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Nordic-Baltic Energy Conference 2019

Bioenergy in Latvia 2030

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99,9999

This “gold standard” was applied, for instance, in 2012, to confirm the discovery of the Higgs boson subatomic particle, a basic building block of the universe.

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99,9999

Evidence for **man-made global warming** has reached a "gold standard" level of certainty - a statistical gauge meaning there is **only a one-in-a-million chance** that the signal would appear if there was no warming.

Source: Date 25.02.2019.
https://www.reuters.com/article/us-climatechange-temperatures/evidence-for-man-made-global-warming-hits-gold-standard-scientists-idUSKCN1QE1ZU

Paris Climate Agreement

Global warming 1,5^{0}C IPPC SR15 special report 08.10.2018. http://www.ipcc.ch/report/sr15/

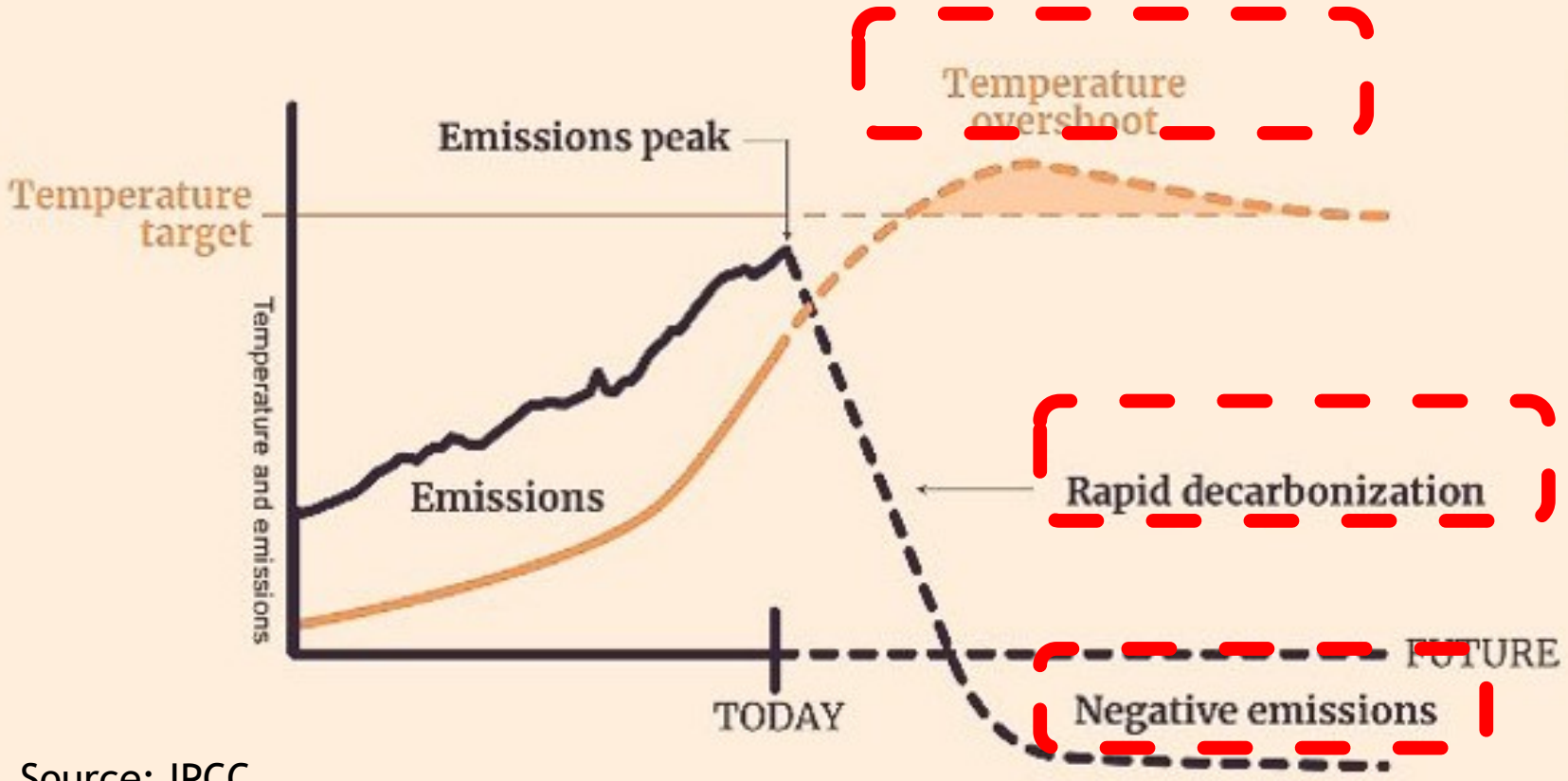

Illustration of temperature overshoot

Source: IPCC

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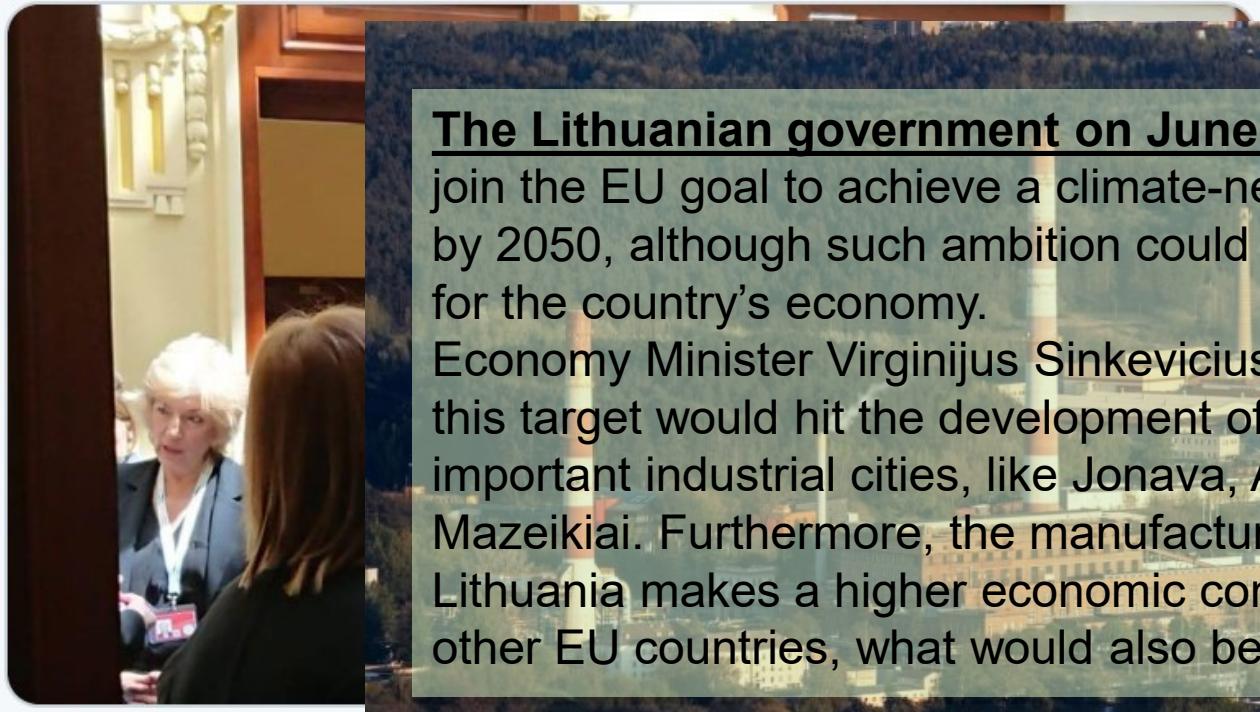
Climate neutrality EE, LV, LT

