



Photo: Lennart Maala

Estonian Roadmap for Peat

Towards a competitive and climate-resilient peat sector



Why a peat roadmap?

A vision and action plan that guides the Ministry of Climate's work plans in the peat sector: sustainable use of a local resource, circular economy and higher value added, in line with climate, biodiversity and environmental goals.

Five focus areas

-  Environmentally sound extraction of horticultural peat
-  Maximum valorisation into higher value-added products
-  Developing physico-chemical valorisation of peat
-  Creating value through land use and after-use
-  Better GHG methodology, data, knowledge and skills

Prepared together with companies, research institutions, local governments and NGOs.

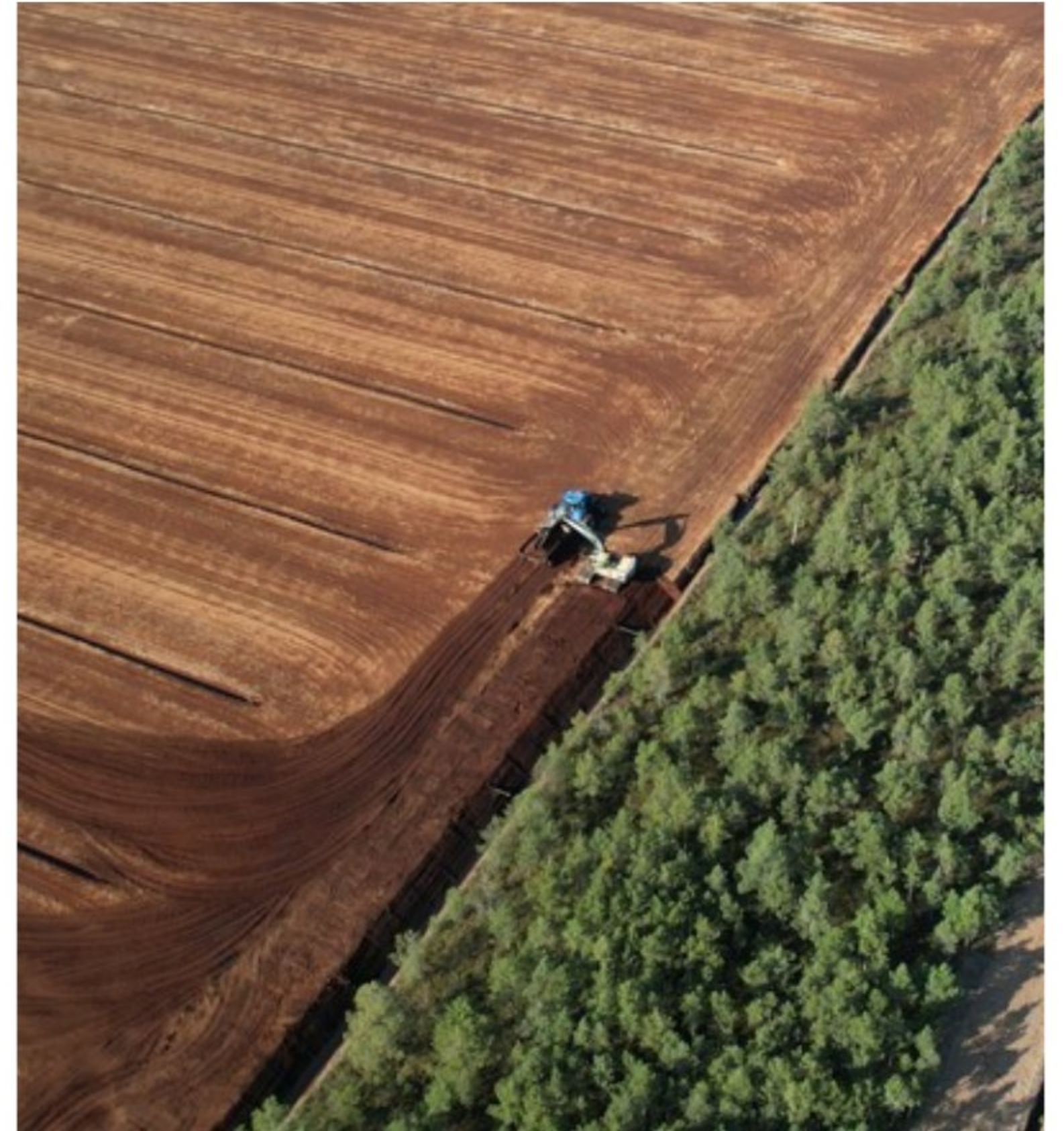


Photo: Environmental Board



Vision 2040

By 2040, the peat sector is a sustainable, science-based industry. Extraction and the after-use of extracted areas have the lowest possible environmental impact, peat is processed into higher value-added products, and the sector develops in balance with climate, biodiversity, economic and regional development goals.

