

## Challenges for (Baltic) peat industry

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Palanga | 05. IX 2019

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# Content

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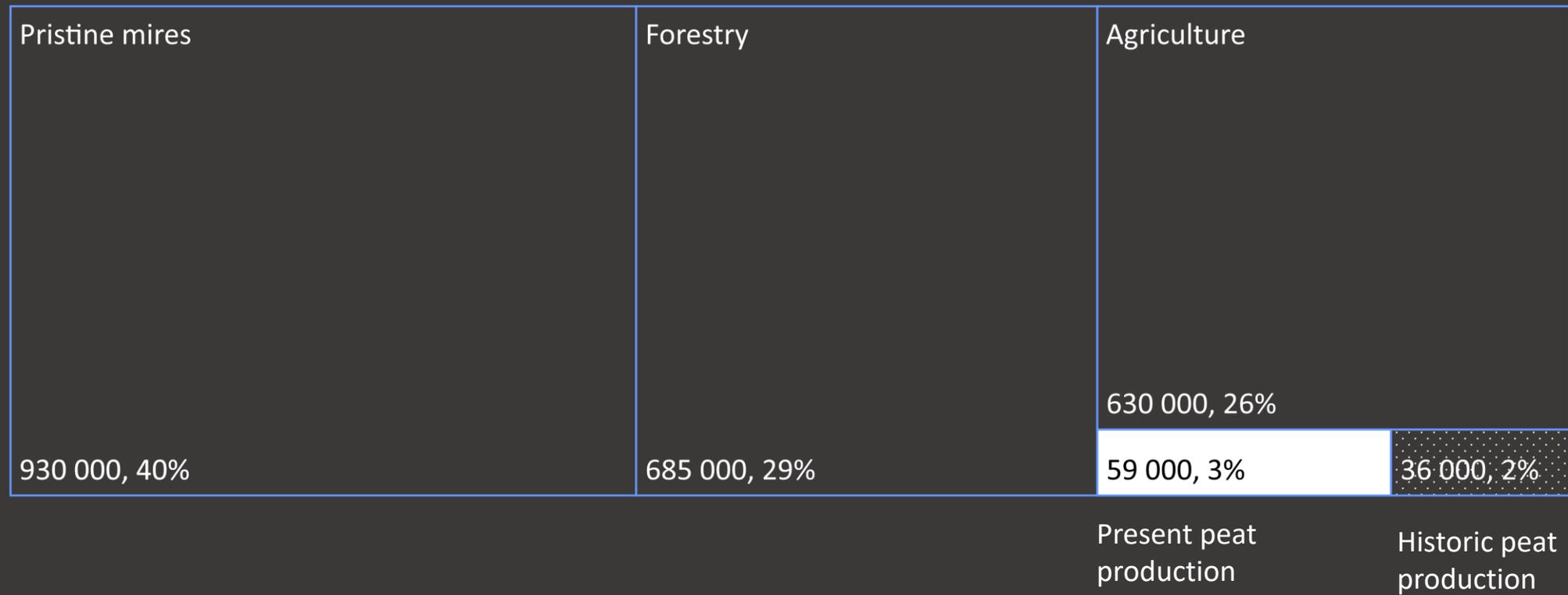
Context

