



REPUBLIC OF ESTONIA
MINISTRY OF RURAL AFFAIRS

Estonia's policies and measures for the agriculture sector and future plans

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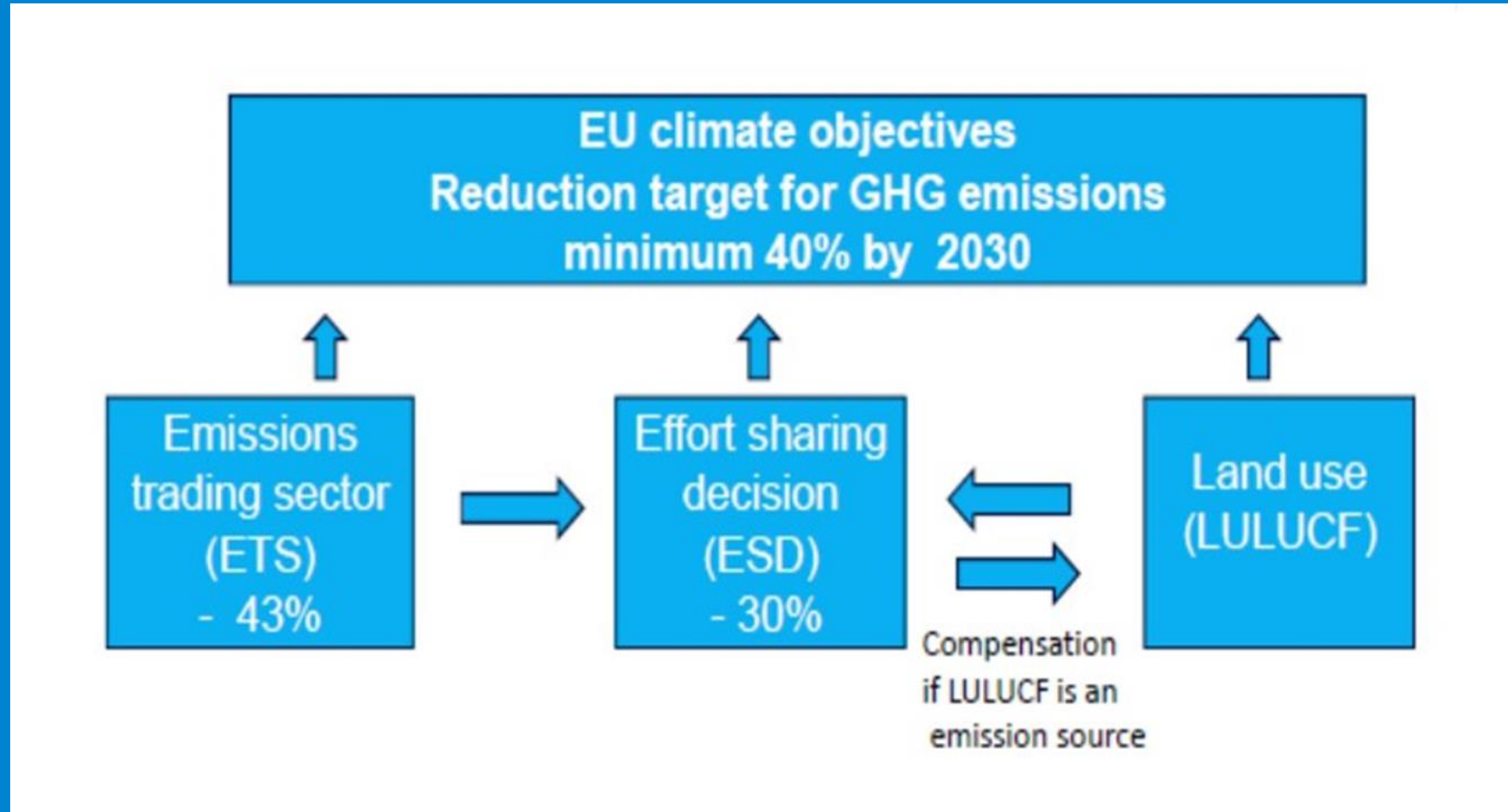
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28 October 2020