Jüri Ratas @ratasjuri · Oct 3

A Cle… Planet for All and supporting Green New Deal is EU's most impo… unar…

Krišjānis Kariņš @krisjaniskarins · May 9

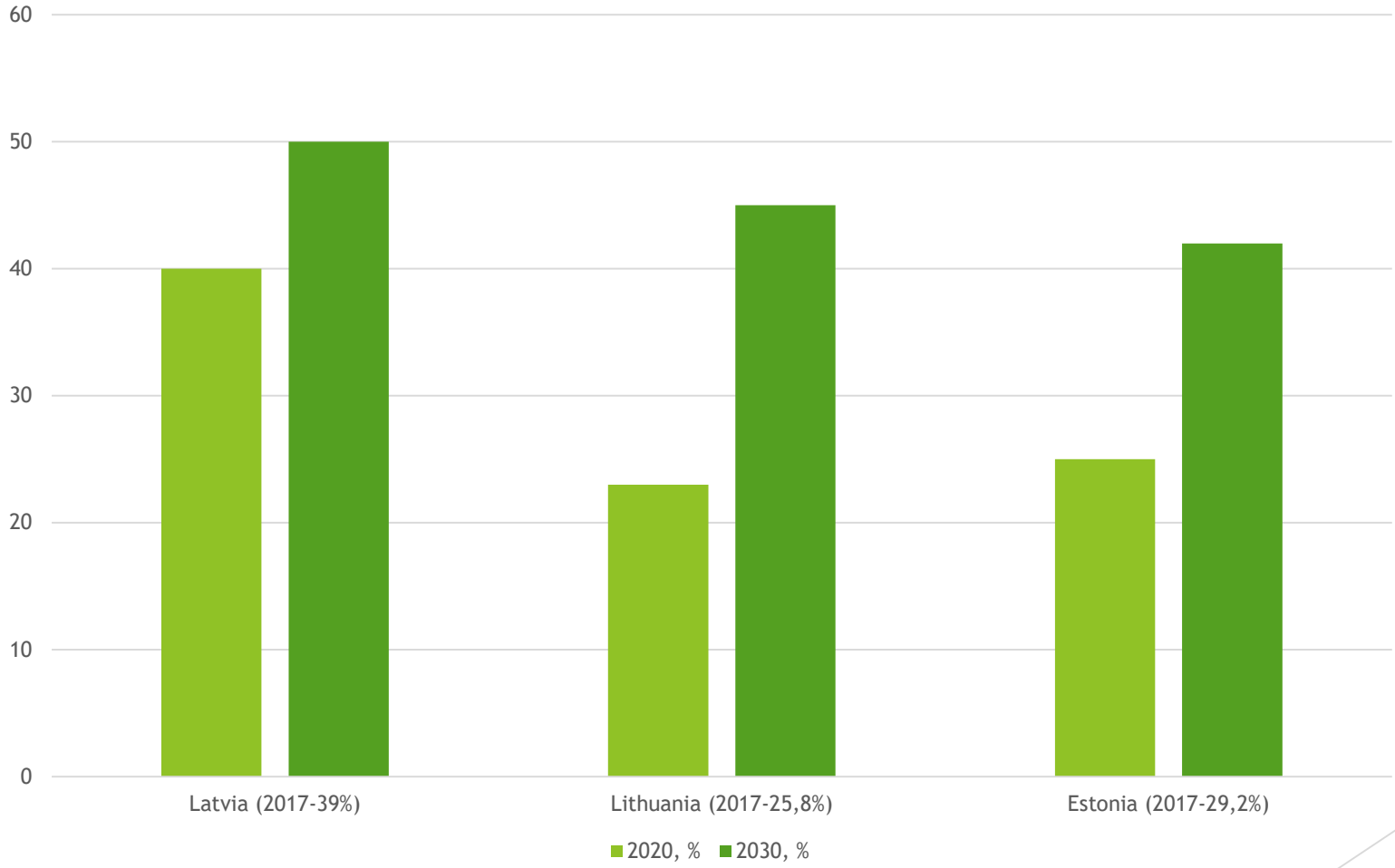
The #EU should do more to fight climate change. We have a common understanding with @EmmanuelMacron on many issues including on climate. #StrongerTogether #FutureofEurope #SibiuSummit #EU #Latvia #France



The Lithuanian government on June 19th decided to join the EU goal to achieve a climate-neutral economy by 2050, although such ambition could be a challenge for the country's economy.

Economy Minister Virginijus Sinkevicius warned that this target would hit the development of small but important industrial cities, like Jonava, Akmene and Mazeikiai. Furthermore, the manufacturing sector in Lithuania makes a higher economic contribution than in other EU countries, what would also be a challenge.

Progress 2020 – 2030



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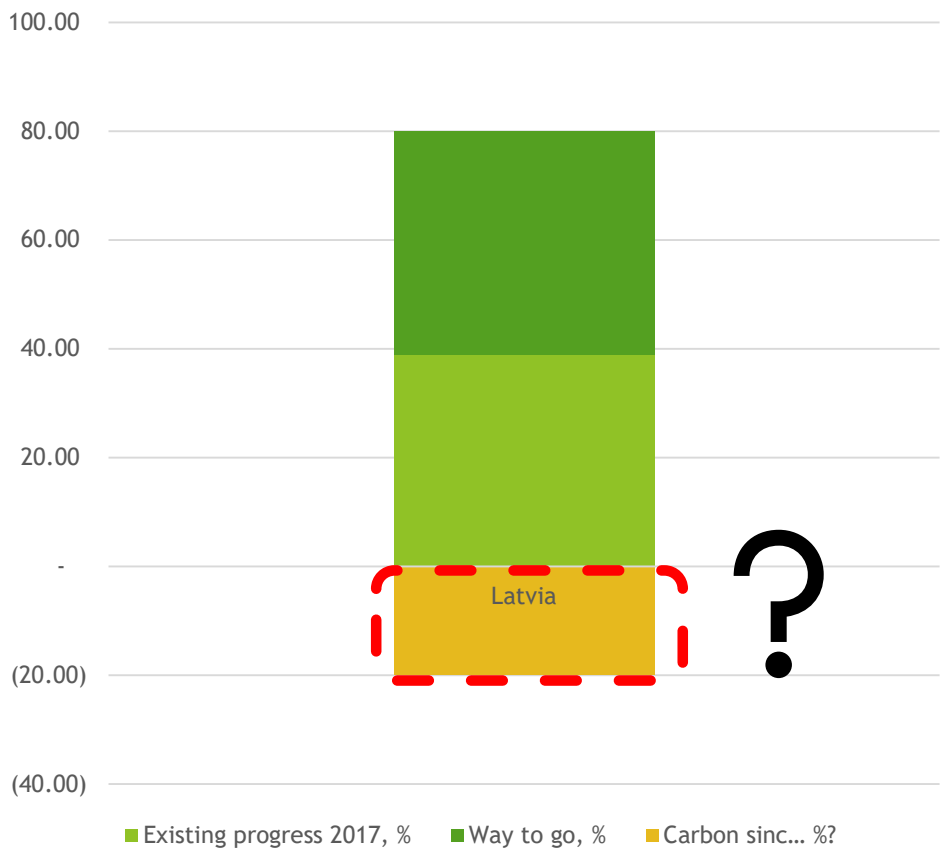
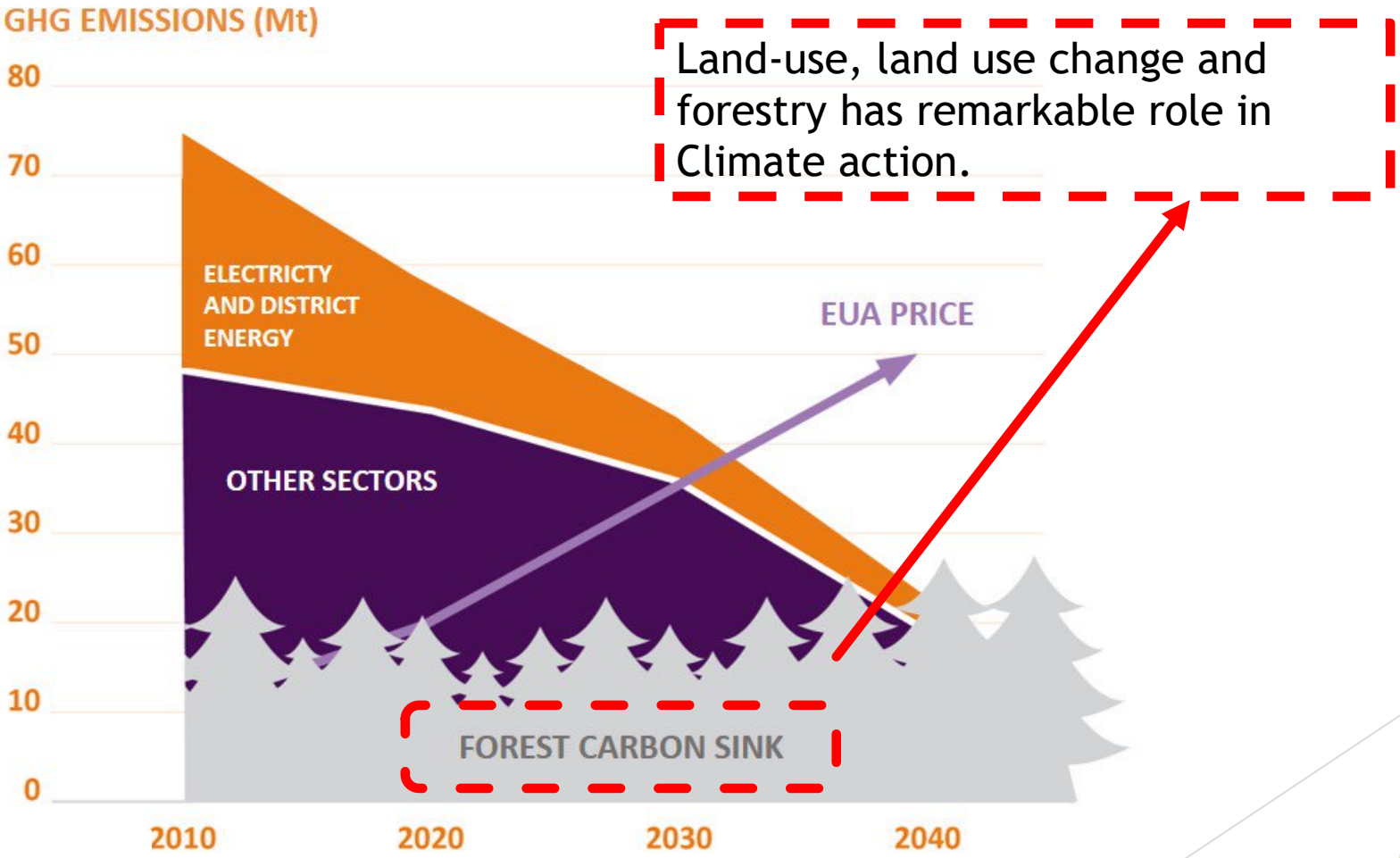
How much do we still need to do?