Small challenges | Big challenges

Opportunities

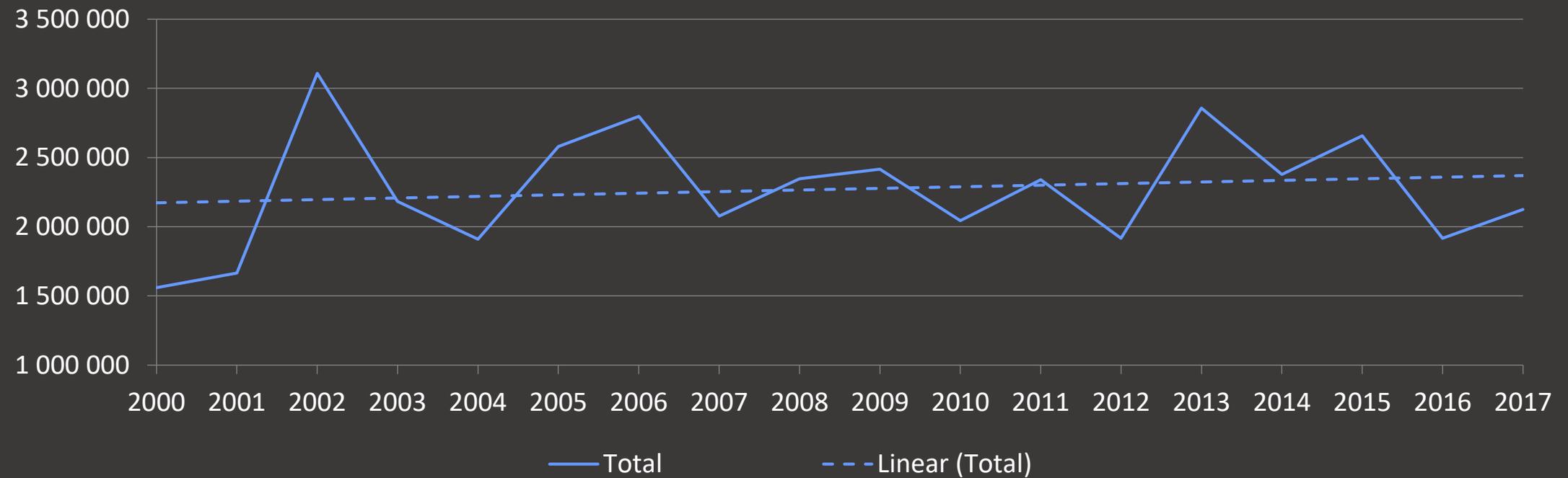
## Context | Baltic peatlands

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There is 2 340 000 ha of peatlands in the Baltic countries | ha | *Estonian Peat Association, 2019*

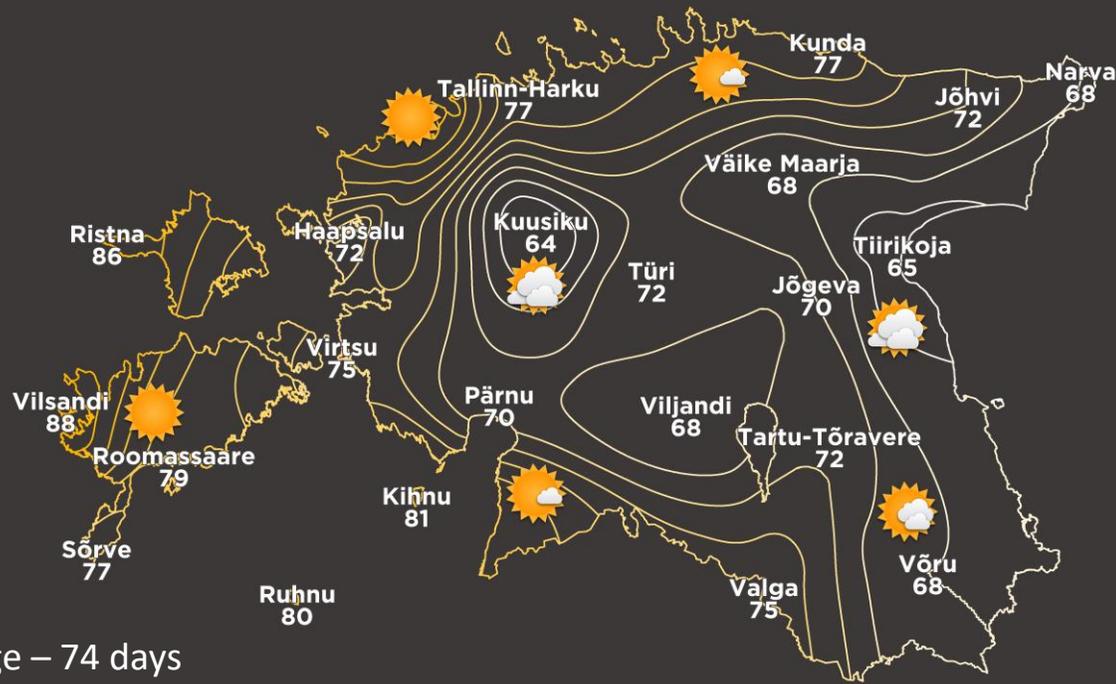
## Context | Baltic peatlands



Peat production in the Baltic countries 2000 – 2017 | tons | *Estonian Peat Association, 2018*