Content of the presentation

- GHG emissions reduction targets for Estonia
- GHG emissions and removals trends in Estonia
- National strategies and action plans
- CAP 2014-2020 and other current policy instruments
- Evaluation of current schemes and key learning points
- Potential new policy instruments
- CAP 2021-2027 climate related measures

EU 2030 climate framework

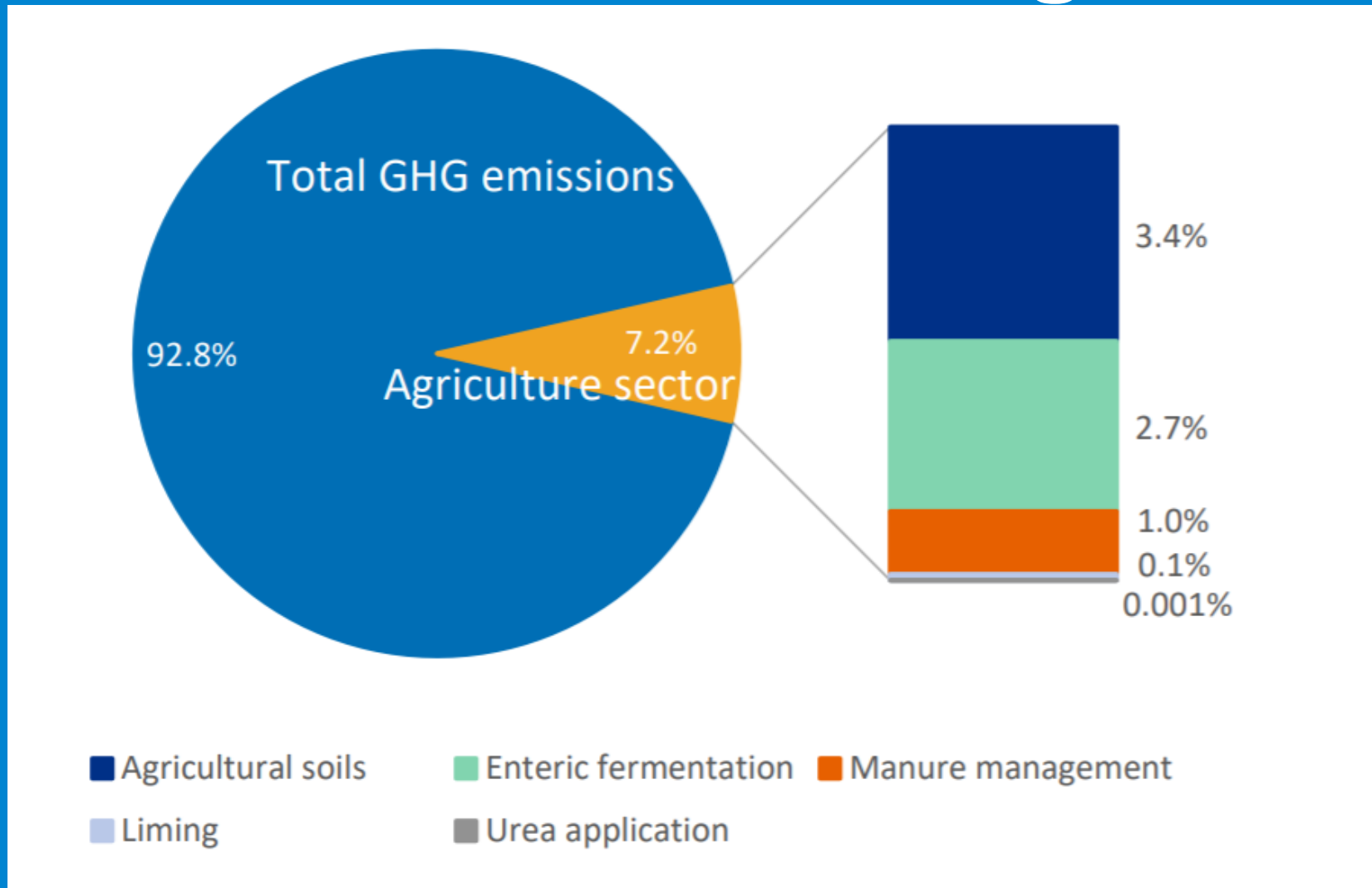