Carbon sink is not certain. Calculation methodologies are open and it plays a remarkable role. It is also about sustainability and might change wood processing and farming habits.

Carbon dioxide (CO_2) differs from the other major greenhouse gases relevant to the sector in that the carbon can be stored in large quantities in various carbon pools in vegetation, soils and living organisms. As an illustration, it is estimated that the release of just 0.1% of the carbon currently stored in European soils would equal the annual emissions from as much as 100 million cars.

Carbon neutrality in Finland



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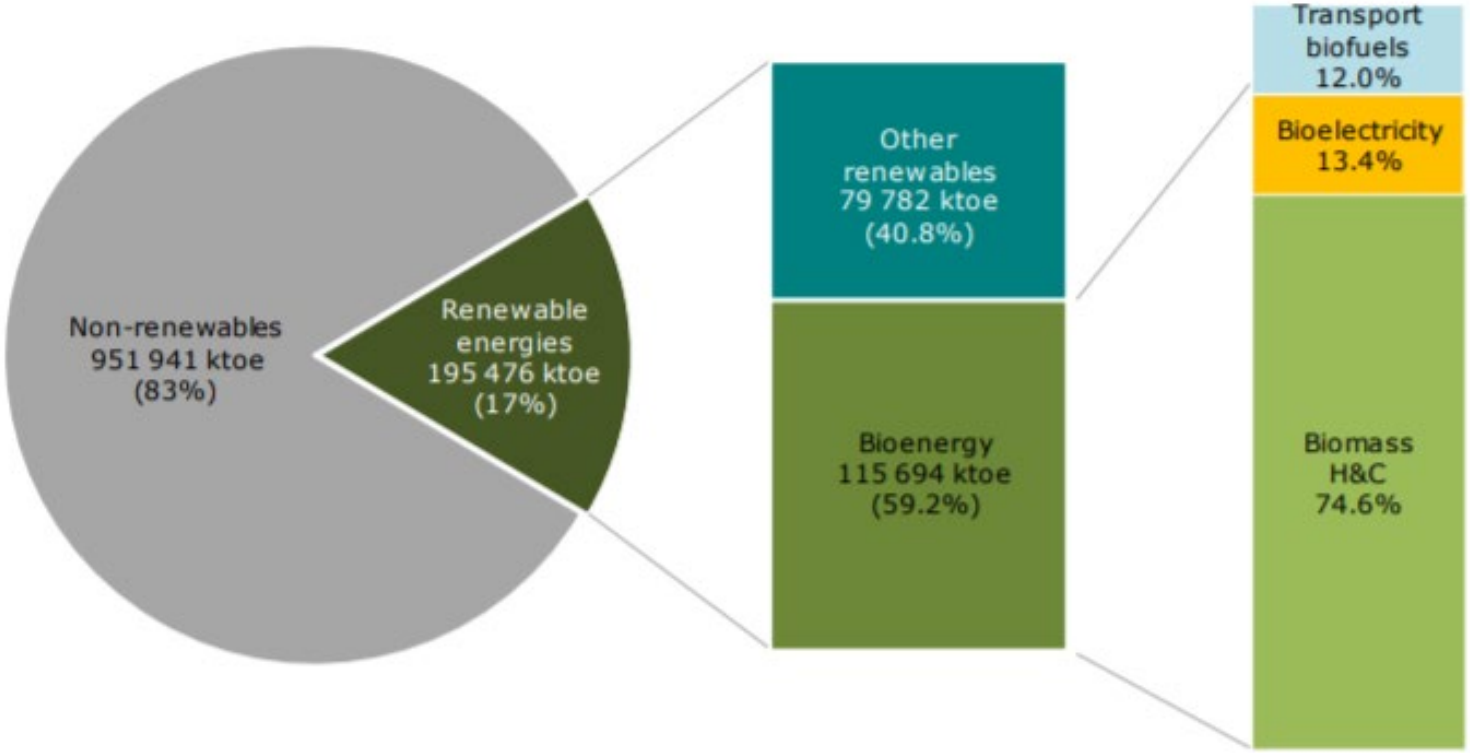
Bioenergy in EU in 2016



Source: https://publications.jrc.ec.europa.eu/repository/bitstream/JRC109354/biomass_4_energy_brief_online_1.pdf

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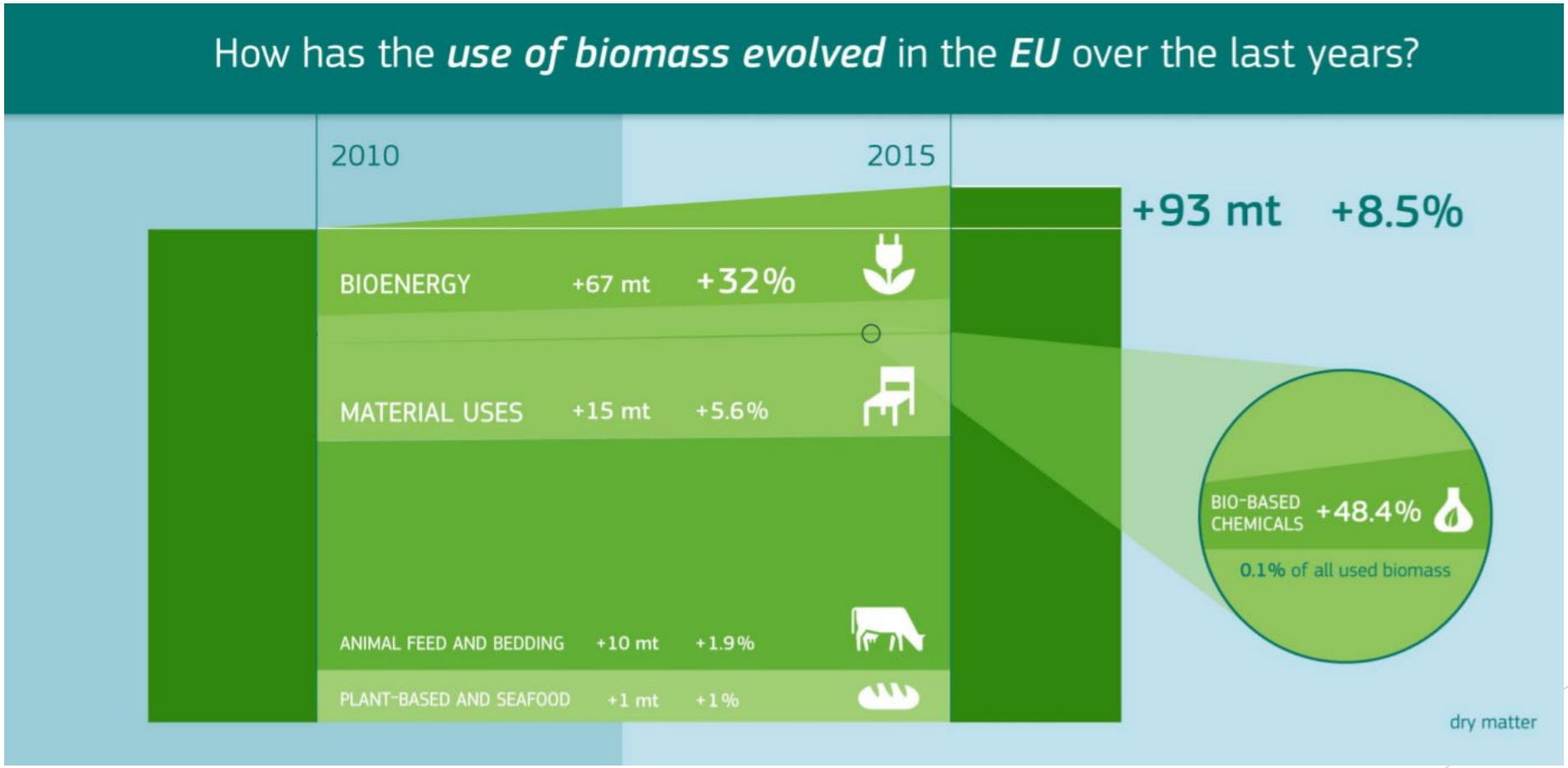
Where did we use biomass in 2010-2015?