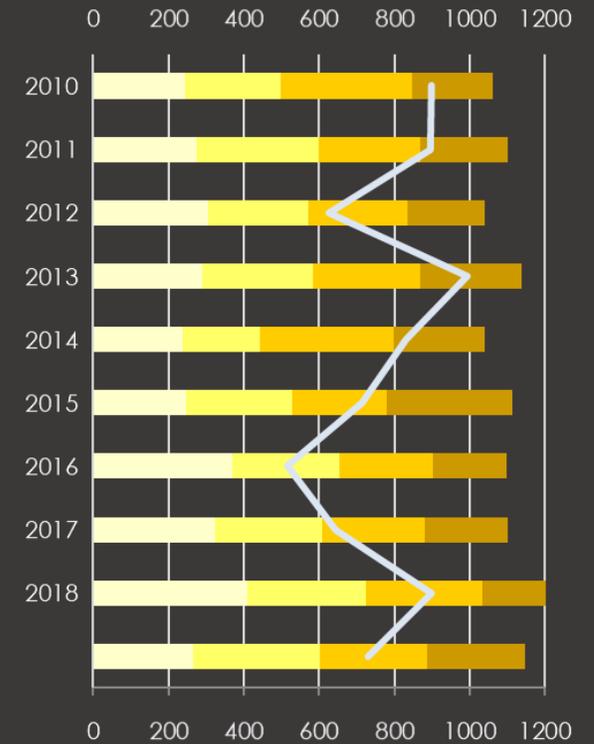
## Small challenges | Business as usual

Days without rain | May - August | days



Average – 74 days  
2019 – 74 days | 100%

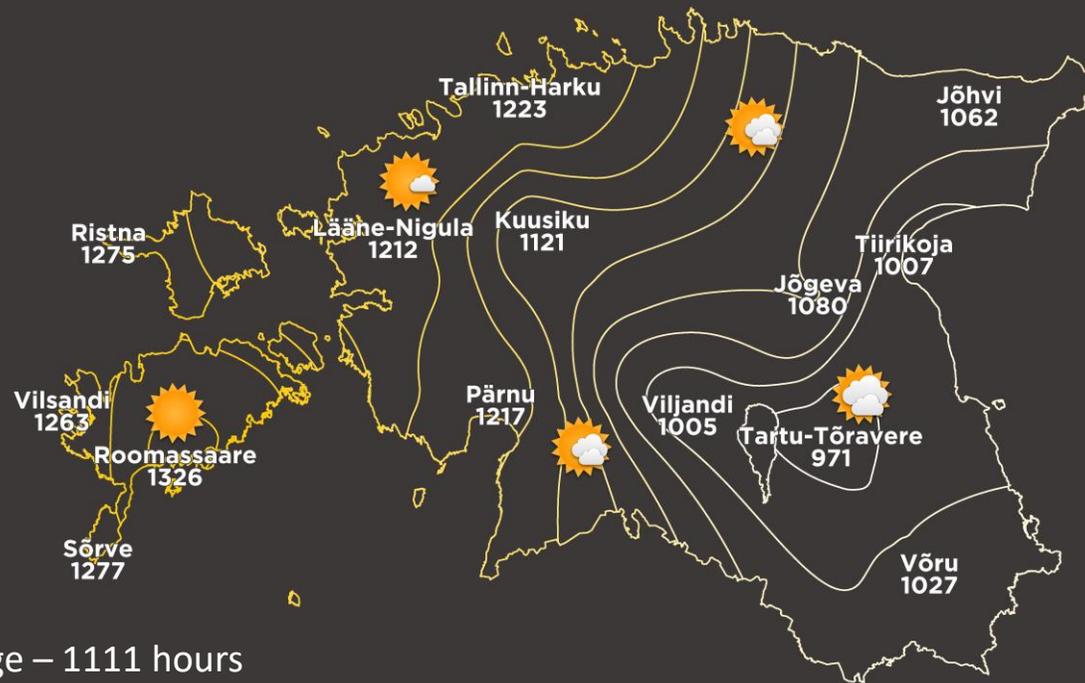
Days without rain | day



Peat production | thou t

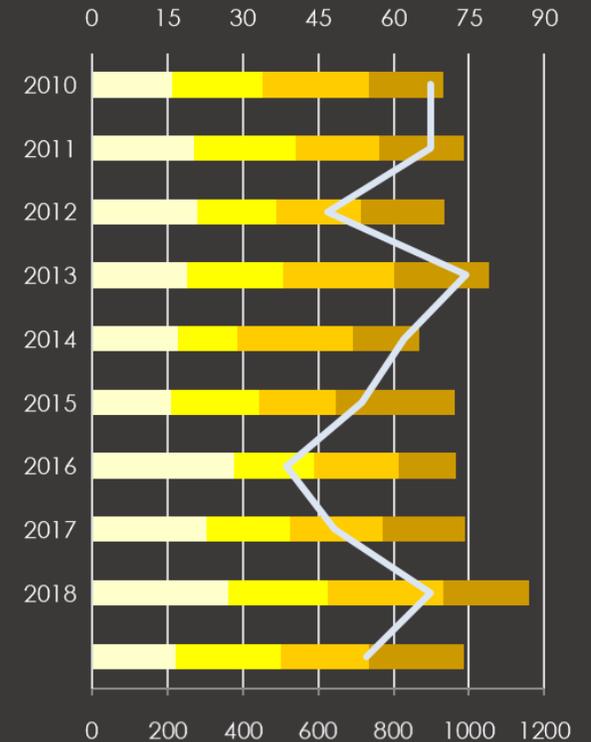
## Small challenges | Business as usual

Sunshine | May - August | hours



Average – 1111 hours  
 2019 – 1147 hours | 103 %

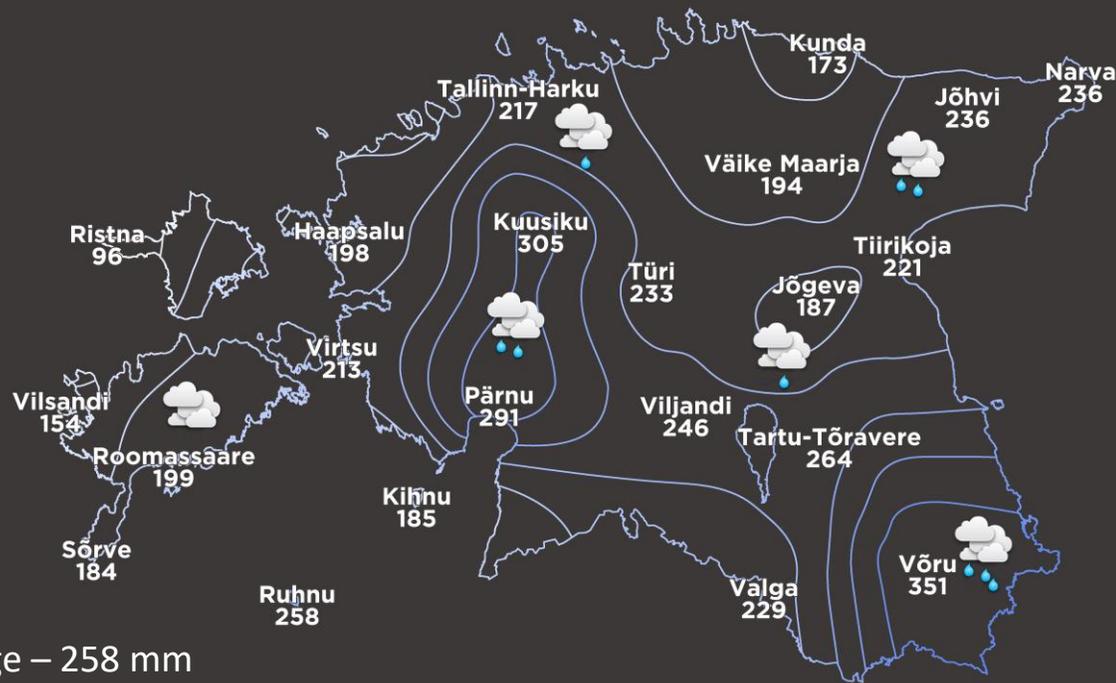
Sunshine | hours



Peat production | thou t

## Small challenges | Business as usual

Rainfall | May - August | mm



Average – 258 mm  
2019 – 224 mm | 86 %

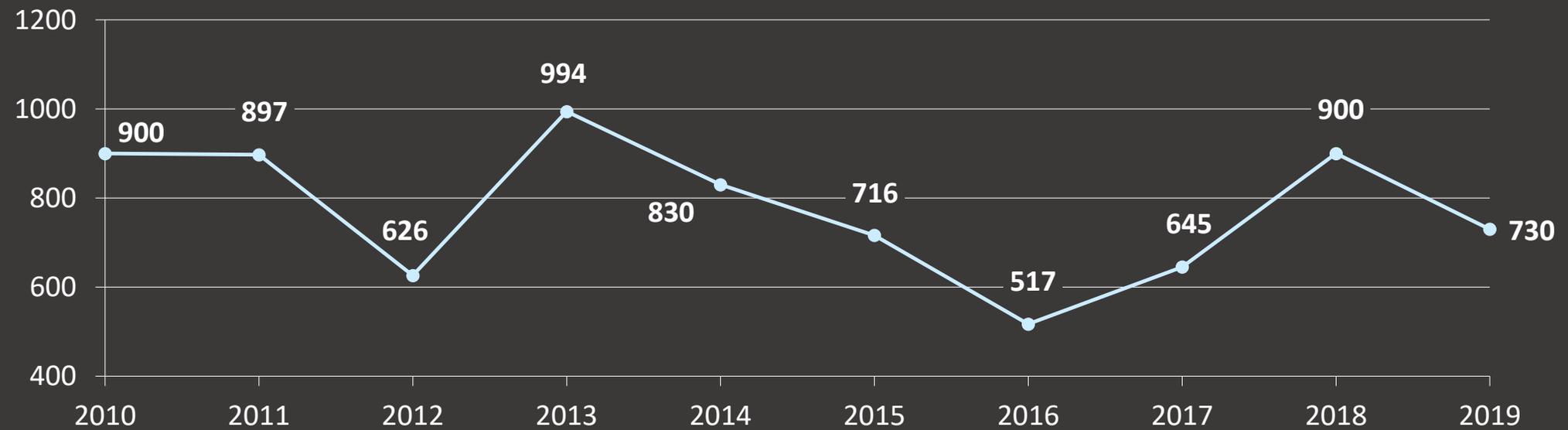
Rainfall | mm



Peat production | thou t

## Small challenges | Business as usual

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Peat production in Estonia 2010 - 2019, thousand t

