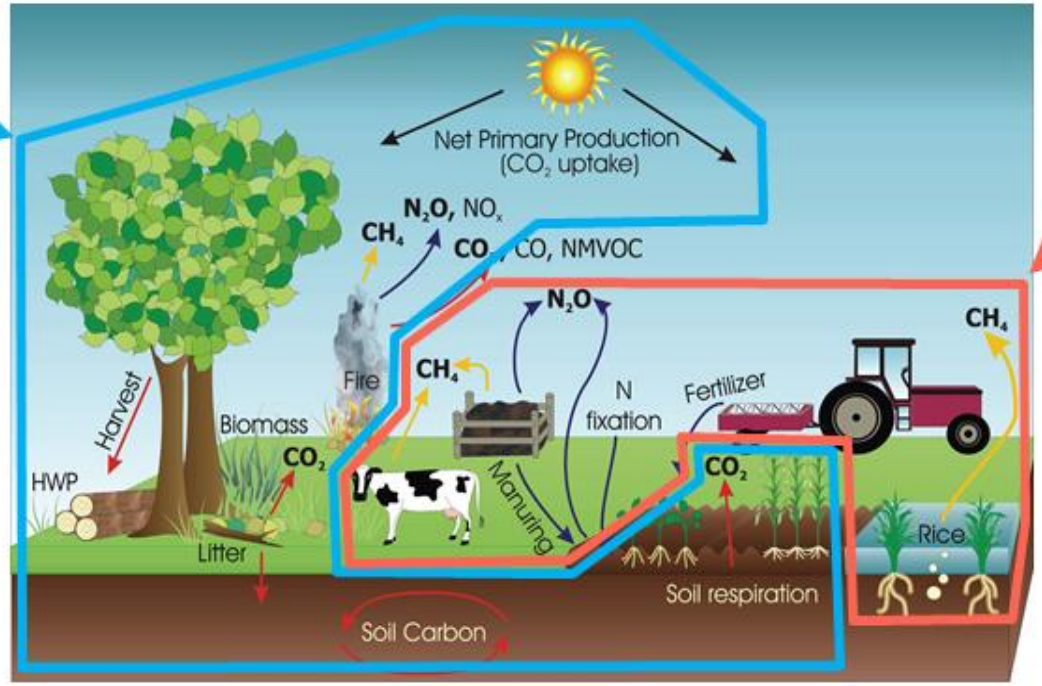
LULUCF and non-ETS sector breakdown

LULUCF (Land-use, land-use change and forestry)

Agriculture (non-ETS)

Contributing factors:

- Cropland/grassland
- Land-use change
- Carbon storage change in biomass and soil
- Organic soil mineralization
- Application of organic fertilizers



Contributing factors:

- Number of farm animals
- Milk yield
- Fertilizer consumption
- Sowing area
- Yield
- Liming materials
- Urea application

Zemkopības ministrija

Land-use sector or LULUCF

- LULUCF - Land use, land use change and forestry
- The LULUCF policy for the period from 2021 to 2025 includes accounting rules for:

Managed forest land

(Includes wood products. Does not include infrastructure, swamps, fields.)

Deforested land

Afforested land

Managed grassland

(Perennial grasslands and pastures.)

For the period from 2026 to 2030, the LULUCF policy applies to the GHG inventory reporting categories or sectors:

1. Forest land;
2. Cropland;
3. Grassland;
4. Harvested wood products;

Managed cropland

(Including grasslands sown in arable land)

Managed wetland

(Including swamps, the calculation includes wetlands in which management is taking place or has taken place)

Settlements or other land

(including forest infrastructure, drainage systems)

