Peat importance in the horticulture

Ingrīda Krīgere
member of the board
Latvian Peat association

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Latvian Peat Association

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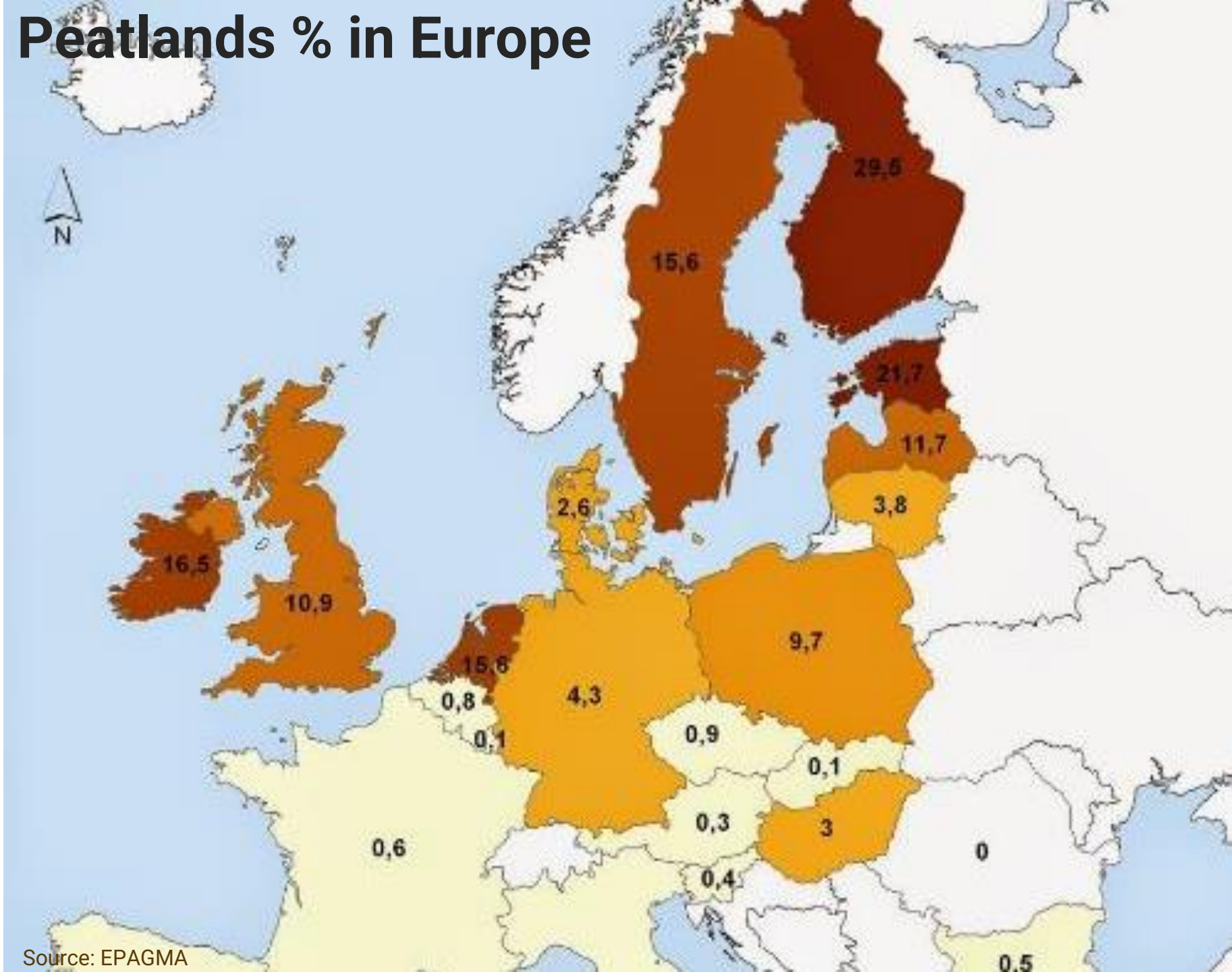
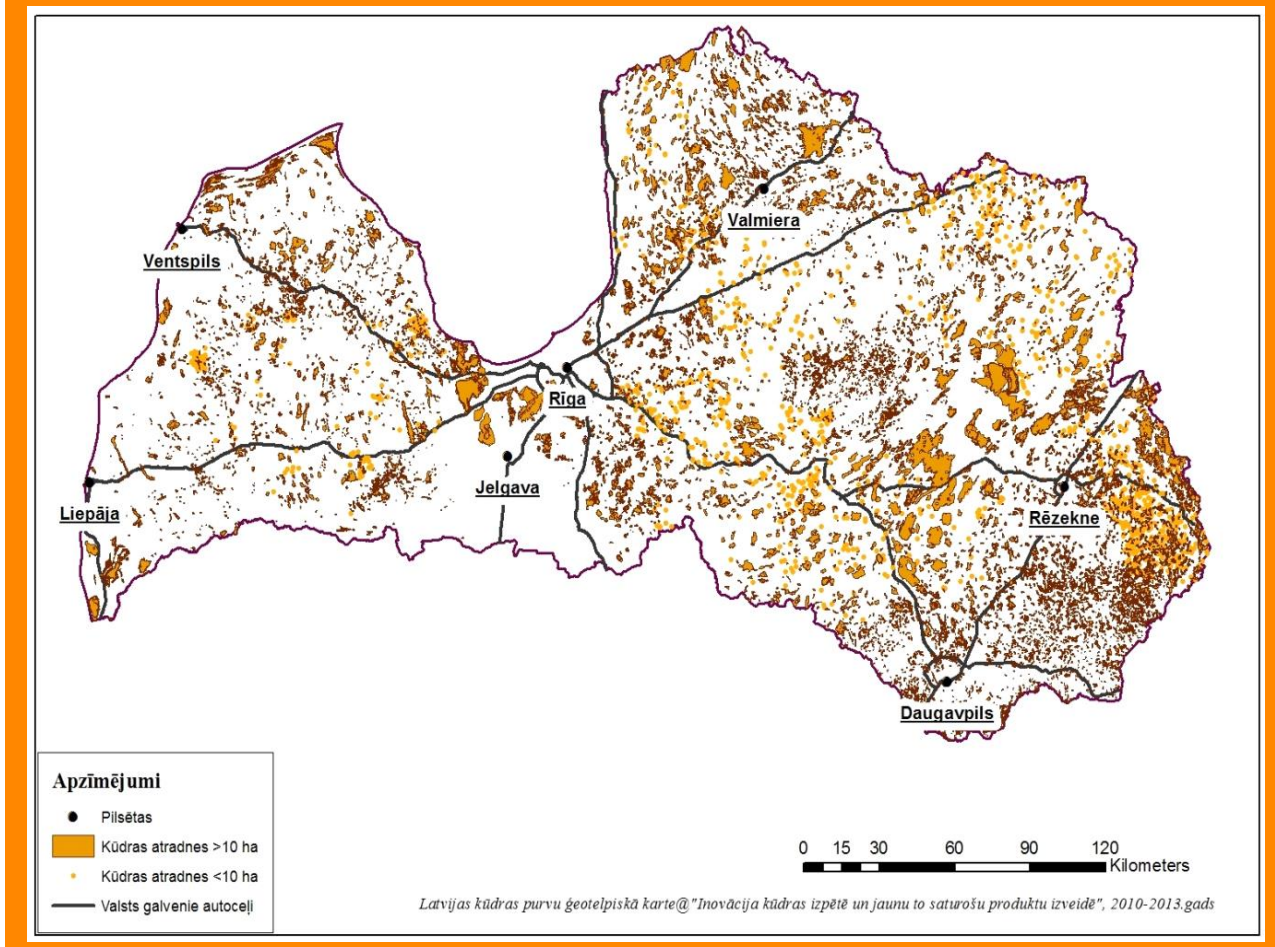
Peat resource in Latvia