- The use of biomass for bioenergy has shown a remarkable growth by about 32%
- The use of biomass for producing materials has increased overall by 5.6%
- Within this category, the bio-based chemical sectors exhibited the highest relative increase (+48.4%), but in absolute terms this remains a very small fraction (0.1%).

Source: https://ec.europa.eu/knowledge4policy/publication/food-feed-fibres-fuels-enough-biomass-sustainable-bioeconomy_en

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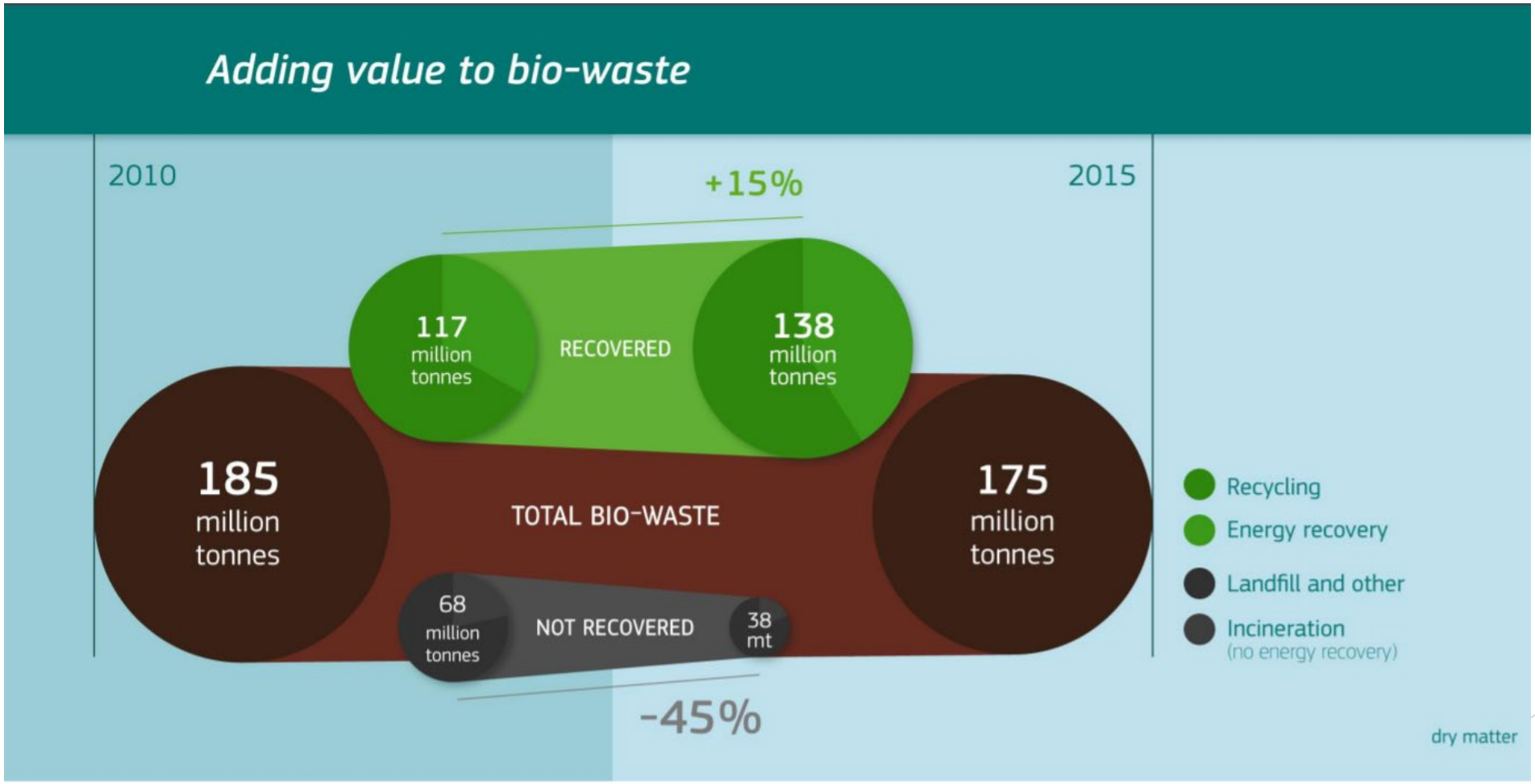
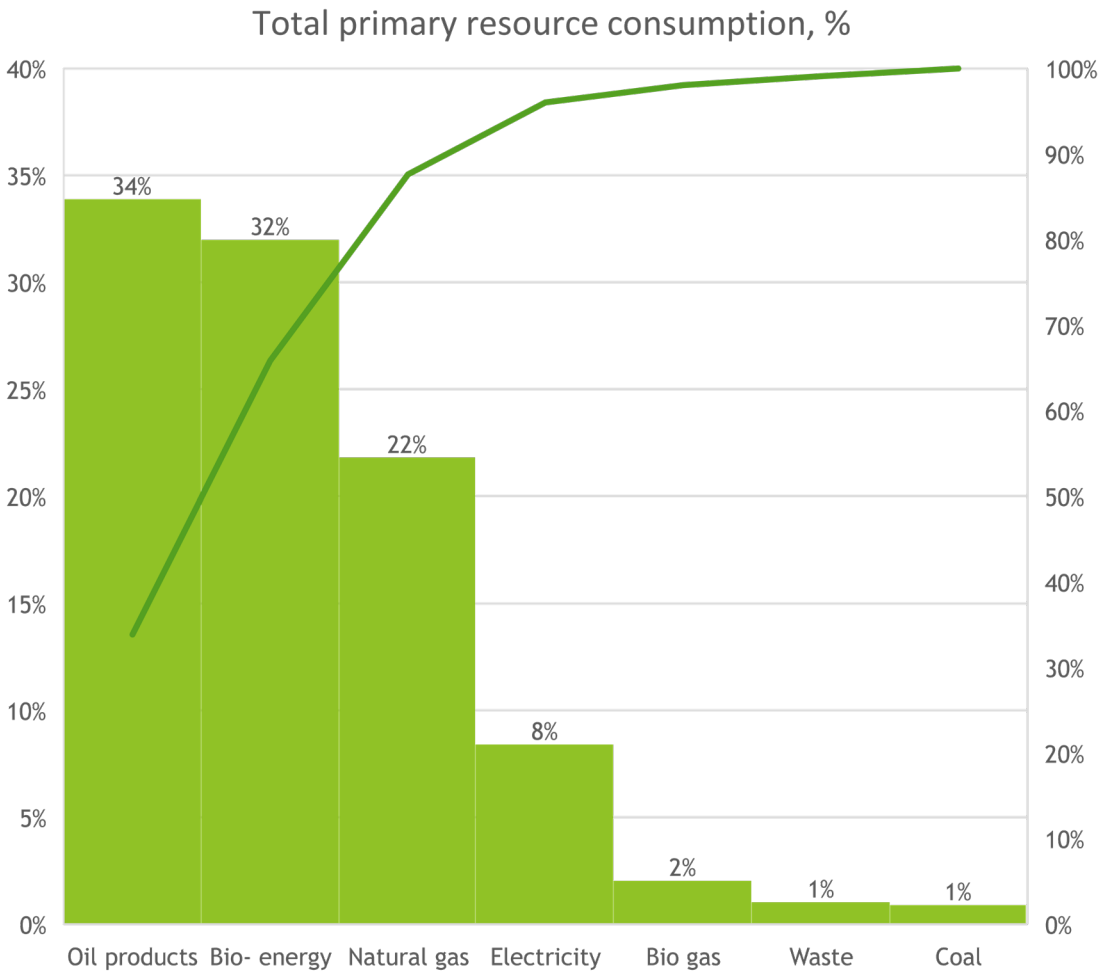
Bio-waste



Supply of biomass from waste recovering is increasing. Over the period 2010-2015, the amount of biological waste that is not recovered (via recycling or energy recovery) was reduced by as much as 45%. This shows the increasing importance of circular economy approaches.