Science-based policy makes it possible to simultaneously:

CO₂

Reduce greenhouse
gas emissions



Increase the value
added from peat



Maintain the sector's
economic importance



Support employment
and regional
development



The sector today

0.6%

of Estonia's GDP

~860

jobs (0.12% of employment), mostly
in rural areas

>90%

of production is exported

~15%

Estonia's share of global peat
exports

€191M

value of peat exports in 2024

98%

of output is horticultural peat; energy
peat below 1%

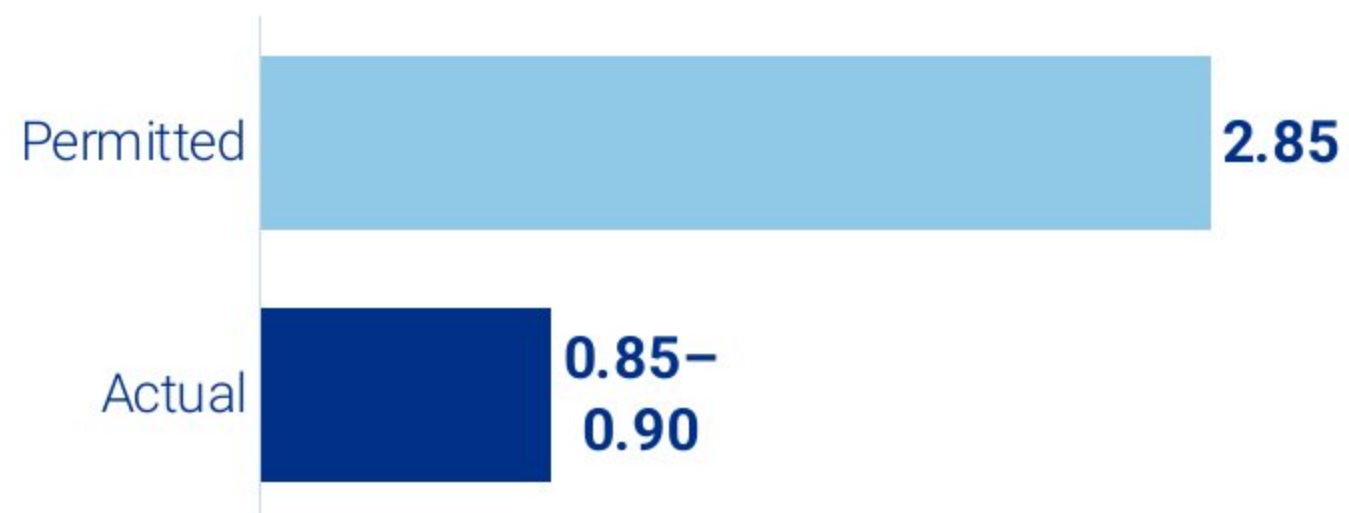
Main export markets: China · Netherlands · Spain · USA · Latvia

Stable profitability and above-average regional wages strengthen the revenue base of local municipalities.



Resource, extraction and value

Annual extraction, million tonnes



345,800 ha

wetlands in Estonia (2023)

25,100 ha

peat production fields — 6.8% of wetlands

Annual average 2022–2024

Revenue	€152.7M
Value added	€54.3M
Value added per employee	€76,800
Value added per tonne	€55

Paid to the state

Mineral extraction right fee	€1.95M
State land use fee	€330,000

Fee rates will rise gradually until 2040, as agreed with the sector.