- 7th largest peat deposits in the world
- 14th largest peatland area



Peat resource in Latvia

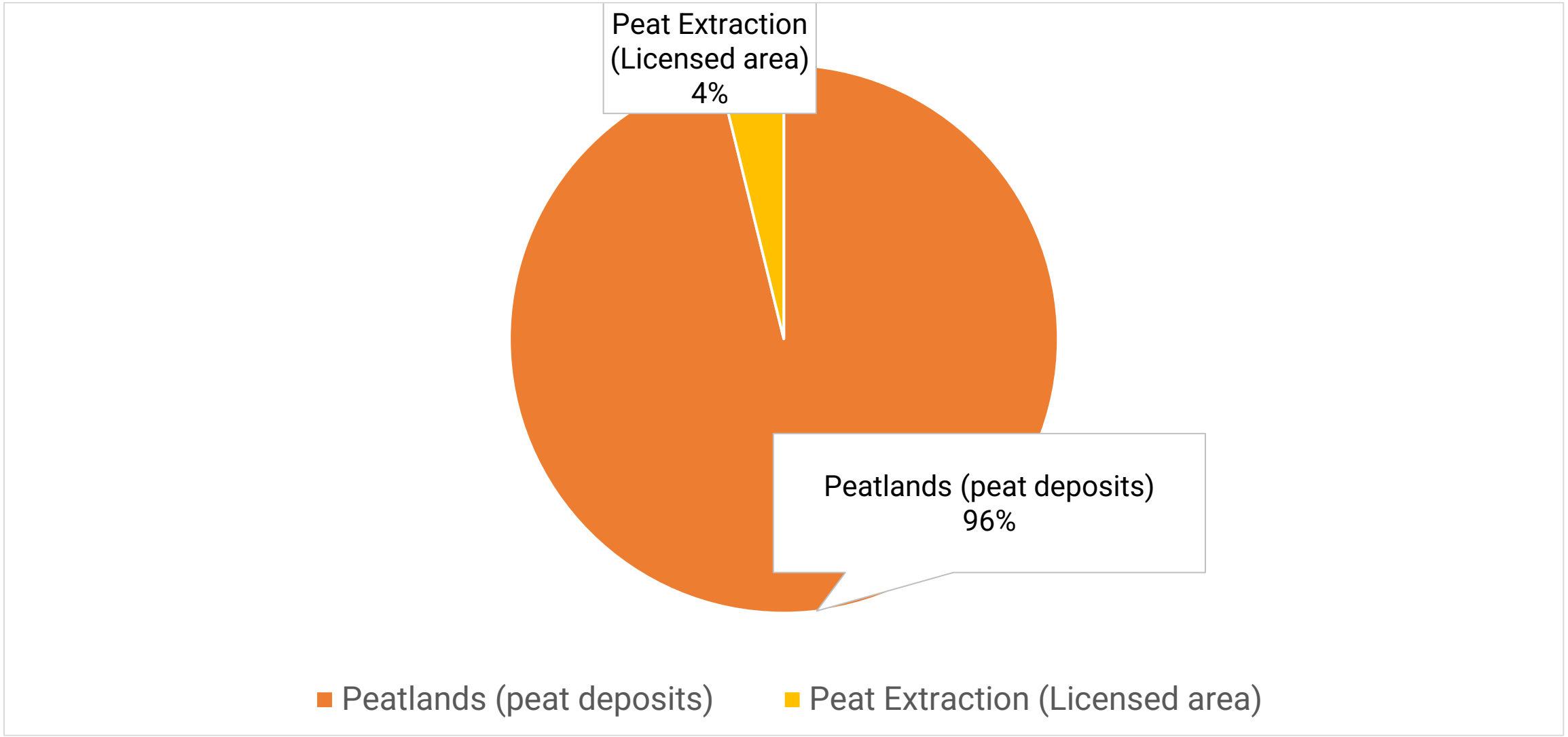
- Peatlands (peat deposits) cover 10% of the territory of Latvia 645 100 ha
- peat extraction - on 4% of peatlands 15 000 ha (25 740 ha licenced)
- 40% of peatland area included in Specially Protected Nature Territories