Source: https://ec.europa.eu/knowledge4policy/publication/food-feed-fibres-fuels-enough-biomass-sustainable-bioeconomy_en



Primary resource consumption in Latvia 2017

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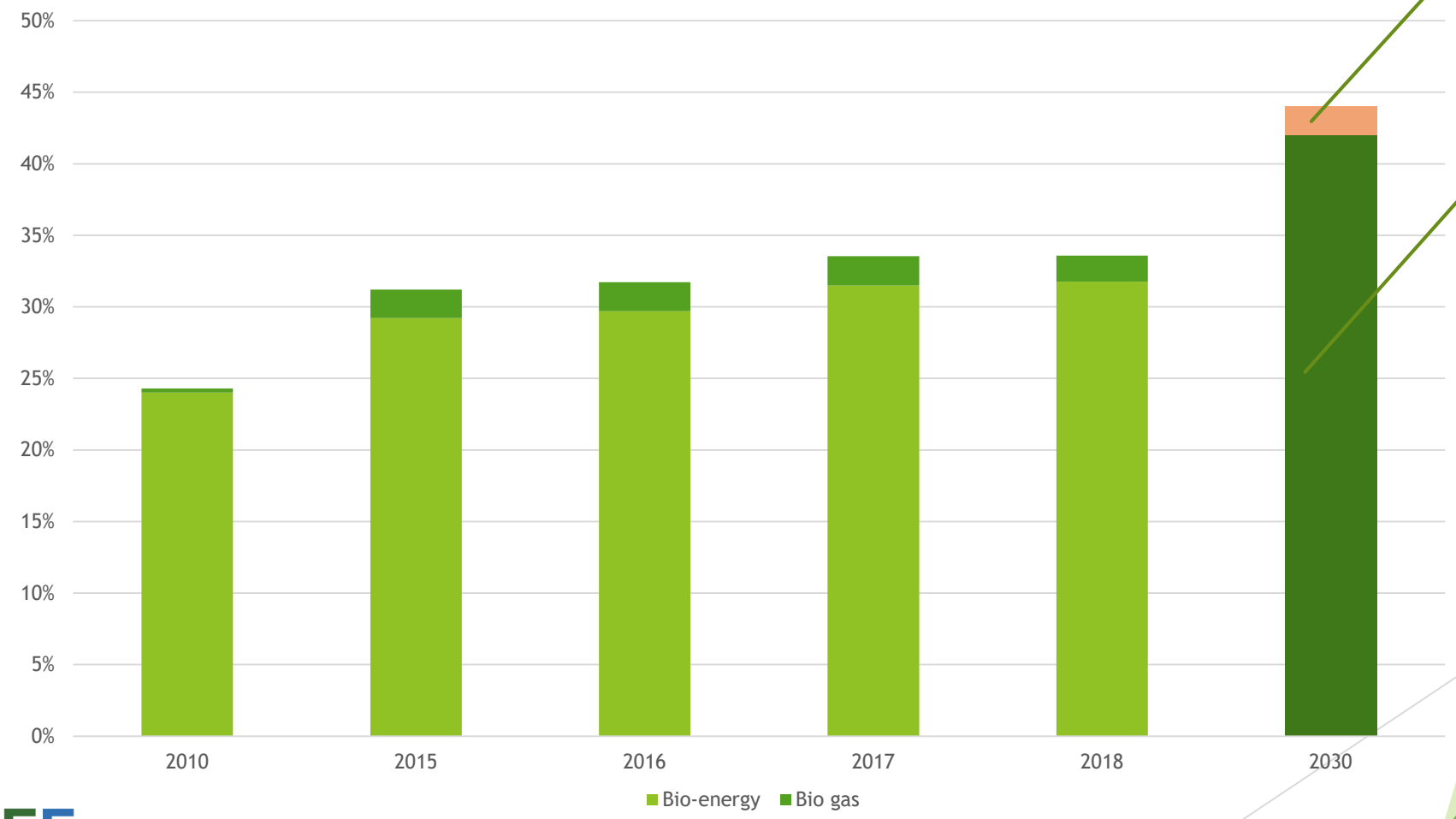
Bioenergy share % 2010-2018 …2030

from total primary energy consumption



Biogas will transform into bio methane, total < 1 TWh

Biomass shall be primary used in heating sector, total + 1… 2 TWh

Biomass for energy use will concentrate onto forest processing **residues**, biodegradable part of **waste** and **farming waste**

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Biomass sustainability first!

Bioenergy and carbon stocks in forests and lands shall grow further together.

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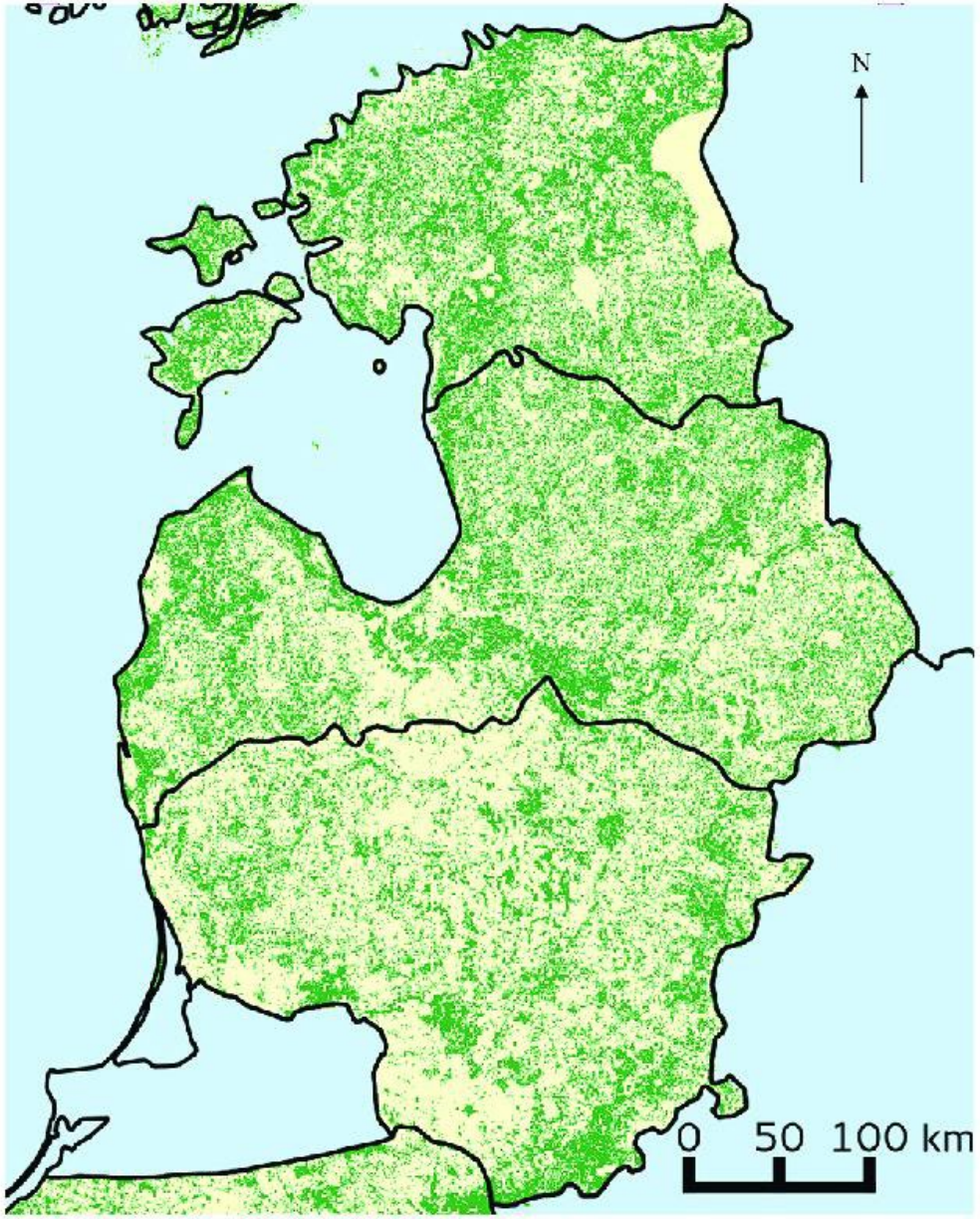
Forests in the Baltics

	Land area 2015 without inland water	Forests and other wooded land	Forests 2015, 1000 ha	Forest share in land area, %
Latvia	6221	3468	3356	53.9%
Lithuania	6265	2284	2180	34.8%
Estonia	4343	2456	2231	51.4%

According to FSC and PEFC reports, in the beginning of 2019 certified forests area in Baltic was 6500 ha FSC 46% and PEFC 37% of total forest land area.