Source: European Commission

GHG emissions reduction targets for Estonia

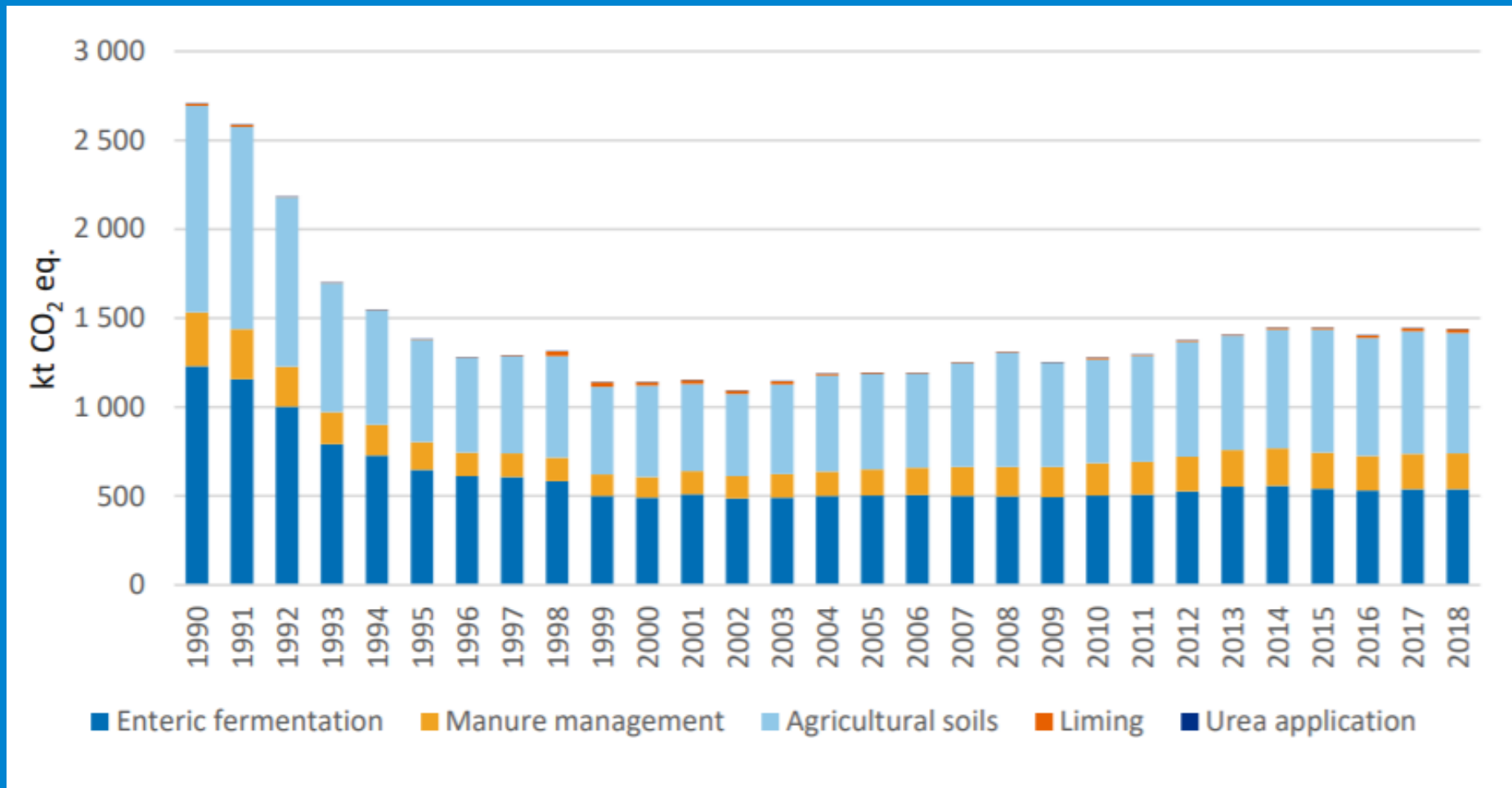
- Effort Sharing Regulation (EU) 2018/842
 - 13% by 2030 compared to 2005
 - In 2018 ESD emissions exceeded 2005 level by 13%
 - Share of agriculture in the ESD is 23.5%
 - In 2018 AGRI emissions exceeded 2005 level by 20%
- LULUCF Regulation (EU) 2018/841
 - No debit rule