Latvian peat resources according to the information of the State Geological Fund

Source: LEGMC

Peatlands and licensed area in Latvia



Source: LEGMC

In Latvia, peat volume increases

- Peat accumulates in regions (incl. Latvia), where precipitation exceeds evaporation
- 1.7 billion tons of peat have accumulated in the deposits
- Approximately 1.6 million tons of peat accumulate annually
- Peat accumulation > Peat extraction

Source: LEGMC, LPA

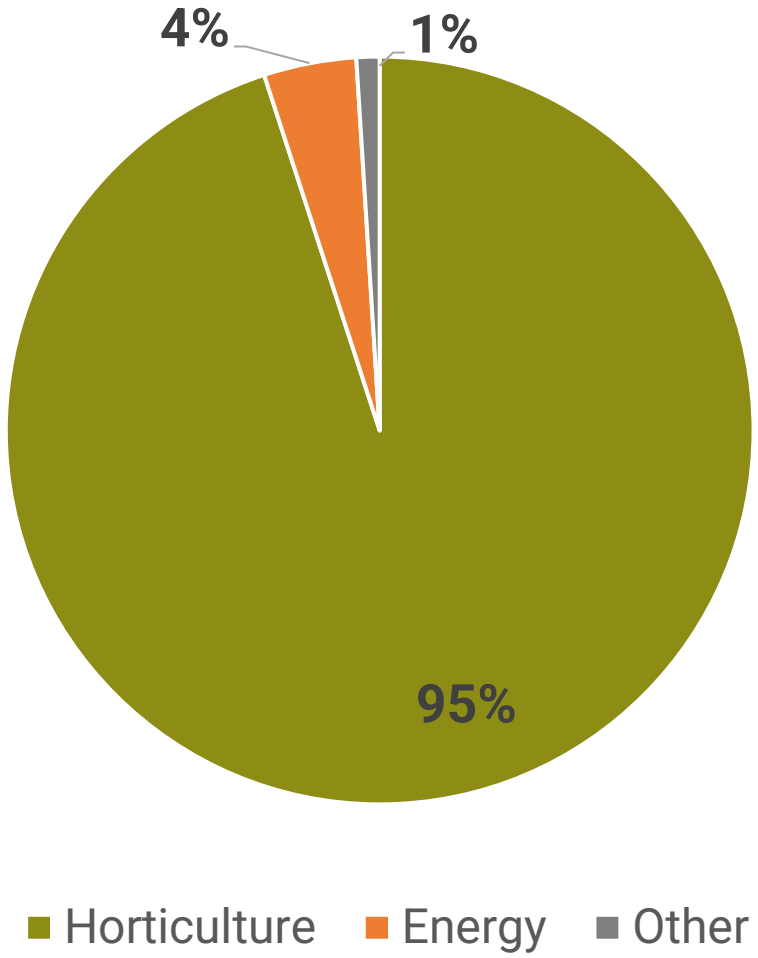
The use of peat in Latvia

- 98% of the peat obtained in Latvia is used in horticulture for growing vegetables, ornamental plants and tree seedlings

- 1.1% is used in energy

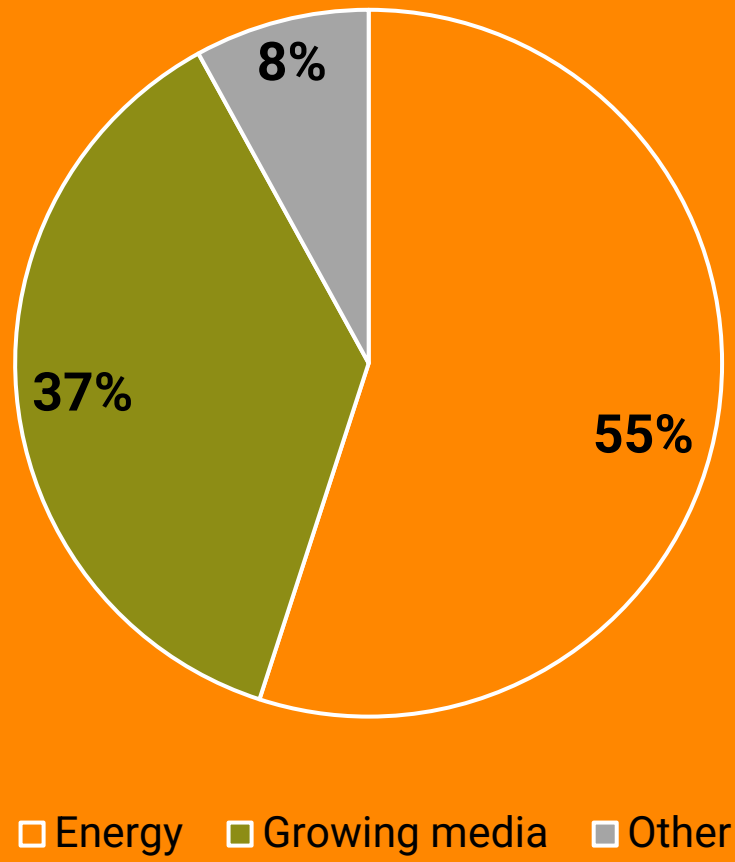
Source: CSB, LPA

The use of peat in Latvia 2017



Source: CSB, LPA, IPS

The use of peat in EU 2017



The role of horticulture peat

- **The use of peat in horticulture in the EU results in:**
  - EUR 42 billion in annual turnover
  - 502 500 thousand jobs