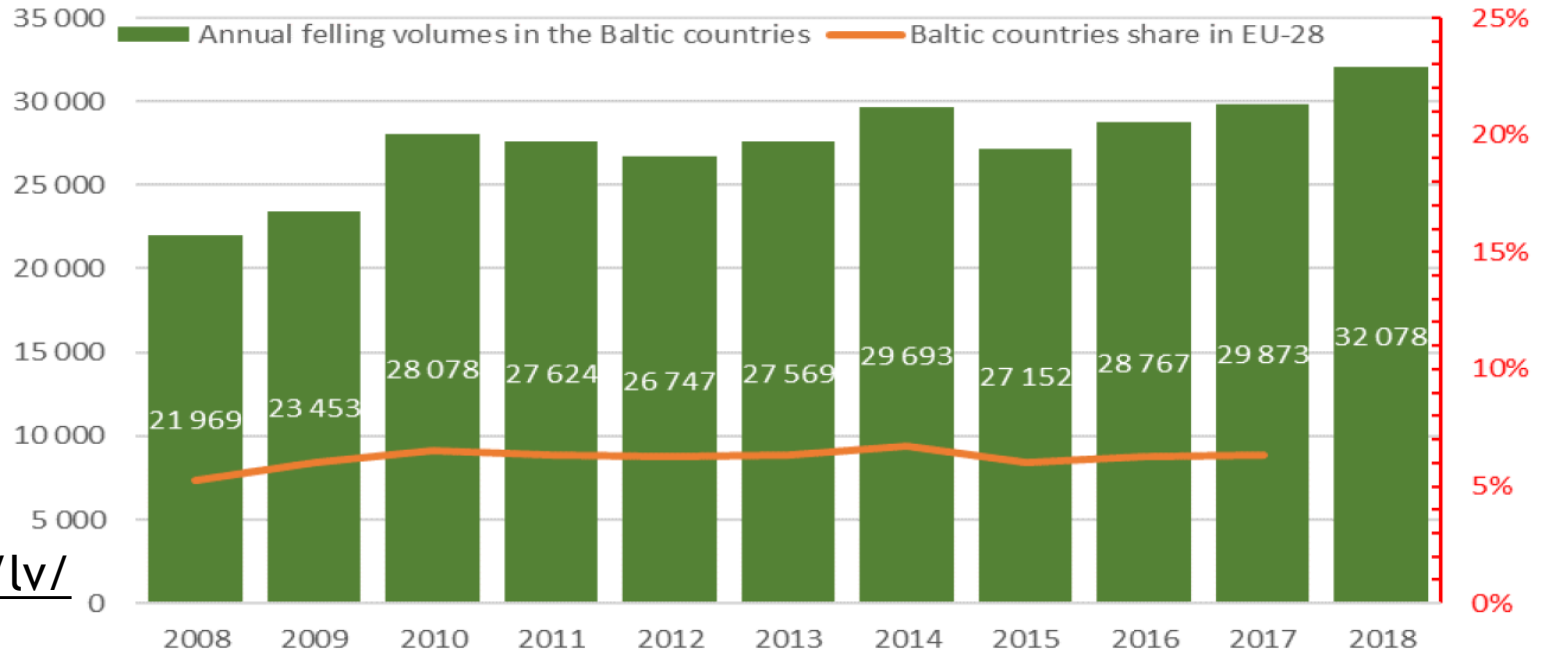
Source: MEKA http://e-koks.lv/lv/

Growing stock

Growing stock, 2010-2018, 1000 m3 over bark

	2010		2015		2018E	
	Forests and other wooded land	Forests available for wood supply	Forests and other wooded land	Forests available for wood supply	Forests and other wooded land	Forests available for wood supply
EU-28	-	-	26 298 812	23 148 685	-	-
The Baltic States	**1 579 000**	**-**	**1 668 500**	**1 459 600**	**1 705 804**	**-**
Estonia	476 000	414	483 500	425 500	486 104	-
Latvia	614 000	567	666 900	616 100	677 000	-
Lithuania	489 000	408	518 100	418 000	542 700	-

Chart 3.2 Annual felling volumes (1000 m3) in the Baltic states, region share in EU-28, 2008-2018.



Source: MEKA
http://e-koks.lv/lv/

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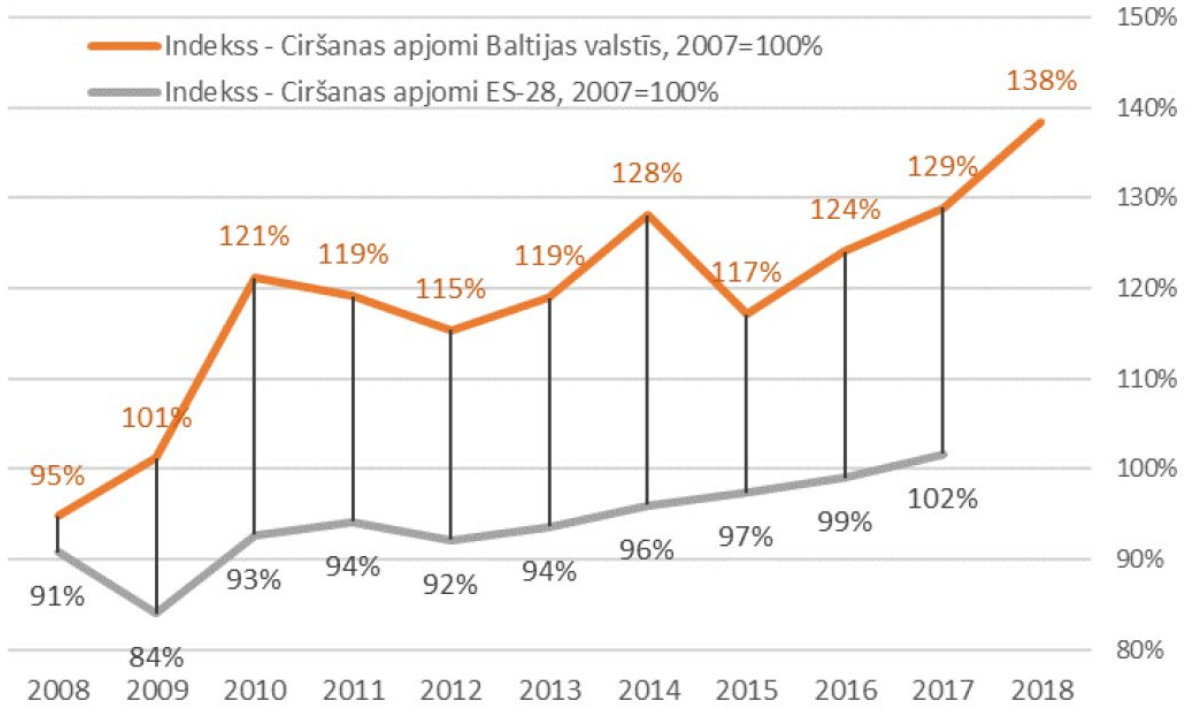
Felling index in the Baltics

Chart 3.3. Felling volumes trends in the Baltic states and EU-28, 2007-2018.



Source: MEKA
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Latvia' forests in carbon sink mode after 2030

In spite of increasing GHG emission projections during the accounting period the afforestation implemented over the previous decades will compensate most of the GHG emissions in forest land remaining forest land during the accounting period (Figure 1) and turn forest lands into net sink of CO_2 removals after 2030.

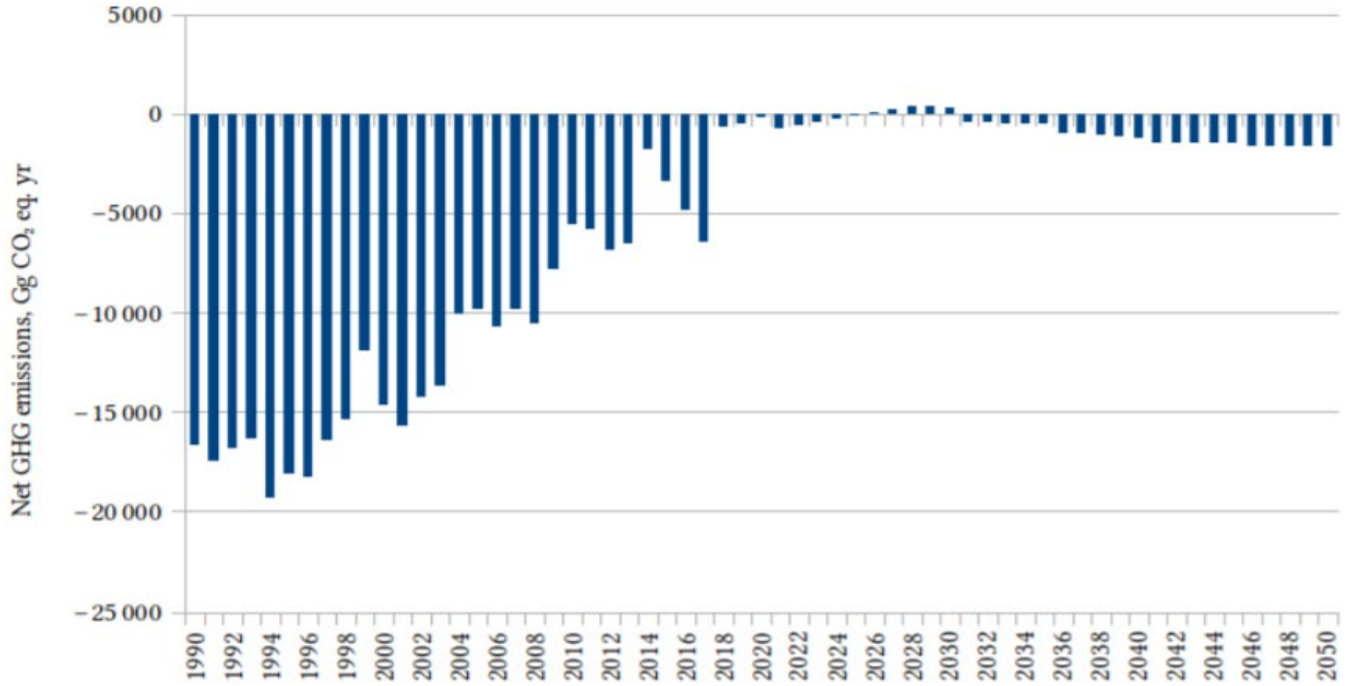

Figure 1: Net emissions in forest lands including afforestation.