## Small challenges | Business as usual

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### Keywords of the season

- ✓ Season started in April and in most cases just ended
- ✓ Production was 70 – 100%, in most companies less than last year
- ✓ Many companies have stocks from last season, in overall the situation is satisfactory
- ✓ For most companies, mid-season sales were little below expectation
- ✓ Labour and fuel costs have increased
- ✓ Because of frequent rains there were significantly less wildfires than last year

## Small challenges | IPC Congress

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### Peatland Congress 2020

- ✓ June 14 – 20<sup>th</sup> 2020 in Tallinn, Estonia
- ✓ Alexela Concert hall and Artis cinema
- ✓ 800 delegates
- ✓ Special program for industry, students and public audience
- ✓ Interesting tours and social events
- ✓ **Registration will be open in September or October**
- ✓ **Deadline for short abstracts in November**

## Small challenges | IPC Congress

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Program at glance

Monday | 15. VI

**Keynote speeches**

Scientific sessions

**Ice-breaking party**

Tuesday | 16. VI

Scientific sessions

**Industry summit**

**Industry dinner**

Wednesday | 17. VI

**Field trips**

Mid-summer day  
celebration

Thursday | 18. VI

**PEATalks**

Scientific sessions

**Gala dinner**

Friday | 19. VI

Scientific sessions

Closing ceremony

## Small challenges

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Congress welcomes all sponsors and exhibitors!