Peat obtained in Latvia is a third or 31% of the peat used in professional horticulture in the EU

- **Latvia exports** 1.4 mln. tons of peat products to EU per year ;
- **The use of Latvian peat in horticulture in the EU** creates a turnover of 12.6 billion euros and 150 750 jobs

Source: GME

In the professional horticulture 70% are peat substrates

Peat is unique

- Peat is an indispensable, natural substrate
- For the past 30 years research is on-going but no alternative material with necessary characteristics and volume has been developed or found so far

Source: GME

Now only individual activities are evaluated

The process as a whole is not evaluated

1 m3 of peat

7000 seedlings

16 tons of cucumbers

Extraction of 1 m3 of peat emits 0.0018 t of GHG

1 m3 of peat
7000 seedlings
16 tons of tomatoes

Extraction of 1 m3 of peat emits 0.0018 t of GHG

1 m3 of peat =

7000 seedlings =

2.8 ha forest

2.8 ha of forest in 70 years attracts 1232 t CO_2

Extraction of 1 m3 of peat emits 0.0018 t of GHG

There are plants that do not grow without peat








Importance of peat for the EU goals

- Peat substrates can help the EU to meet its carbon sequestration targets, ensure food security, urban greening
- Peat substrates are needed to implement the Commission's plan to plant 3 billion trees
- Use of peat saves water resources, reduces fertilizer consumption.

Peat substrate plays an important role in improving the climate

The European Commission’s communication said that Europe must ensure the independence of raw materials from third countries in order to ensure affordable food.

Food security, demand for growing media up till 2050

By 2050, world's population is supposed to reach 10 billion

Food security, ornamentals and tree seedlings will require 415% more substrates

Growing media	2017. Milj. m3/y	2050. Milj. m3/y	Increase %
Peat	40	80??	250
Coir (coconut fiber)	5	35	700
Wood fiber	2	25	1250
Bark	1	10	1000
Compost	1	5	500
Perlite	1,5	10	667
Stone wool	0,9	4	433
Soils/ tuffs	8	33	413
New		23	
Total	**59**	**244**	**415**

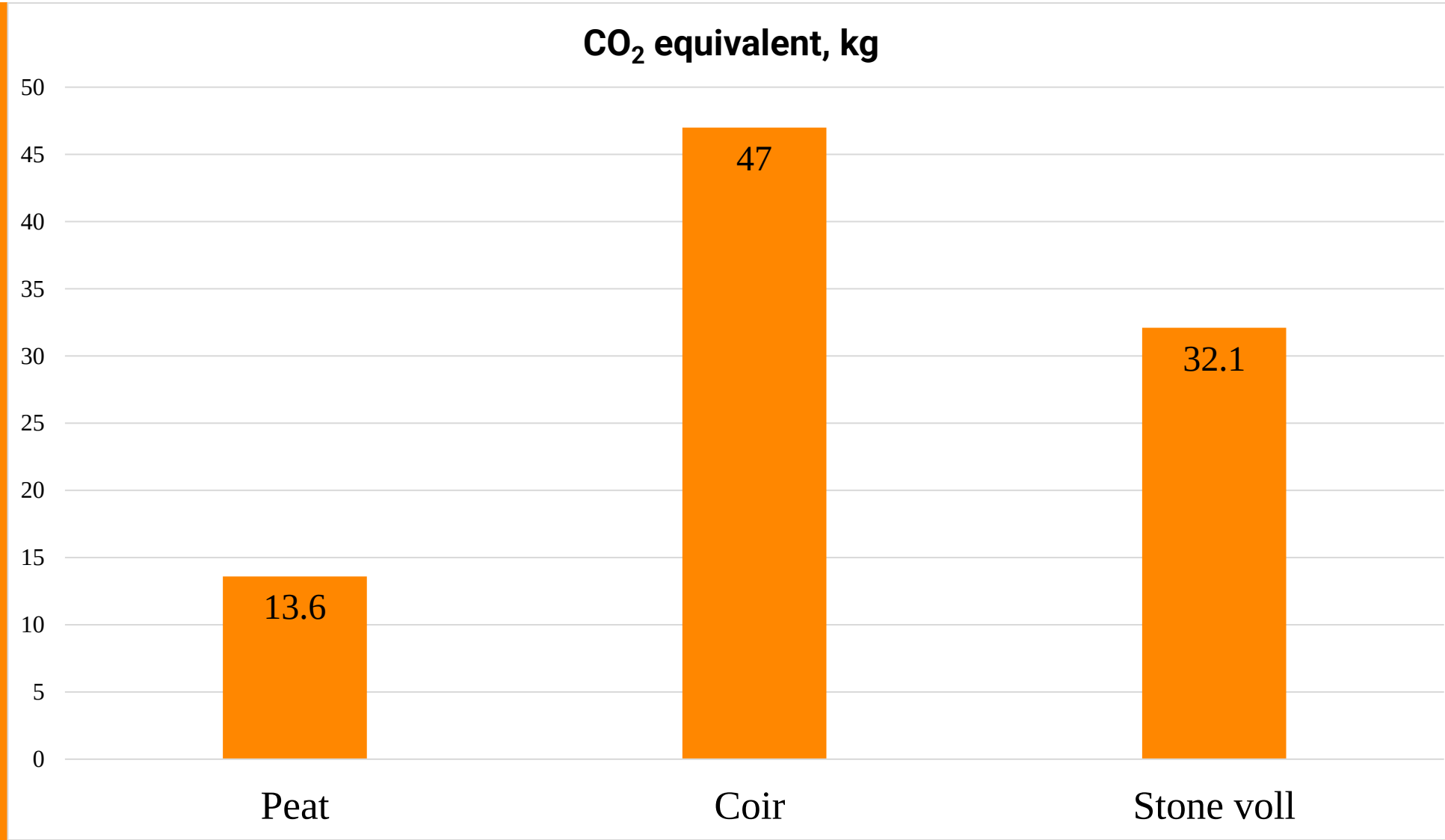
Source: :Wageningen University & Research, Chris Blok