Source: https://www.zm.gov.lv/public/ck/files/2019_30_01_NFAP.pdf

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Heat production

Chart 4.15. Heat production from biomass (DH/CHP plants) in the Baltic states , GWh.

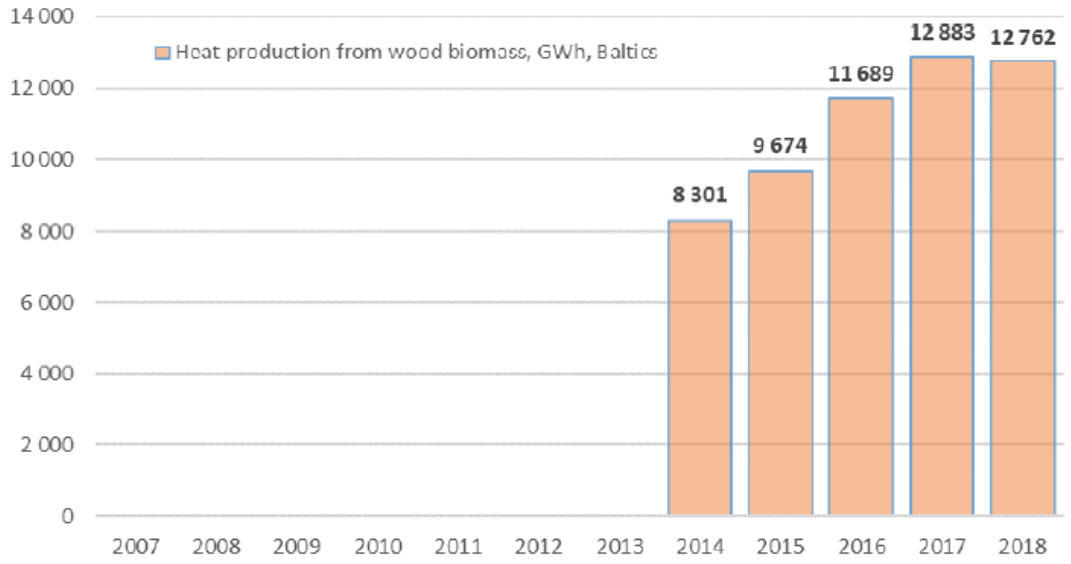

Table 4.24. Heat production (from wood biomass) in district heating plants, Baltics, GWh. Source: National Statistics.

	Heat production in district heating, GWh		
	2007	2014	2018(e)
The Baltic states		**8301**	**12792**
Estonia		3139	4600
Latvia		2130	3553
Lithuania		3031	4609

Source: MEKA http://e-koks.lv/lv/

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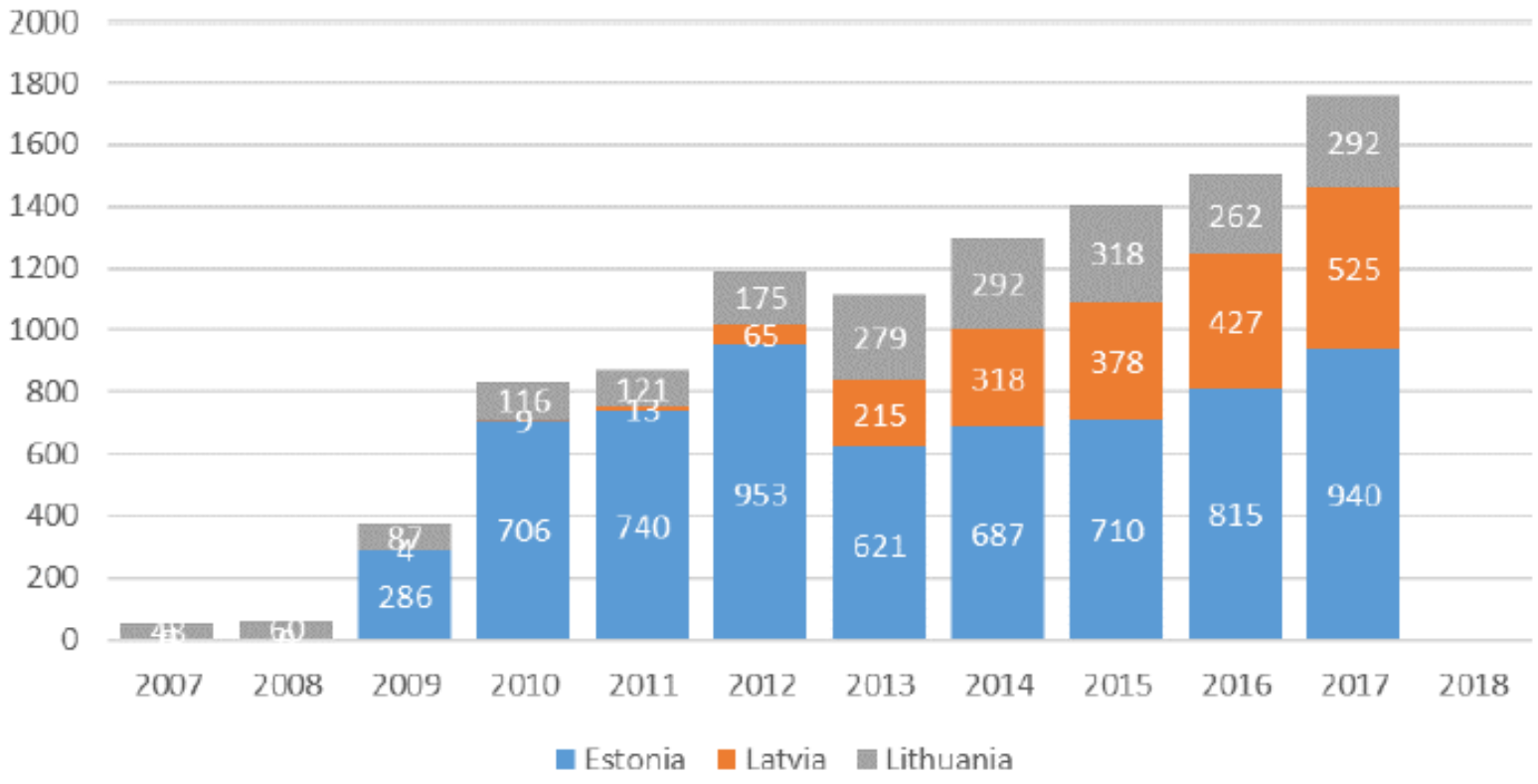
Electricity production

Chart 4.16. Electricity production from biomass in the Baltic states , GWh.



Source: MEKA http://e-koks.lv/lv/

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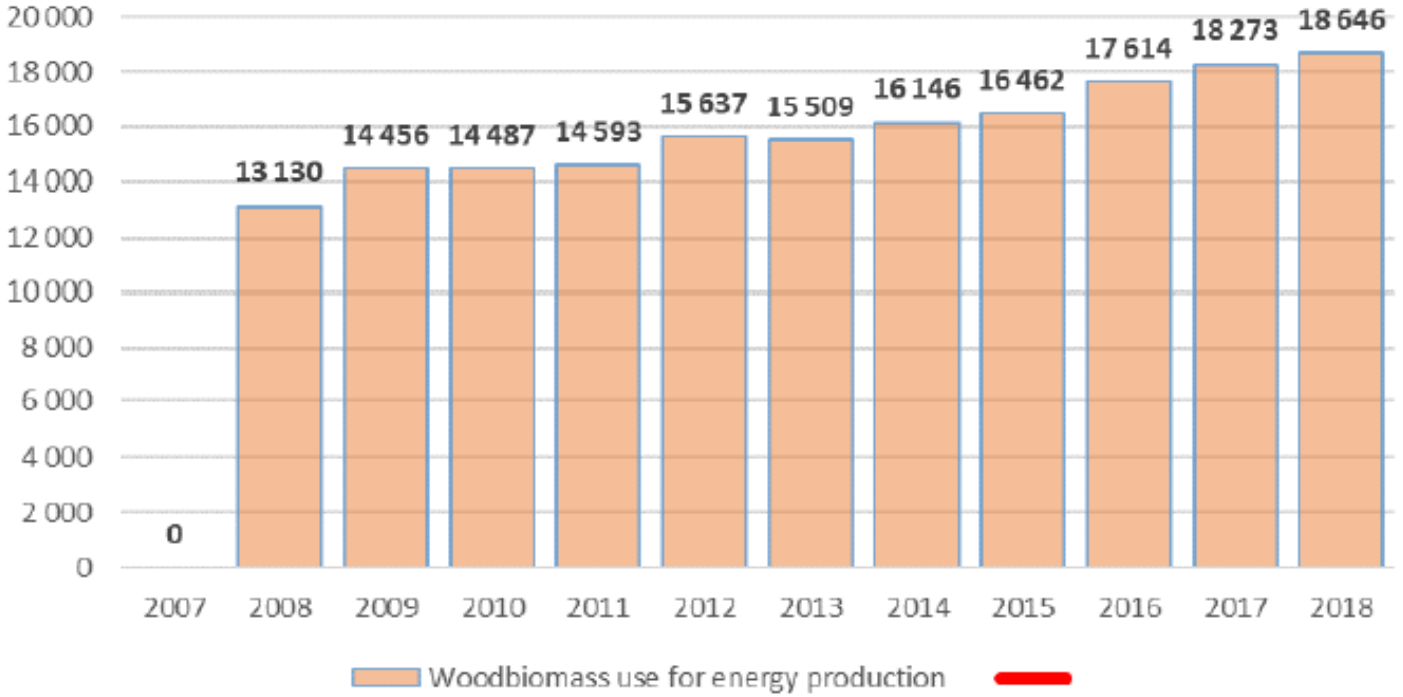
Wood chip consumption

Chart 4.17. Wood biomass consumption for energy production in Baltics, 2008-2018, 1000 m³.