+ from 2026

5. Wetlands;

6. Settlements;

7. Other land;

8. Atmospheric deposition;

9. Nitrogen leaching and run-off.

The infographic was created using Microsoft Stock images

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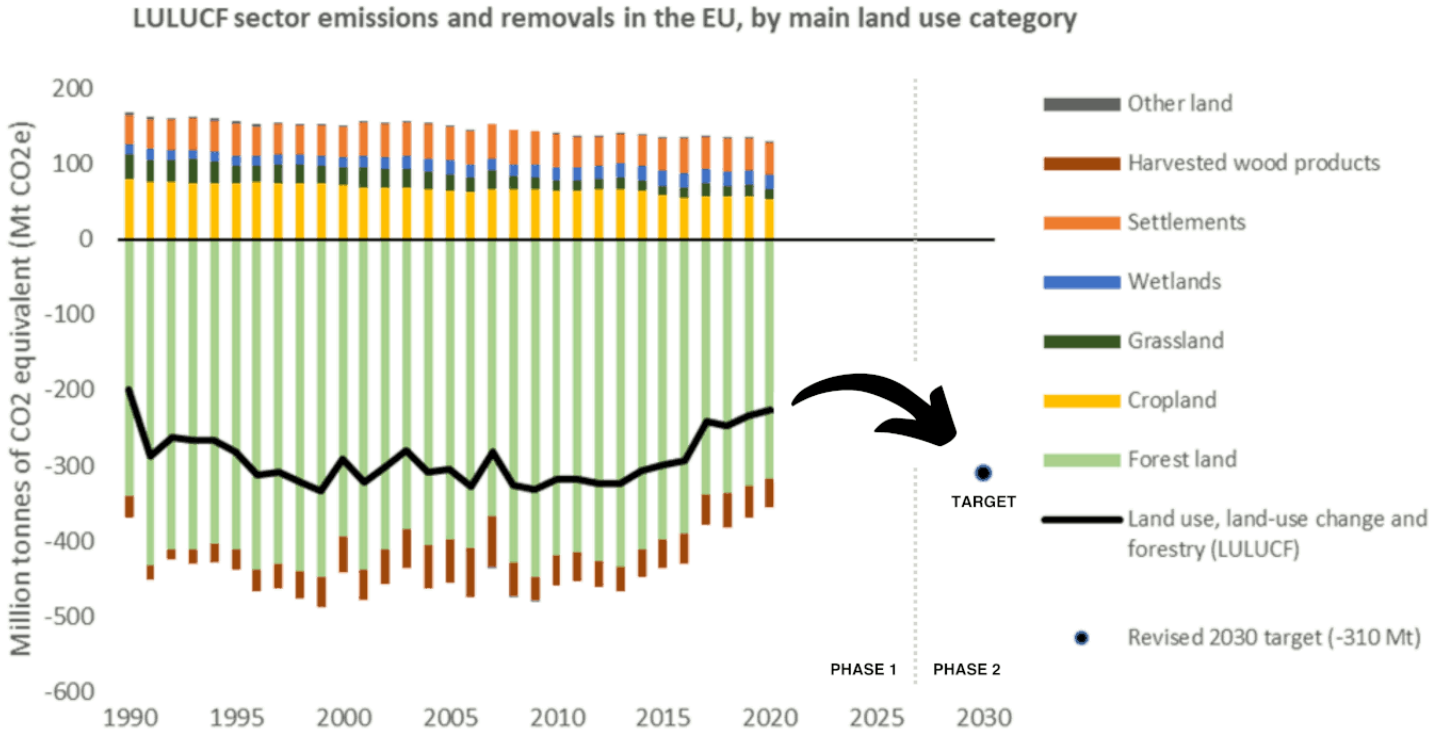
Two periods and two goals of LULUCF

The revised Regulation consists of two phases:

Phase 1 from 2021 to 2025: For the period from **2021-2025**, the goal of each member state, including Latvia, is to ensure that **GHG emissions in its territory do not exceed the base level of removals**.

Phase 2 from 2026 to 2030: This phase enlarges the territorial scope to cover all managed land and introduces the EU-wide target of -310 Mt CO_2 equivalent of net removals by 2030.



Source: https://climate.ec.europa.eu/eu-action/land-use-sector_en

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Updating the National energy and climate plans

- the Member States have to submit their updated National energy and climate plans (NECP) until the end of June 2024, most Member States submitted their draft NECP's at the end of 2023 and the EC have prepared recomendations;
- the NECP includes measures to reach the goals of the non-ETS and LULUCF sectors;
- the measures in the draft NECP's for most Member States have been pointed out not to be sufficient by the EC;
- Member States have different approaches on their NECP's and also different accounting approaches in their national GHG emission reports;

Estonia's key objectives, targets and contributions

	2030 value submitted in the draft updated NECP	2030 target under EU legislation	Assessment of 2030 ambition level
GHG **Greenhouse gas (GHG) emissions in ESR sectors** (compared with 2005)	-11.4%	-24%*	Estonia does not reach its target based on projections
GHG **GHG net removals in LULUCF** (Mt CO_2 eq. net GHG removals)	-2.8 to 3.6	-0.434 (additional removals target) - 2.545 (total net removals) **	Estonia is not reaching its target based on projections