## Big challenges

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**The 2015 Paris Agreement** under the United Nations Framework Convention on Climate Change (UNFCCC) set the goal to constrain the rise in average global temperatures to well below 2°C above pre-industrial levels and to pursue efforts to limit the rise to 1.5°C. **All Parties to the Paris Agreement (including the EU) have to submit mid-century strategies by 2020.**

European Union ratified the Paris Agreement on 4 October 2016, and the EU deposited its instruments of ratification on 5 October 2016, along with several individual EU member states.

## Big challenges

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### Greenhouse gas emission accounting

#### EU Emission Trading System (ETS)

Factories, power stations, and other installations with a net heat excess of **20 MW**. 40 – 50% EU GHG emissions.

Emissions from energy peat usage in bigger boilers than 20 MW Inc. CHP-s, district heating, electricity production

#### Non-ETS | Effort Sharing Regulation (ESR)

Transport  
Agriculture  
Waste management  
Industrial processes  
Small-scale energy production  
**LULUCF**

Emissions from energy peat usage in smaller boilers than 20 MW Inc. CHP-s, district heating, electricity production

Land use, land use change and forestry

Forest land  
Cropland  
Grassland  
Wetlands  
Settlements  
Other land

**Emissions from all peat production sites and peat harvested for horticulture (as carbon removal)**

## Big challenges

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The EU 2030 climate and energy framework (adopted in 2014) includes EU-wide targets and policy objectives for the period from 2021 to 2030 to enable the EU to move towards a low-carbon economy and implement its commitments under the Paris Agreement. Key targets for 2030:

- ✓ **at least 40% cuts in GHG emissions in total from 1990 levels**
- ✓ at least 32% share for renewable energy
- ✓ at least 32.5% improvement in energy efficiency
- ✓ **at least 43% cuts in GHG in ETS sectors compared with 2005**
- ✓ **at least 30% cuts in GHG in non-ETS sectors compared with 2005**

## Big challenges

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According to the EU Energy Union requirements and climate action rules in order to meet the EU's energy and climate targets member states are required to establish a **10-year National Energy and Climate Plans (NECP) for the period from 2021 to 2030 by the end of 2019**. The NECPs must give investors and the European Commission a coherent picture of how the European Union is going to fulfil its climate & energy objectives by 2030, in particular the collective 32% renewable energy target.

In non-ETS sectors member states individually propose measures how to reach their climate goals. For Baltic countries the GHG reduction targets are:

Estonia | **-13%**

Latvia | **-6%**

Lithuania | **-9%**

**It means every member state can decide where they cut their GHG emissions, do they need to reduce peat production for that or not.**

## Big challenges | ETS

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**Target for energy sector, both ETS and non-ETS is to become carbon neutral by 2050.**

That seems to lead to a common understanding about the future of energy peat. The only question is the timeframe.

However, complete CO<sub>2</sub> neutrality in energy sector is not achievable, which is also recognized on EU level. Most probably it is possible to reduce CO<sub>2</sub> emissions about 80%.

One option to compensate remaining 20% is carbon capture and storage (CCS). It is intriguing that **when CCS is combined with biomass, it is possible to result in net negative emissions!** In principle, CCS combined with peat, taking into account on-site emissions from drained peatlands, could result in close to carbon neutral!

The challenge for peat with CCS is that peat is utilized in relatively small plants, CCS is realistic only in very large plants. However, at the present, no commercial scale projects exist; the costs is therefore uncertain, yet expensive. At present 80 – 100 € per CO<sub>2</sub> ton, by the end of this decade 35 – 50 € per CO<sub>2</sub> ton.

## Big challenges | ETS

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Strictly taken, currently peat usage is not limited (there are country or sector specific exceptions) in ETS sector, i.e. in installations larger than 20 MW, e.g. CHP-s, powerplants and district heating boilers, but it is not competitive by price.

In condensation powerplants peat is competing with coal, lignite and oil-shale, which are about 50% cheaper.

CHP-s can burn quite often both, wood and peat fuel or mix. Despite wood fuel being more expensive, peat fuel requires additional CO<sub>2</sub> allowances that makes the latter more costly, thus making peat fuel less competitive.

## Big challenges I non-ETS

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Strictly taken at present peat usage is not limited (there are country or sector specific exceptions) in non-ETS sector i.e. in installations smaller than 20 MW, e.g. CHP-s, powerplants and district heating boilers.