Room to grow: Estonia's average export price per tonne is lower than that of several competitors (e.g. Canada), which points to potential for more value adding at home.



Photo: Lennart Maala

Science base

Estonian Peat Research Database

Internationally unique and usable as a basis for policy-making

560 peat areas with detailed data

~33,000 laboratory samples

165,000+ botanical determinations

Ongoing national studies

- GHG emission factors for drainage ditches on organic soils
- Cut-over peatland GHG balance and Tier 3 reporting method (2024–2028)
- National large-scale soil map update MULD2 (2024–2026)
- Peatland revision, part I (2025–2027)
- Wetland mapping methodology (2026–2027)
- Soil models for forest, crop- and grassland (2025–2027)



Greenhouse gas emissions

~8%

of Estonia's total GHG emissions came from horticultural peat extraction (2023)

911,620 t

CO₂e per year on average in 2018–2022: the baseline for reductions

Target: emissions must not exceed the 2018–2022 average and must decline gradually until 2050, so that the land-use sector as a whole remains a net sink.

Reduction measures



Restoration, paludiculture or conservation of depleted areas



Higher-value processing of peat



Lower environmental impact of extraction



Better monitoring, methodology and statistics

Reported under LULUCF (wetlands) using IPCC methodology. A permanent monitoring network will measure CO₂, CH₄ and N₂O year-round.