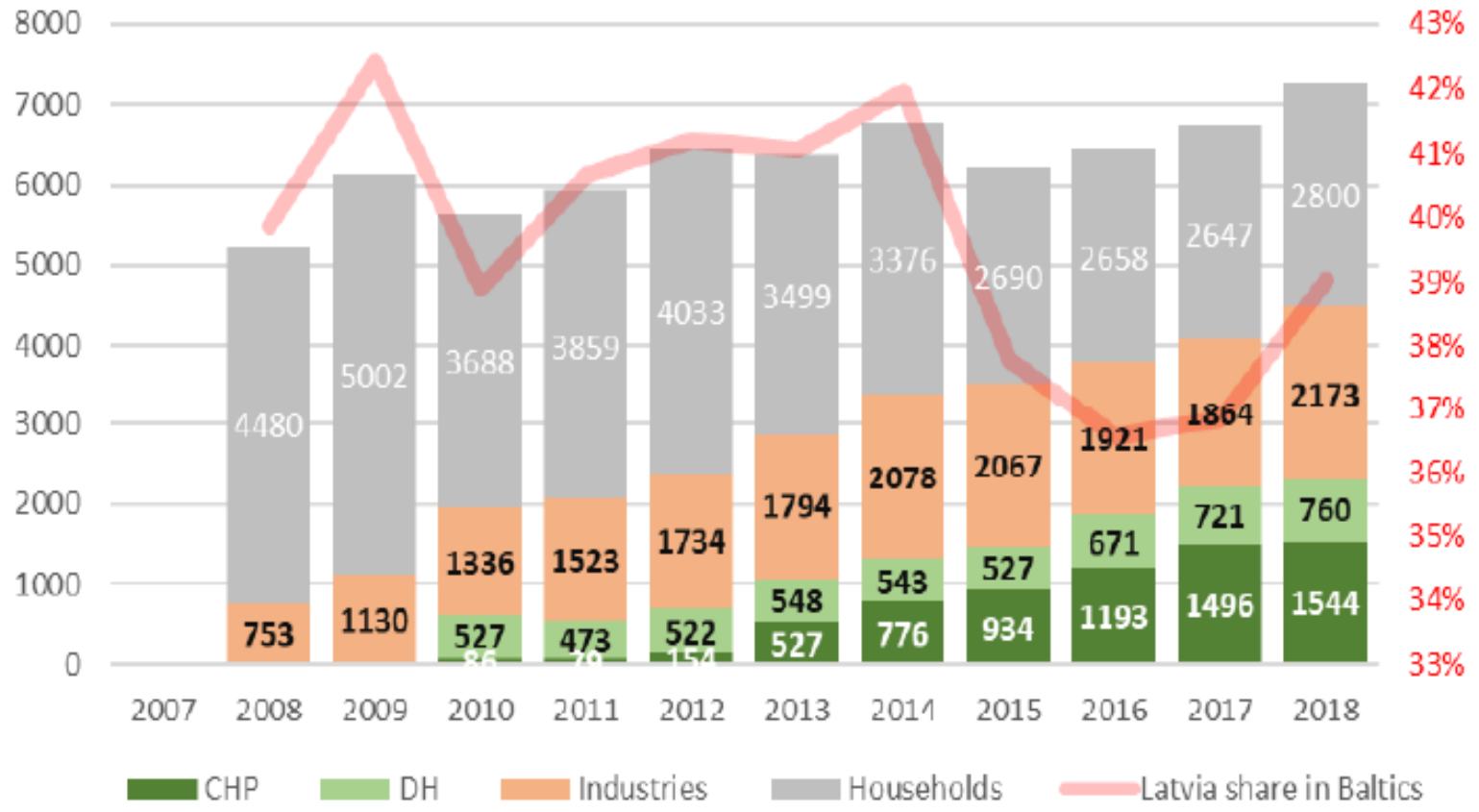
14 TWh

	Wood biomass consumption for energy production , 1000 m3			
	2008	2012	2017	2018
Baltic countries	**13 130**	**15 637**	**18 273**	**18 646**
Estonia	3 590	4 486	5 447	5 408
Latvia	5 233	6 443	6 729	7 276
Lithuania	4 307	4 708	6 097	5 962

Source: MEKA http://e-koks.lv/lv/

Consumption of wood biomass products

4.23.chart Consumption of wood biomass products in Latvian energy sector, 1000 m³.



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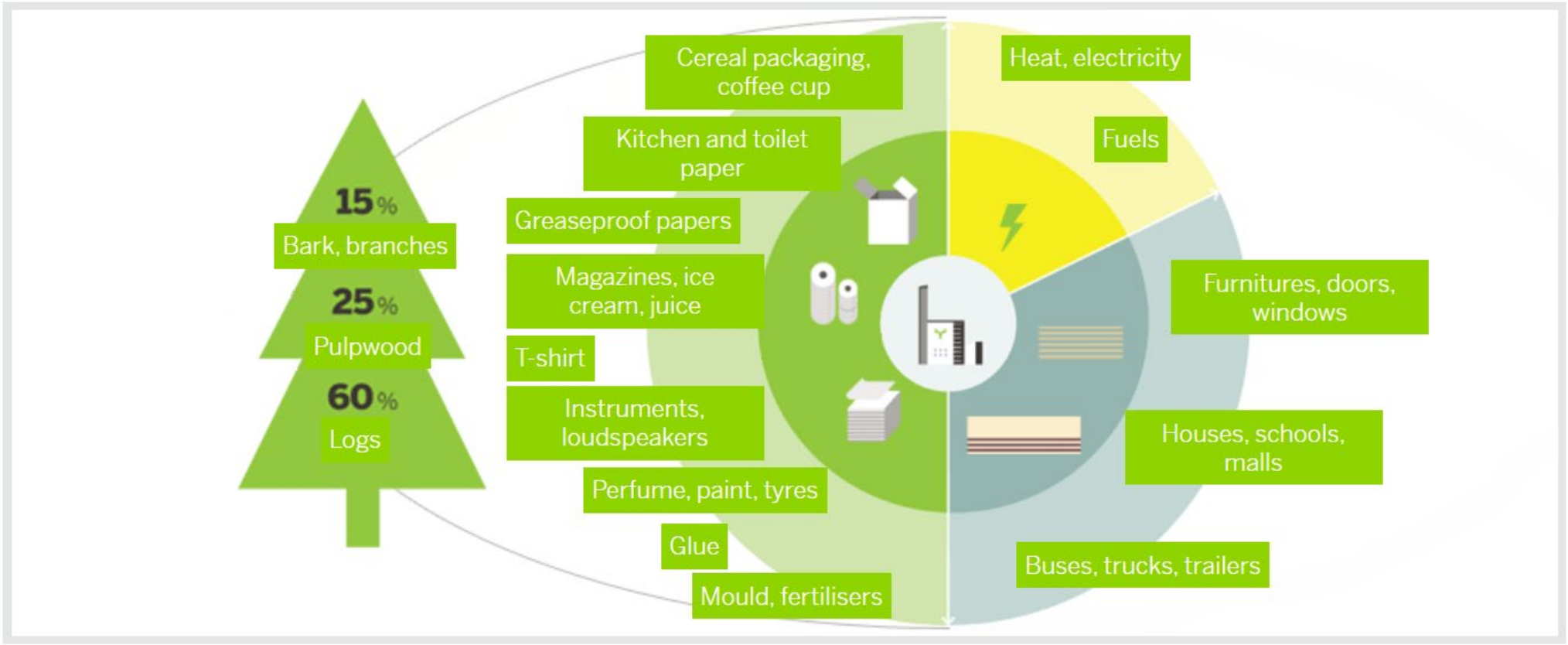
Biomass primary for high value bio products



Source: https://www.metsagroup.com/en/Sustainability/product-safety/bioproducts/Pages/default.aspx

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Thank you!

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