GHG emissions from agriculture



Source: National GHG inventory report, 2020

GHG emissions from agriculture



Source: National GHG inventory report, 2020

Sector projections

LIVESTOCK							
Thous. heads	2005	2010	2015	2020	2025	2030	2050
Cattle	250	236	256	259	267	275	290
... Incl dairy cow	113	97	91	86	87	87	89
Sheep	49.6	78.6	85.5	72	76	81	91
Goat	2.8	4.1	5	5.4	5.9	6.5	7.1
Horses	4.8	6.8	6.3	6	6.3	6.6	7.2
Pigs	346.5	371.7	304.5	317	337	357	357
Poultry	1878.7	2046.4	2161.8	2200	2200	2200	2200
MINERAL FERTILIZERS							
Thous. t	2005	2010	2015	2020	2025	2030	2050
	36.1	44.1	55.8	60	61	61	61

General Principles of Climate Policy until 2050

A strategy for moving towards long-term target to reduce the emission of GHG by 80% by 2050. Was adopted by Estonian Parliament in 2017.

Possible future directions regarding agriculture:

- Increasing soil carbon in arable soils and soil protection
- Environment-friendly land management
- Converting managed peat soils to grasslands
- More efficient use of fertilizers and other resources
- Manure management and biomethane production
- Utilization of compost and biogas digestate
- CC mitigation R&D and innovation

Development Plan on Agriculture and Fishery until 2030

- A wide strategy on agriculture and fishery, which also includes agri-environmental policy
- On climate change mitigation, we have set two indicators for the agricultural sector:
 - GHG emissions per value of agricultural production
 - 2030 target level: lower than 2.5 t CO₂-eq /thous EUR (2017)
 - Organic carbon stock in agricultural soils
 - 2030 target level: ≥ 115.9 Mt

Development Plan on Agriculture and Fishery: described interventions

- Improvement of monitoring and data on CC and agriculture
- Long term communication plans and better cooperation, including various ministries
- Promotion of organic farming, ecological intensification, circular economy and resource efficiency
- Sustainable agricultural practices: cover crops, buffer strips, permanent grasslands, precision agriculture etc.
- Conversion of managed peat soils to grasslands and also increasing the water level in appropriate areas
- Better manure management and biogas/biomethane production

Existing measures with positive impact on CC mitigation

- Cross compliance rules / CAP greening
- RDP 2014-2020 measures:
 - Support for environment-friendly management
 - Support for regional soil protection
 - Support for maintaining semi-natural habitats
 - Organic production
 - Natura 2000 support for agricultural land
 - Natura 2000 support for private forests
 - Support for animal well-being
 - Investments into improved performance of agricultural holdings
 - Manure storage facilities
 - Equipment for direct incorporation of liquid manure
 - Production of bioenergy