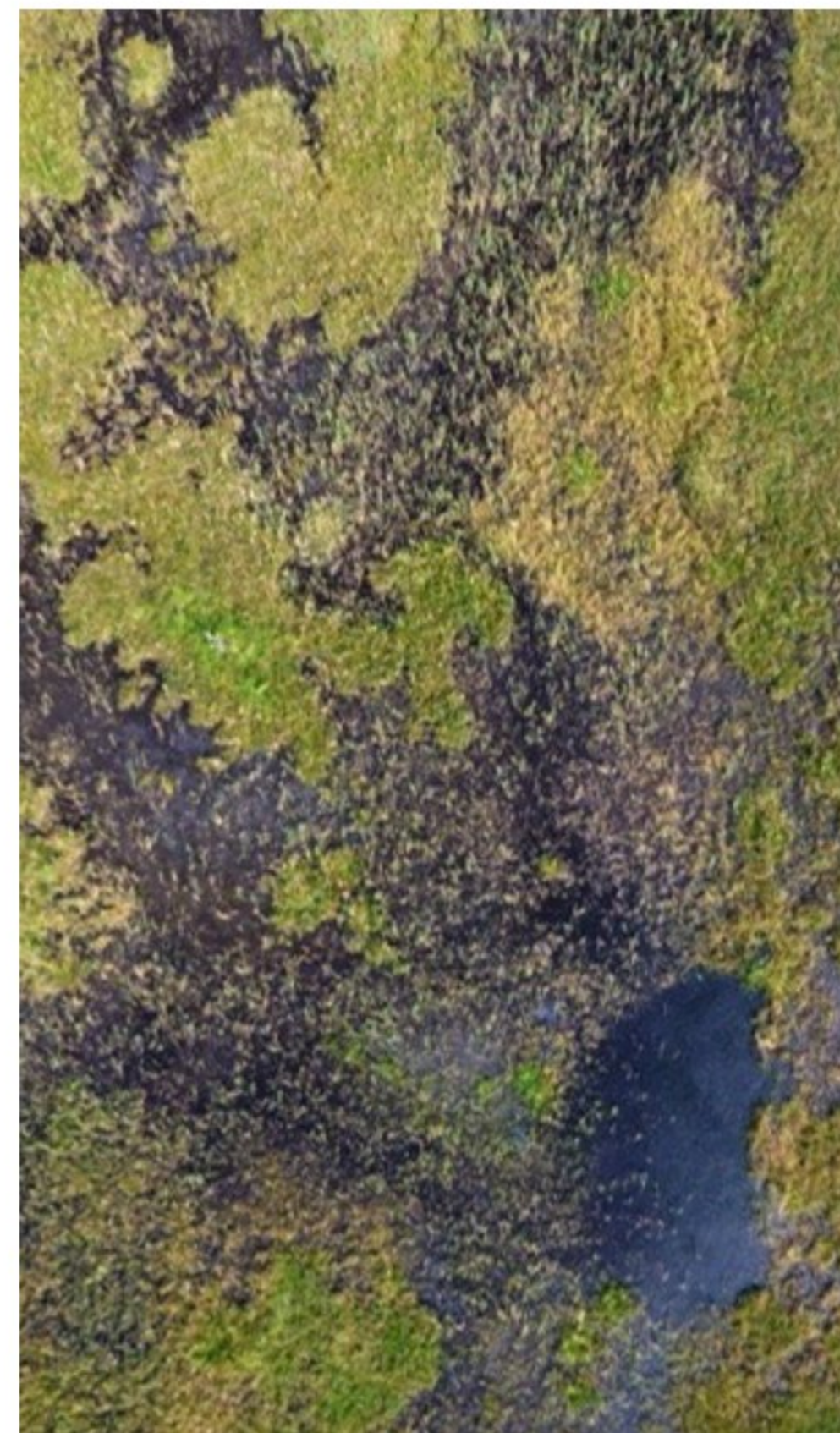


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Opportunities and risks

Shaped by the interplay of climate change, environmental regulation and economic developments.



Opportunities

- Shift to higher value-added products
- Carbon sequestration technologies
- Peatlands providing ecosystem services
- Stronger research and development

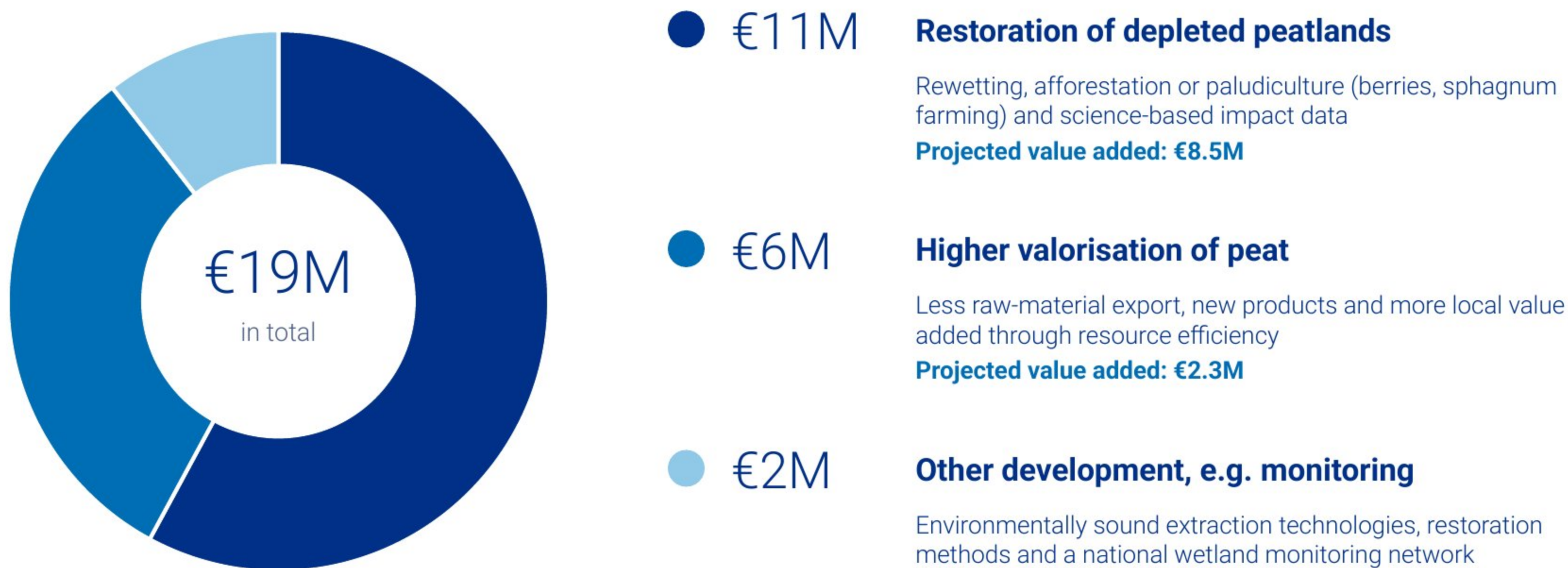


Risks

- Weather extremes caused by climate change
- Regulatory uncertainty
- Areas left unrestored if companies cease operations