Life Cycle Analysis of different growing substrates, comparing peat products, rock wool and coir. Impact on climate

Peat substrate has the smallest effect when comparing the three most common substrates

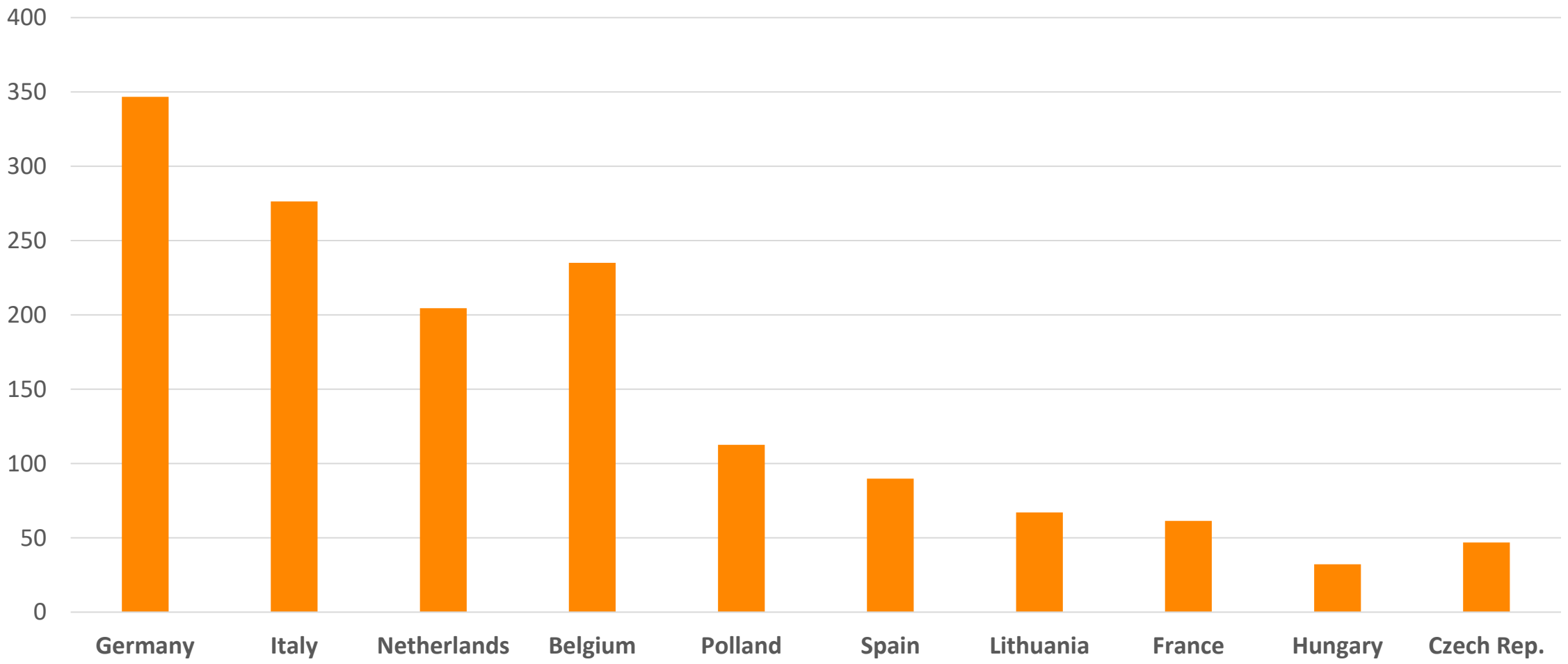
Impacts on climate change are assessed in CO_2 equivalents per functional unit.