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Planned LULUCF measures for Latvia's submission for NECP

Fertilization of the forest (application of mineral fertilizers)
Use of wood ash for soil enrichment/fertilization in drained organic soil forests
Improvement of the hydrological regime (drainage) in forests with wet mineral soils
Replacement of unproductive stands
Rewetting/paludiculture - afforestation (black alder) of rewetted organic soils in agricultural lands
Targeted afforestation of agricultural mineral soils with lower soil quality and afforestation of organic soils if rewetting isn't possible
Trees, hedges along drainage systems
Cultivation of willow coppices and use of wastewater sewage sludge in them
Group of trees in pasture (0.09 ha per 1 ha of pasture) - agroforestry
Targeted afforestation in rewetted organic soils on peat extraction fields (paludiculture)
Peat extraction site renaturalization

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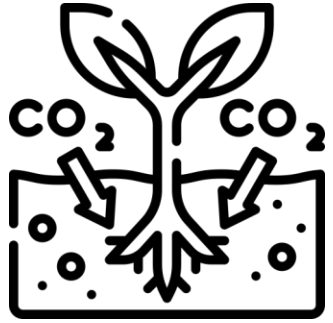
Carbon framework regulation



- Planned at the first half of 2024
- The regulation defines the basic principles for the certification of carbon sequestration in the EU. Certification will be voluntary.
- In cooperation with the working group of experts, the EC will develop certification standards for various sequestration activities by 2027, both for nature based and technological solutions.
- In the scope of the certification, it is planned to include not only the sequestration, but also the reduction of emissions in agricultural soils.

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Emission factors

- If national emission factors for organic soils vary widely, this can lead to the situation that even the countries of the same region can have completely opposite organic soil management policies. As a result, rewetting can be a very good climate measure in one country, while in another it can increase emissions on paper. This could also lead to the situation where within carbon farming in one country carbon credits can be earned through rewetting measures, while it is not possible in another country due to the fact that emissions are not decreasing, or reduction of emissions is too small.
- We are not calling for the project's emission factors to be used in countries' national GHG emission reports without a thorough assessment. We invite you to consider using similar emission factors for countries in the same region, so our organic soil management policy also would be **similar**.
- We should consider whether emission measurements that are not carried out continuously can be used without hesitation to change the national emission factors. In any case **metadata** should be preferred to any single study.
- Perhaps in the future, GHG flux studies should not seek to cover the maximum number of sites but should seek to obtain accurate data from **continuous** measurements in typical locations.

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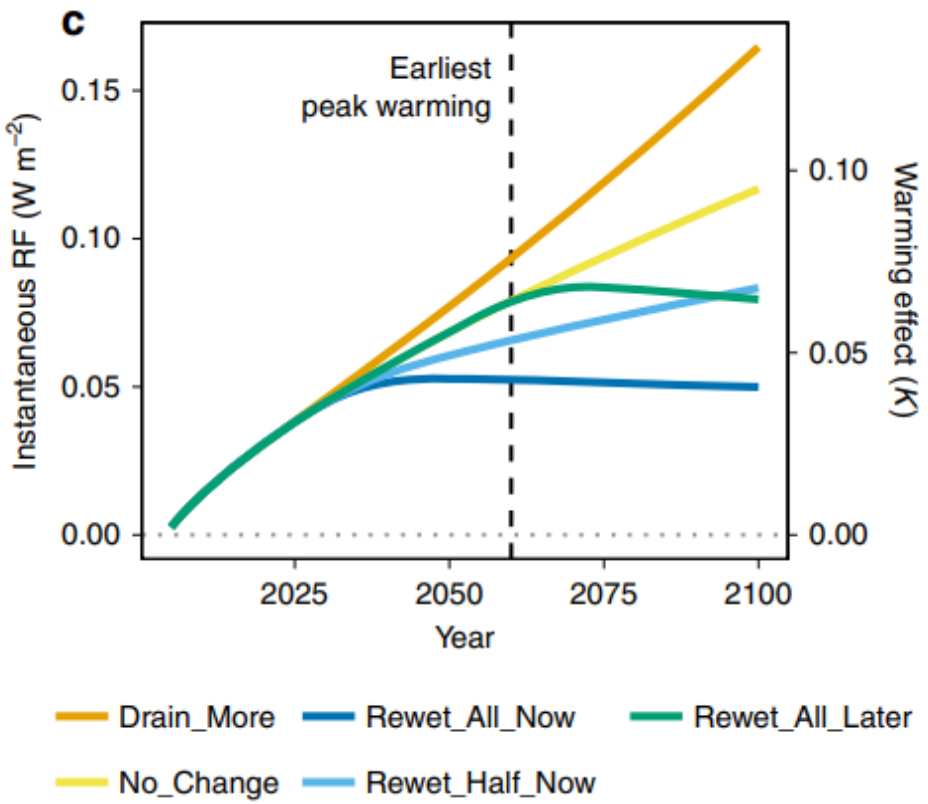
Radiative forcing vs GWP