Challenges of addressing CC mitigation in agriculture

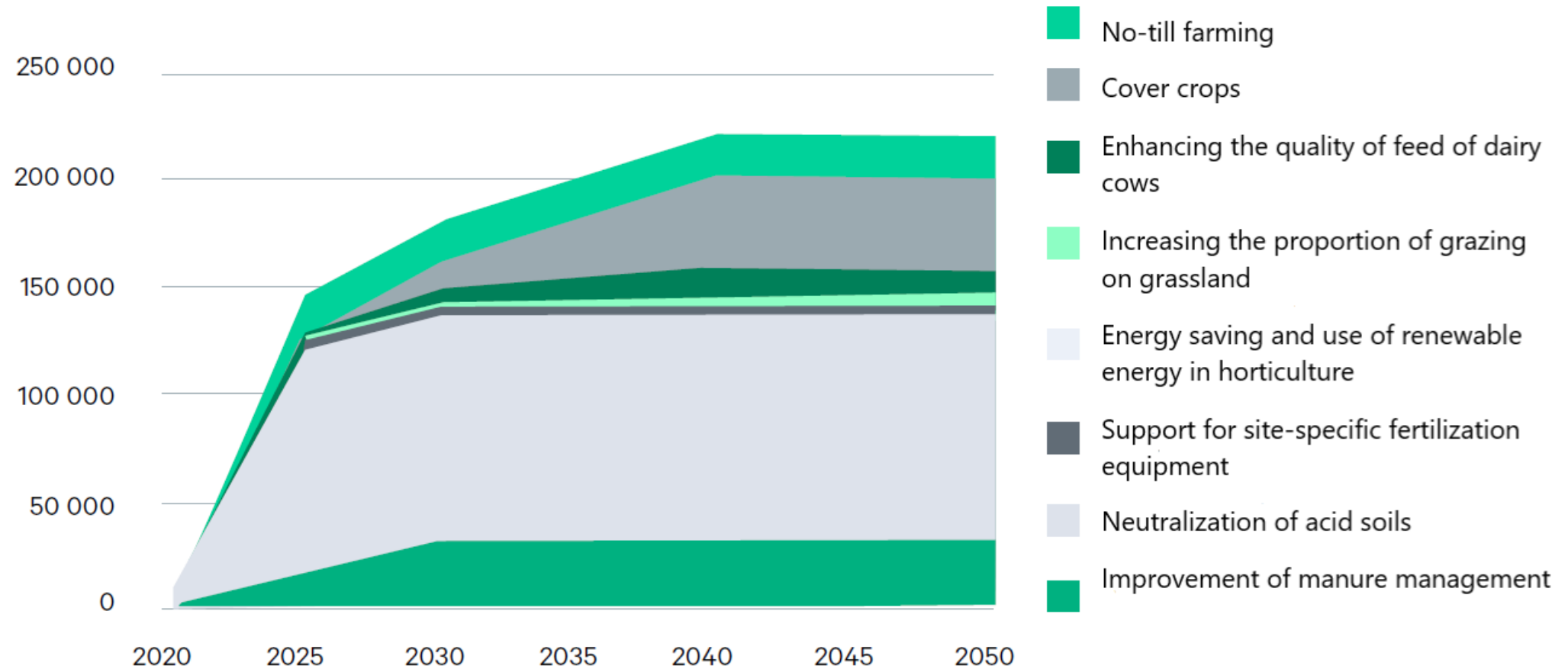
- Absence of technologies and practices
- Absence of sufficient and widely accepted guidelines and research
- Use of energy in agriculture is not accounted under agriculture GHG emissions
- Drastic measures could cause high negative socio-economic impact and carbon leakage