Source: RTU, Laflora



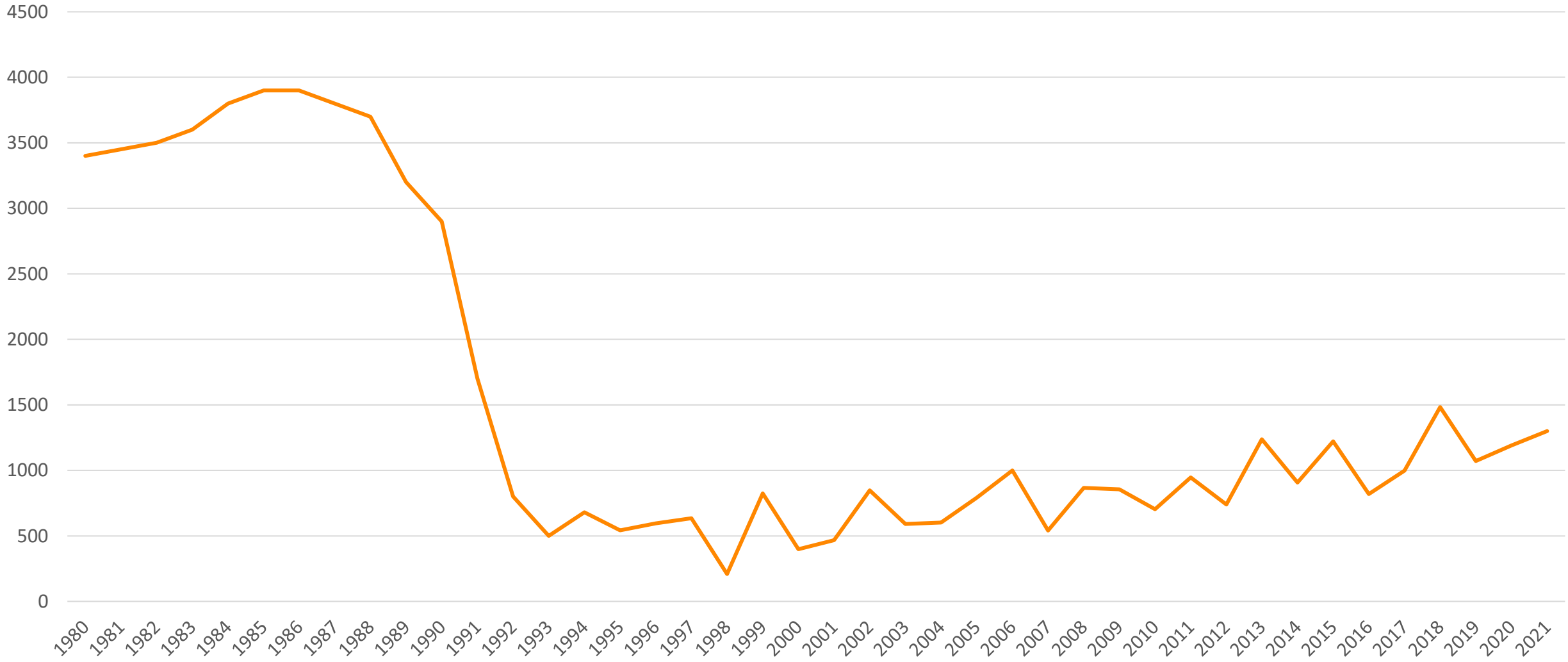
Latvian peat exports in 2021, TOP10 EU, thous. t

Source: CSB



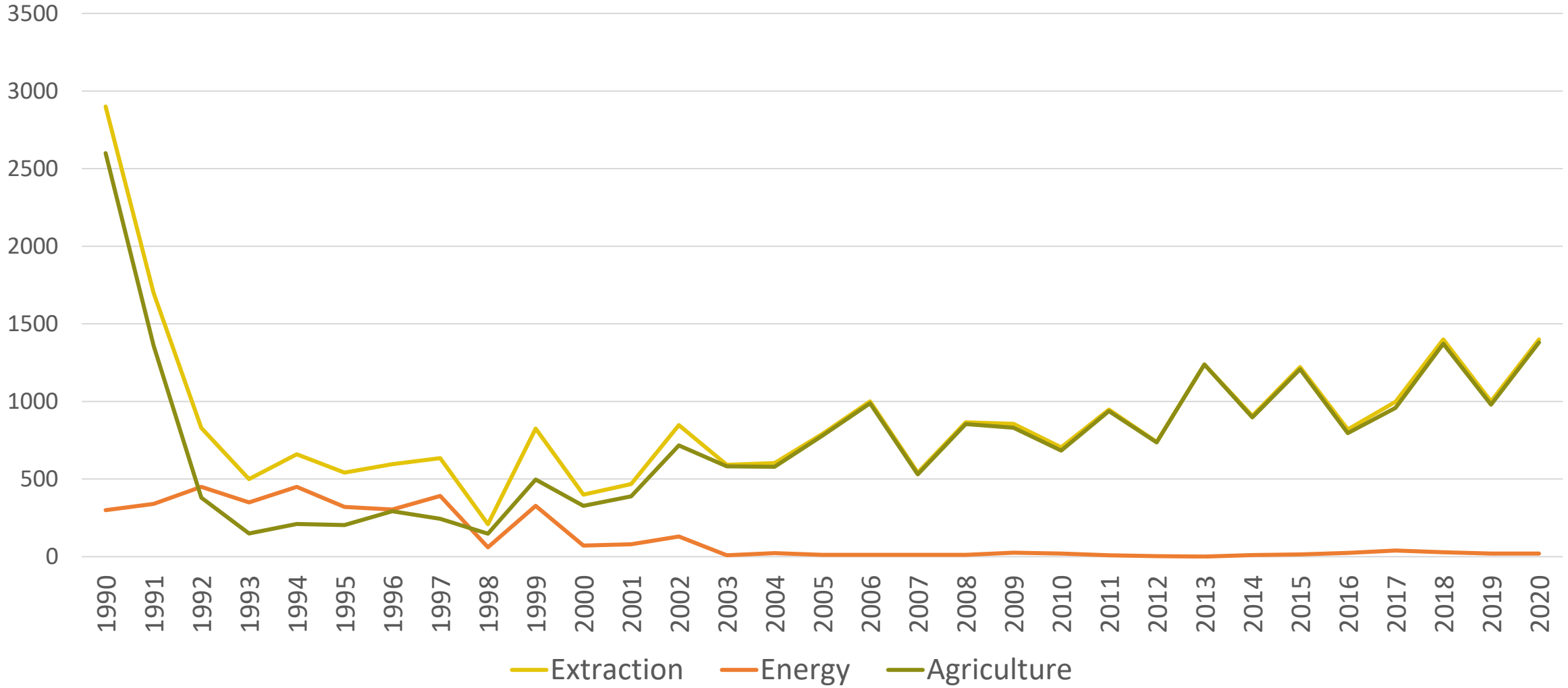
Peat extraction in Latvia thousand tons 1980 - 2021