- Recently, we more often hear from the Europe Commision that, in the case of rewetting, the replacement of CO2 emissions with methane emissions cumulatively leads to lower radiative forcing.
- We understand that the GWP's 100-year approach does not really take this into account and cumulative methane emissions vs cumulative CO2 emissions are essential only in the case of rewetting.
- Obviously, in the case of rewetting organic soils, GWP of methane should be lower compared to methane emissions from other sectors, where current CO2 emissions are not replaced by methane emissions.
- In addition, we need research on how to promote the activity of metanotrophic bacteria to be able to reduce methane emissions after rewetting.



Source: Günther et al., 2019

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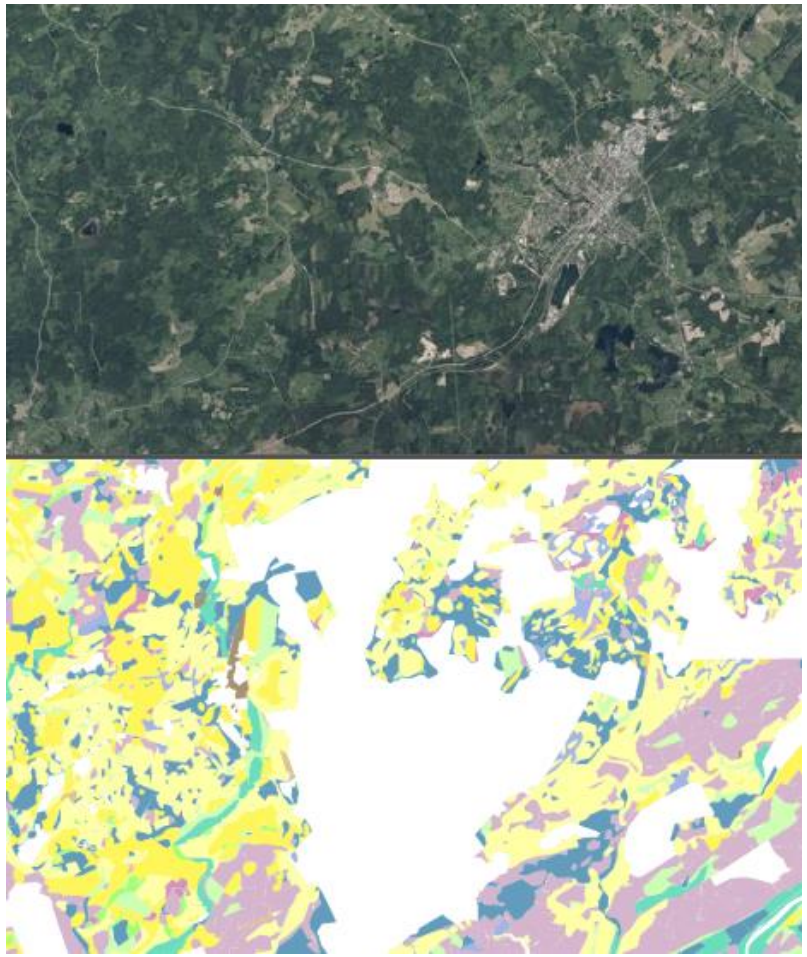
Latvia’s experience – organic soil mapping

In January the project "Enhancement Sustainable Soil Resources Management in Agriculture" (**E2SOILAGRI**) ended giving us these results over the three years the project was conducted:

- a new soil classification and mapping methodology has been developed as the basis for mapping future soil,
- revised and improved historical soil data,
- a map of the spread of peat soil has been established for Latvia as a whole,
- an established soil carbon monitoring network from 200 points,
- established emission factors for characterising organic soil greenhouse gas (GHG) emissions.

All the results of the soil research project are united by a common feature – they improve our understanding of Latvia's agricultural soil and soil as such.



Source:

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Thank You!
Questions?