Potential new measures to increase climate ambition in agriculture

	Reduction of CO2 2021-2050 [tCO2ekv/yr]	CO2 reduction marginal cost 2021-2050 [€/tCO2ekv]	Investment needs 2021-2050 [M€/yr]	Public sector investment 2021-2050 [M€/yr]	Number of new jobs 2021-2050 Per year	GDP growth 2021-2050 [M€/yr]
Improvement of manure management	24 480	152	112	7.8	74	-1.8
Neutralization of acid soils	94 103	90	0	0	49	-7.1
Support for site-specific fertilization equipment	2 262	16	3	0.2	-2	-0.1
Energy saving and use of renewable energy in horticulture	111	5 017	17	0.9	11	0
Increasing the proportion of grazing on grassland	3 568	1 250	0	0	17	-3.7
Enhancing the quality of feed of dairy cows	9 738	113	0	0	4	-0.9
Cover crops	38 321	46	0	0	7	-1.4
No-till farming	13 435	-400	0	0	-22	3.8
Total	186 018	-	132	9	136	-11

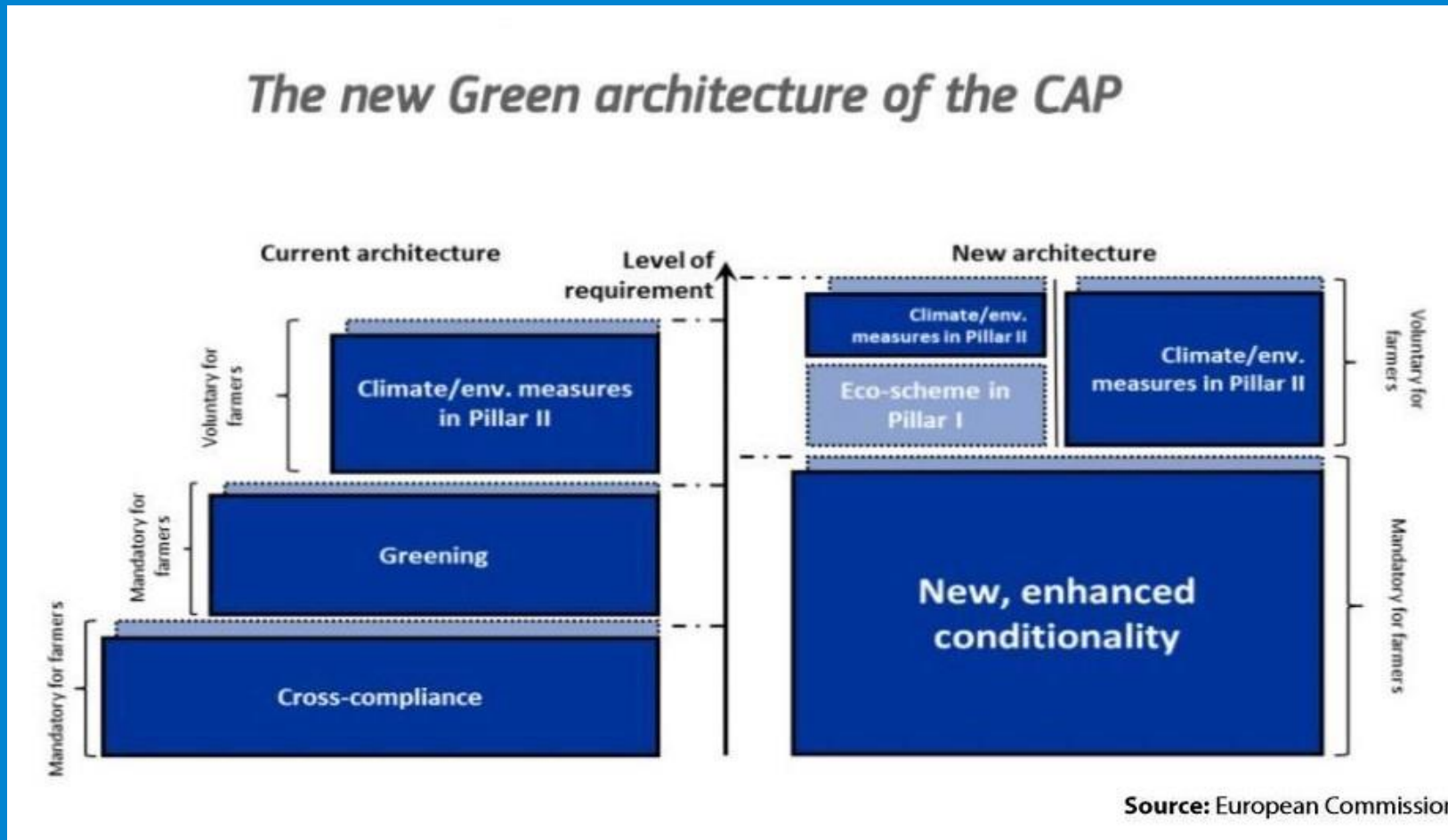
Source: Stockholm Environment Institute Tallinn Centre, 2019