Source: CSB



Peat obtained in Latvia and its use 1990-2020

Source: LEGMC, CSB



Peat is part of the circular economy

- After use for growing plants, peat is not a waste but a soil improver
- Alternative substrates have a large climate "footprint" (RTU study)

Environmental advantages of horticulture peat

- **Use of peat in forestry - promotes CO2 sequestration** and ensures faster reforestation and resilience to natural disturbances in changing climatic conditions.
- **Use of peat helps to adaptation in Climate change.** Periods of heat and drought are getting longer. Growing plants in a controlled environment (greenhouses) using peat is less dependent on climate change.
- **Use of peat saves water resources, reduces fertilizer consumption.** Peat use in growing plats reduces nutrient leaching. The ability of peat to accumulate 10 times more water then peat's weight is of particular importance in changing weather conditions, maintaining the viability of plants in the event of prolonged drought.
- **Peat**, unlike mineral substrates **used in horticulture, does not become a waste**.

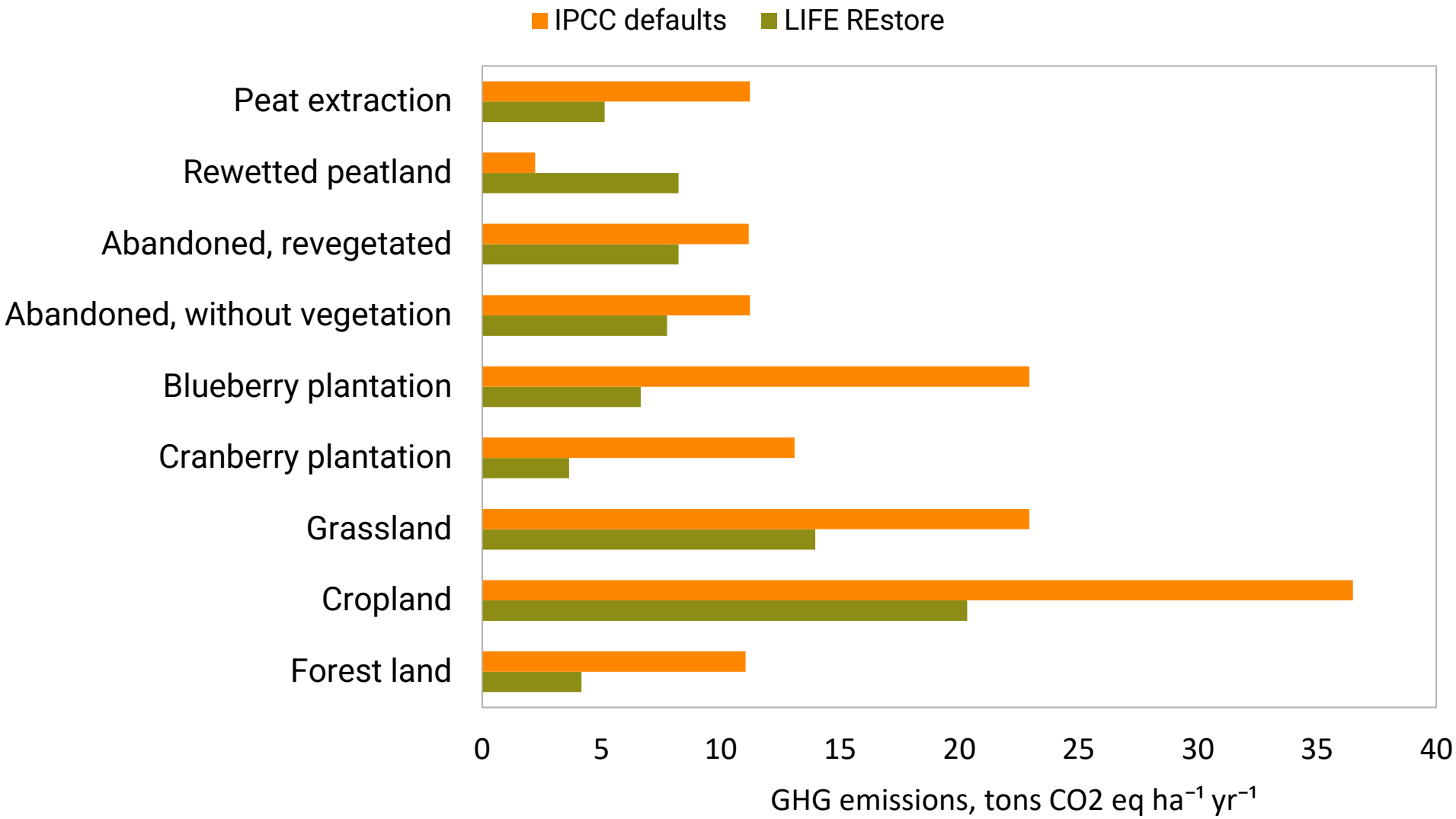
Comparison of LIFE REstore GHG emission factors and emission factors included in the IPCC guidelines for different land uses

The IPCC methodology overestimates the GHG emissions from peat extraction

Horticaltural peat continues to contain carbon.