State investment needs 2026–2030





Industry investment

€150M+

of investments are on hold, pending regulatory clarity (Estonian Peat Association estimate)

Planned investments

- Peat valorisation plants
- Higher value-added growing media
- Peat in food production, e.g. mushroom cultivation
- Humic substances, e.g. plant biostimulants





Expected impact of the investments

After implementation, the focus shifts to higher value added and lower environmental impact.

–27.4 kt

CO₂e per year: reduction in GHG emissions

+154%

value added in industry vs baseline

18.4 → 6.65

t CO₂e per €1,000 of value added

€309M

export value, +62% vs baseline

66

new jobs in industry and related sectors

€31.6

per tonne of CO₂e reduced (cost-effectiveness)



Competitiveness and skills

From raw-material exports to higher value-added production

Key directions

- 1 More local valorisation of peat
- 2 Innovative high-tech peat-based products
- 3 Stronger research and development
- 4 Human capital and natural-science education



Biggest bottleneck: shortage of specialists

- Training new specialists
- Micro-credentials and continuing education programmes
- Stronger engineering and environmental management competence

Cross-sector links

Agriculture & horticulture

Forest seedlings

Construction & biomaterials

Research & education

Ecosystem services



Additional funding opportunities

Funding should support the sector's shift towards higher value added.



National measures

- Resource efficiency and digitalisation programmes
- Environmental monitoring and restoration works



EU funds

- LIFE programme
- Cohesion Fund
- Horizon Europe
- CAP measures



Financial instruments

- Private capital
- Voluntary carbon markets
- Public–private partnerships

Also: cluster-based investments and green technology hubs that support research–business cooperation.



Next steps

2026–2030

- Update peat-related study and continuing education programmes
- Refine GHG methodology incl. Tier 3: wetland studies, inventory data, extraction rules, statistics
- Next stages of the peatland revision
- Analyse physico-chemical valorisation options
- Develop the national permanent monitoring network

2030–2035

- Update extraction permit policies based on impact analysis
- Support peat industry R&D and micro-credentials
- Further stages of the peatland revision
- Transition support for restoring and re-using abandoned peat areas
- Investment measures for valorisation and automation
- Update GHG accounting methodologies

2035–2040

- Assess progress in valorisation and exports of peat products
- Analyse changes in employment and qualification needs
- Update education programmes
- Develop research–business cooperation models
- Enhance GHG monitoring and reporting with international partners



Roadmap indicators

Indicator	Baseline 2026	Target 2030	Target 2040
GHG calculation methodology	Tier 2 corrected; Tier 3 studies ongoing	Tier 3 applied in national reporting	Regular science-based updates
Restoration of unrestored and abandoned peat areas	Spatial data and restoration work started	Map layers created; area shrinking per plan	Area reduced and publicly tracked on a map
Investment in peat valorisation	Sector capacity and investment needs mapped	Conditions set for plant expansion and automation	Investments raise sector value added
Share of peat valorised locally	70%	At least 75%	Stable at 80–85%
Export unit value statistics	Statistics update prepared	Unit value up vs baseline	Steady growth
Extraction permits linked to restoration	Permits linked to restored area	Permits issued per restored area	Permit volume fully matches restored area
National permanent monitoring network	Foundations defined; data collection started	Wetland GHG network and data capacity in place	Long-term monitoring secured
Continuing education and retraining	Curriculum needs defined; development started	Continuing education and micro-credential programme	Micro-credential system and lasting cooperation



Thank you! Questions?

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