Potential new measures to increase climate ambition in agriculture (2)



Source: Stockholm Environment Institute Tallinn Centre, 2019

CAP post 2022 and climate change



AE measures from I and II pillar – INITIAL result after the working groups

Eco-schemes

Environmental practices

Ecological focus areas

Establishing foraging areas for pollinators

Ecosystem services

Organic farming

Env, climate and other management commitments

Environmentally friendly management

Environmentally friendly fruit and berry
management

Soil and water protection support

Support for local plant varieties

Support for endangered breeds

Conversion to organic farming

Maintenance of semi-natural habitats

Species rich grasslands

Support for grazed grasslands

Liming

Animal welfare/ animal welfare for organic farms

Investments

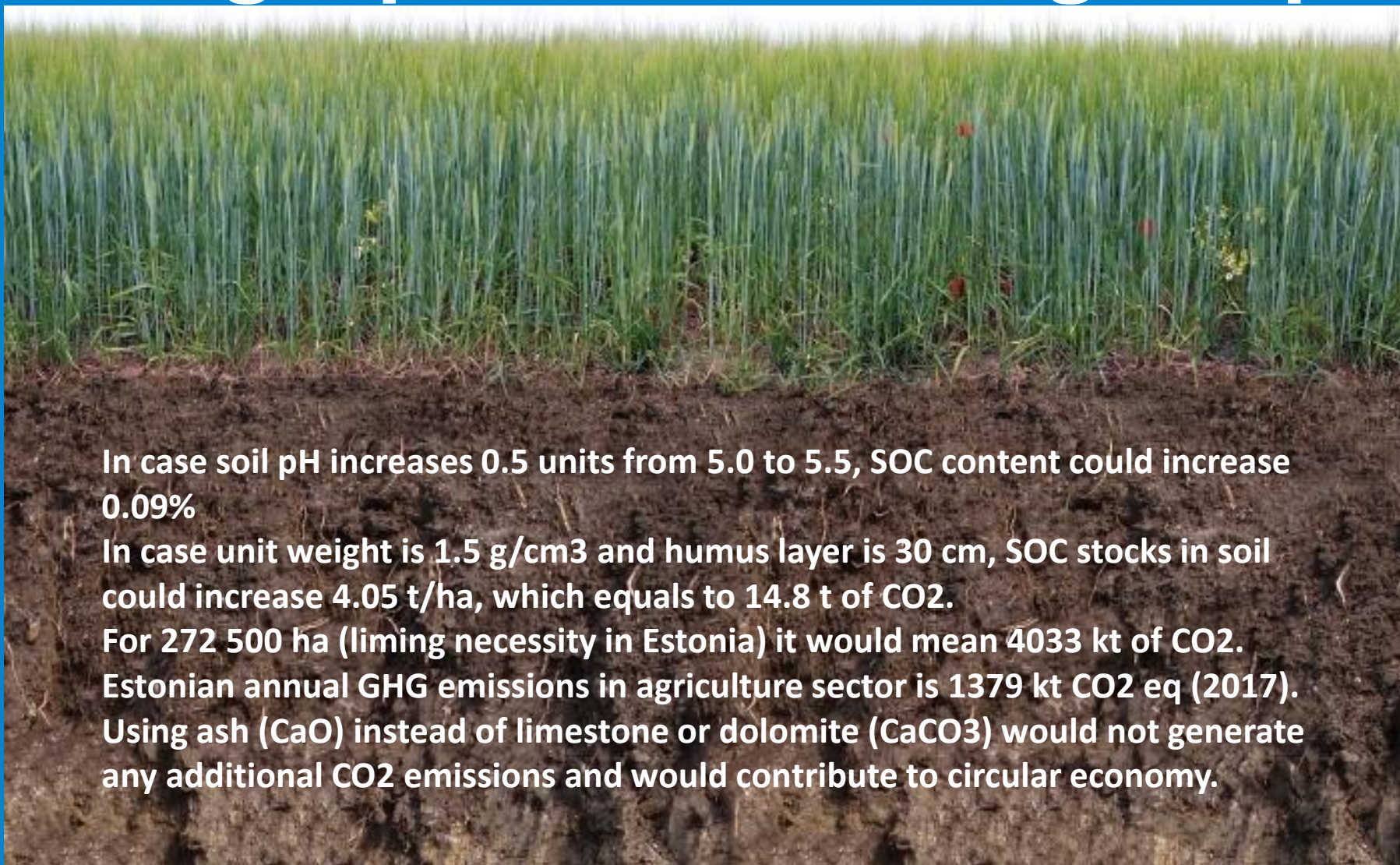
Non-productive investments linked to
environment and climate