There is a lack of research

Lots of assumptions



Source: LIFE Restore

Total GHG emissions of EU in year 2019, (t)

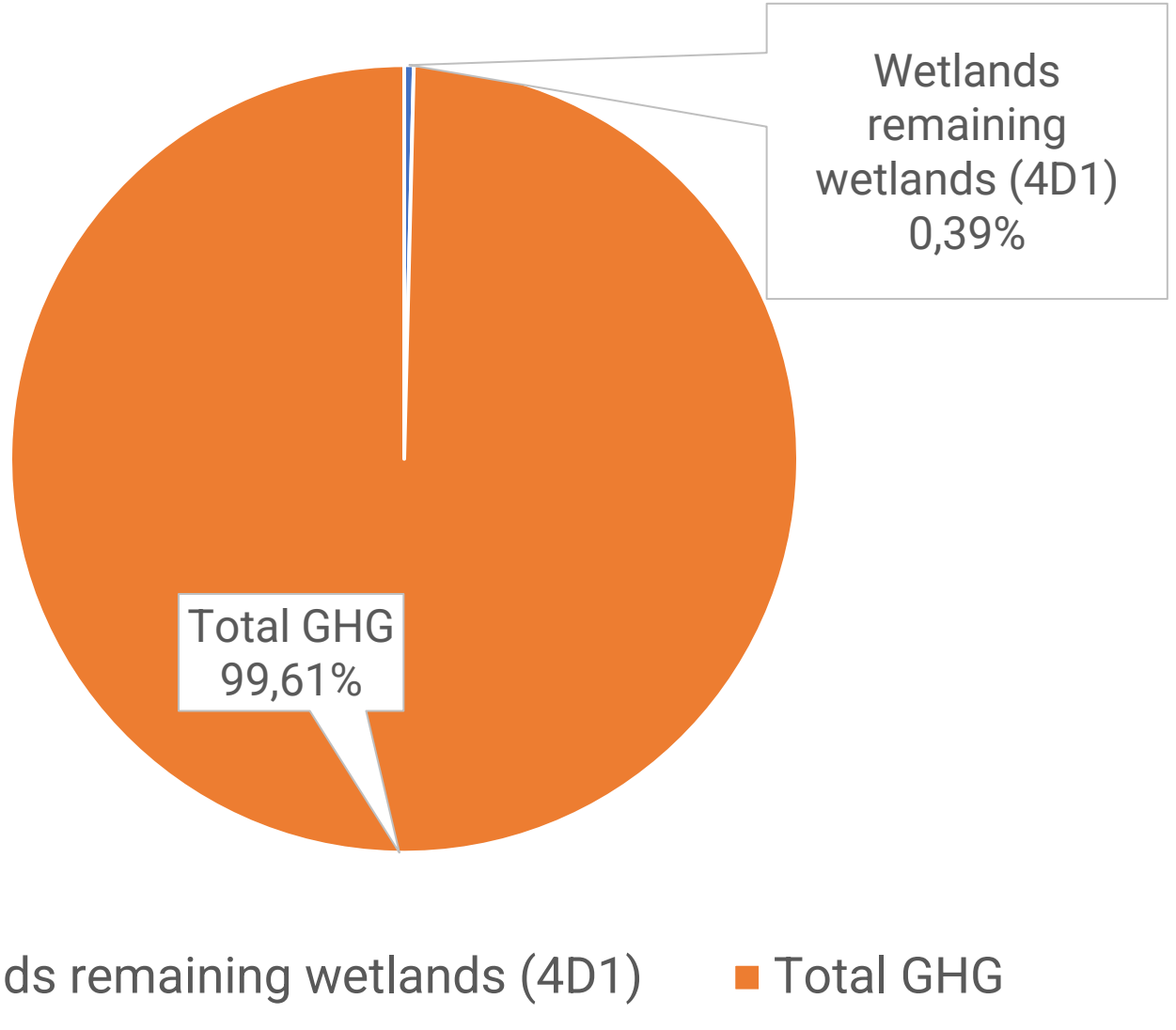
Total GHG

2 923 268 181

Wetlands remaining wetlands (4D1)

11 426 431

Source: EU GHG IR



EU Taxonomy and Delegated acts

List of environmentally sustainable activities and technical screening criteria for each environmental objective

Activities:

Crop production

Animal production

Manufacture of food products and beverages

“Do no significant harm (‘DNSH’)”;

No use of peat or peat containing product or material e.g., as growing medium, fertilizer, animal bedding, etc.”

Peat used in agriculture continues to contain carbon. When used to grow plants, it contributes to GHG sequestration.

Concerns regarding EU legislation drafts

EU Soil Strategy for 2030

- EC moves towards a mandatory requirement to restore all carbon-rich ecosystems – treshold walues shoul be set
- The climatic zone must be taken into account - where precipitation exceeds evaporation and bogs (peatlands) are forming
- Requirement to restore managed and drained peatlands contradicts with GHG reduction targets. Studies shows: restoration, rewetting of bogs increases emissions, emissions can be reduced by choosing afforestation, perennial berry plantations.
- The distinction between organic soil and peatland (bog) should be set.

LULUCF

- Different geographical conditions in the MS must be taken into account
- Horticulture peat contine to contain carbon. Methodology needs to be developed to extend the same approach as harvested wood products.

Reflections and questions

There are no alternative substrates of the required quality and volume:

- How will the required amount of food be grown? (Geopolitical situation increases impact)
- How will the required number of tree seedlings be grown?
- Where will the ornamental plants be grown?

In Latvia, peat extraction takes place in the rural areas, affects jobs, population, social factors. Extraction takes place at the EU's external border with Russia and Belarus.

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www.peat.lv

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Latvijas Kūdras asociācija