**According to the Effort Sharing Regulation (ESR) during 2021-2030 (2026) non-ETS sector will become subject of CO2 accounting.** CO2 allowances will not be applied directly to companies as in ETS sector, but reduction in GHG is needed at the member state level and each government will decide how to achieve the reduction target. Peat usage will probably decrease in non-ETS energy sector.

For example, one way to achieve that is to increase national CO2 tax, which is at present often moderate. At least Estonian officials are considering that. Thus, there is no solid argument why not to tax peat production and usage. Exact timeframe, if and when applied, is not clear yet, however currently peat usage will continue.

**At present C price per CO2 is 25 €/ton (same for peat)** . It is predicted, carbon price will increase to 40-45 €/t by 2025 and to 55 €/t by 2030. That price would make even the most efficient combustion power plants unprofitable.

## Big challenges | LULUCF

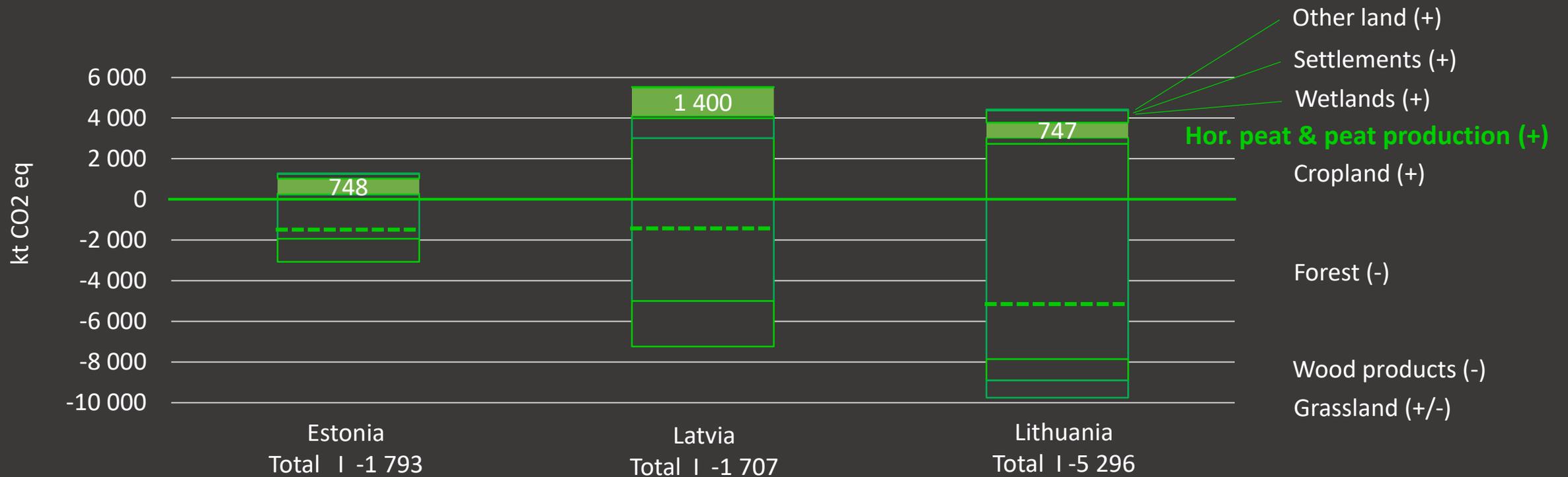
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**According to the LULUCF Regulation GHG emissions and removals from land use, land use change and forestry (LULUCF) will be included into the EU 2030 climate and energy framework to contribute to achieving the objectives of the Paris Agreement.**

That means that member states have to ensure that GHG emissions from LULUCF sector are entirely compensated by removals of CO<sub>2</sub> in the sector in the period 2021 to 2030 („No debit rule“). In principle, this goal is met in the Baltic countries.

**From 2026 also wetlands (incl. peat extraction & production) will be included into GHG accounting.** I.e. it will be part of carbon trading system on governmental level. During 2021-2025 only reporting is needed, i.e. presenting the data is obligatory, what is already done. From 2026 governments will evaluate whether to sell the credit or use the C credits to compensate emissions from other sectors.