Why liming is a climate measure?

- Analysis by Agricultural Research Centre
- Digital database of soil agro-chemical characteristics (2014-2018 soil samples)
- Analysis is based on more than 27500 soil samples
- To analyse correlation between acidity and SOC in soils

pH	SOC		pH	SOC
4	1.69		5.5	1.95
4.1	1.70		5.6	1.97
4.2	1.72		5.7	1.98
4.3	1.74		5.8	2.00
4.4	1.76		5.9	2.02
4.5	1.77		6	2.04
4.6	1.79		6.1	2.05
4.7	1.81		6.2	2.07
4.8	1.83		6.3	2.09
4.9	1.84		6.4	2.11
5	1.86		6.5	2.12
5.1	1.88		6.6	2.14
5.2	1.90		6.7	2.16
5.3	1.91		6.8	2.18
5.4	1.93		6.9	2.19
			7	2.21

Liming – potential for large impact



In case soil pH increases 0.5 units from 5.0 to 5.5, SOC content could increase 0.09%

In case unit weight is 1.5 g/cm³ and humus layer is 30 cm, SOC stocks in soil could increase 4.05 t/ha, which equals to 14.8 t of CO₂.

For 272 500 ha (liming necessity in Estonia) it would mean 4033 kt of CO₂.

Estonian annual GHG emissions in agriculture sector is 1379 kt CO₂ eq (2017).

Using ash (CaO) instead of limestone or dolomite (CaCO₃) would not generate any additional CO₂ emissions and would contribute to circular economy.

Conclusion

- CC mitigation is one of the policy priorities of the EU
- European Green Deal stresses CC mitigation and environmental protection even more
- All EU countries are looking for cost efficient ways to abate GHG emissions
- In Estonia we already implement a several measures, which have positive effect on abatement of GHG emissions
- Environment and climate is going to be one of the priorities in our CAP Strategic Plan, but we have to keep other objectives in mind as well
- However, there is no „silver bullet“ invented to drastically abate GHG emissions in agriculture without abating the sector itself
- Also, we are not always able to report the impacts of several climate-friendly practices, so we need additional data and research



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Thank you!

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