## Big challenges | LULUCF



## Big challenges | LULUCF

NIR 2019 (2017 emissions)	Exporting countries					Importing countries		
	EST	LVA	LTU	FIN	IRL	BEL	NLD	GER
<b>Total country emissions without LULUCF, kt CO<sub>2</sub> eq</b>	<b>20 879</b>	<b>11 306</b>	<b>20 417</b>	<b>55 334</b>	<b>60 744</b>	<b>11 4540</b>	<b>193 260</b>	<b>906 611</b>
LULUCF, kt CO <sub>2</sub> eq	-1 793	-1 707	-5 296	-20 378	5 997	-259	5600	-15 185
Public Electricity and Heat Production - Peat fuel (1.A.1a), kt CO <sub>2</sub>	146	0	36	4 590	2 355	0	0	0
Residential fuel combustion - Peat (1.A.4b), kt CO <sub>2</sub>	0	0	68	15,5	807	0	0	0
Peat fuel combustion (public + residential) total, kt CO <sub>2</sub>	146	0	104	4 605,5	3 162	0	0	0
Fuel combustion for heating and electricity, kt CO <sub>2</sub>	14 706	1 549	2 573	17 554	11 647	20 175	63 465	313 447
% Peat fuel from total fuel combustion (heat and el., excl. transport)	1%	0%	4%	26%	27%	0	0	0
Total area of managed Wetlands, kha	22			156	56			
... peat extraction area, kha	13	34	14,1	109	56	0	0	20
Total Wetlands (4D) CO <sub>2</sub> emissions, kt CO <sub>2</sub>	748	1 438	1 019	1 843	1 944	-10	38	2 138
<b>... on-site soil emissions (peat extraction area)</b>	<b>85</b>	<b>400</b>	<b>34</b>	<b>1 612</b>	<b>345</b>	<b>0</b>	<b>0</b>	<b>131</b>
<b>... off-site (horticultural peat production)</b>	<b>663</b>	<b>1 000</b>	<b>714</b>		<b>1 599</b>	<b>0</b>	<b>0</b>	<b>2 008</b>
<b>%, Horticultural peat/Total wetlands emissions</b>	<b>89%</b>	<b>70%</b>	<b>70%</b>	<b>NA</b>	<b>82%</b>	<b>0</b>	<b>0</b>	<b>94%</b>
<b>% On- and off-site peat production from total national GHG</b>	<b>4%</b>	<b>12%</b>	<b>4%</b>	<b>3%</b>	<b>3%</b>	<b>0</b>	<b>0</b>	<b>0,2%</b>
<b>Horticultural peat emissions % from total national GHG</b>	<b>3%</b>	<b>9%</b>	<b>3%</b>	<b>NA</b>	<b>3%</b>	<b>0</b>	<b>0</b>	<b>0,2%</b>

*Values in italics are approximate estimations because the exact values were not available in the CRF tables.*

## Big challenges | LULUCF

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Peat Industry has a significant role in Baltic countries GHG balance, but relatively small role in GDP.

Estonia | 4% | 58%

Latvia | 12% | 25%

Lithuania | 4% | 17%

From total | LULUCF

But this is the problem of all horticultural peat producing countries. Even if national effort sharing regulation will be implemented without significant reduction in peat production, what about 2040 and 2050?

**At 2040 and 2050 all governments need every net negative emission ton they can save from LULUCF!**

**Therefore one should ask – why governments of the Baltic countries should keep peat related GHG emissions in their national GHG budget or cut them out in last order?**

## Big challenges I Not to forget

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**PEAT IS CARBON!**

**Challenges cannot be faced as we see them, but as environmental NGO and politicians see them!**

**Nothing happens without industry input!**

## Opportunities

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- ✓ It would help a lot if there would be well financed organization at EU level who would truly stand for peat and peat producers
- ✓ Also small and medium size peat producers should support more those few who are pro peat
- ✓ We shouldn't give up in energy peat even if it's a lost battle
- ✓ Immediate innovation is needed to keep carbon stored in peat after its usage (this is probably the only solution)
- ✓ We need to find ways to implement principles of circular economy, upcycling and recycling on our activities
- ✓ **Abovementioned aspects should be integrated into the IPCC guidelines**
- ✓ Communication, communication, communication

**Thank you!**

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