



Tartu Regiooni Energiaagentuur
Tartu Regional Energy Agency

Bioenergy in Estonia

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TREA

Tartu Regiooni Energiaagentuur



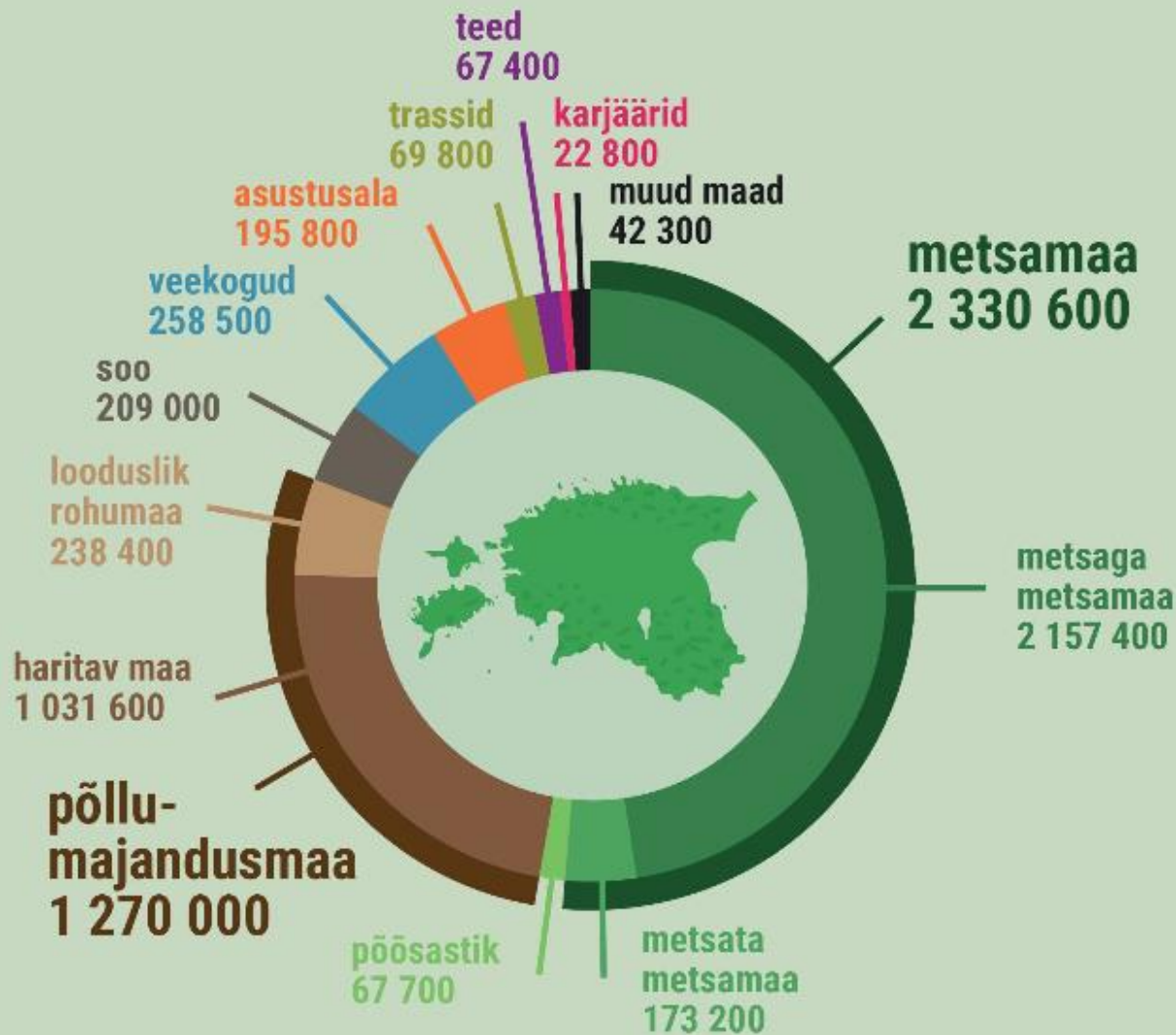
TREA acts as independent competence centre in the field of energy (and environment)

Clients:

energy end-users: LA, organizations, households,
small and medium size energy producers

TREA provides:

1. Consultations and advice
2. Energy Management at all levels: buildings, household, organizations, municipality



**51,4 % of
mainland is a
forest land**

**In total:
2 330 600 ha
covered with
forest:
2 157 400 ha**

Estonia is a forest country

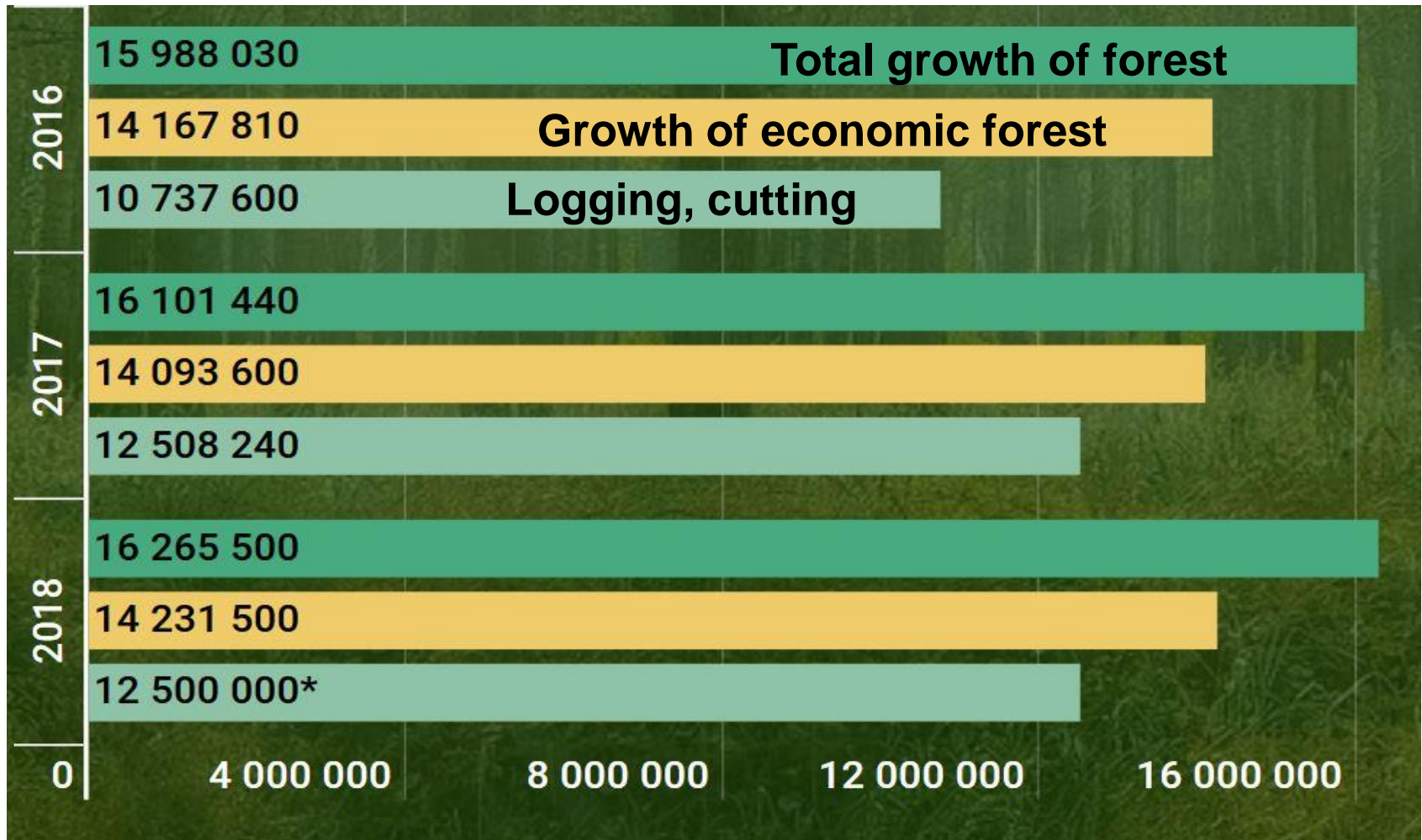
Estonia is a country rich in forest – over a half (~51%) of our land is covered with forest.

In Estonia, forest grows on approximately 2.2 mln hectares, of which approximately 75%, that is, **1.6 mln hectares** is manageable (economic) forest.

Most common tree species are **pine, birch and spruce.**

Forest management

Data in m3 (dense)



Biomass framework

New Forestry development plan

In 2018, the Government initiate of preparation of the Forestry Development Plan (RDP) for 2021-2030

Work will continue during 2019 through strategic environmental assessment (EIA) and discussions in working groups

The draft development plan is planned to be submitted to the parliament in May 2020

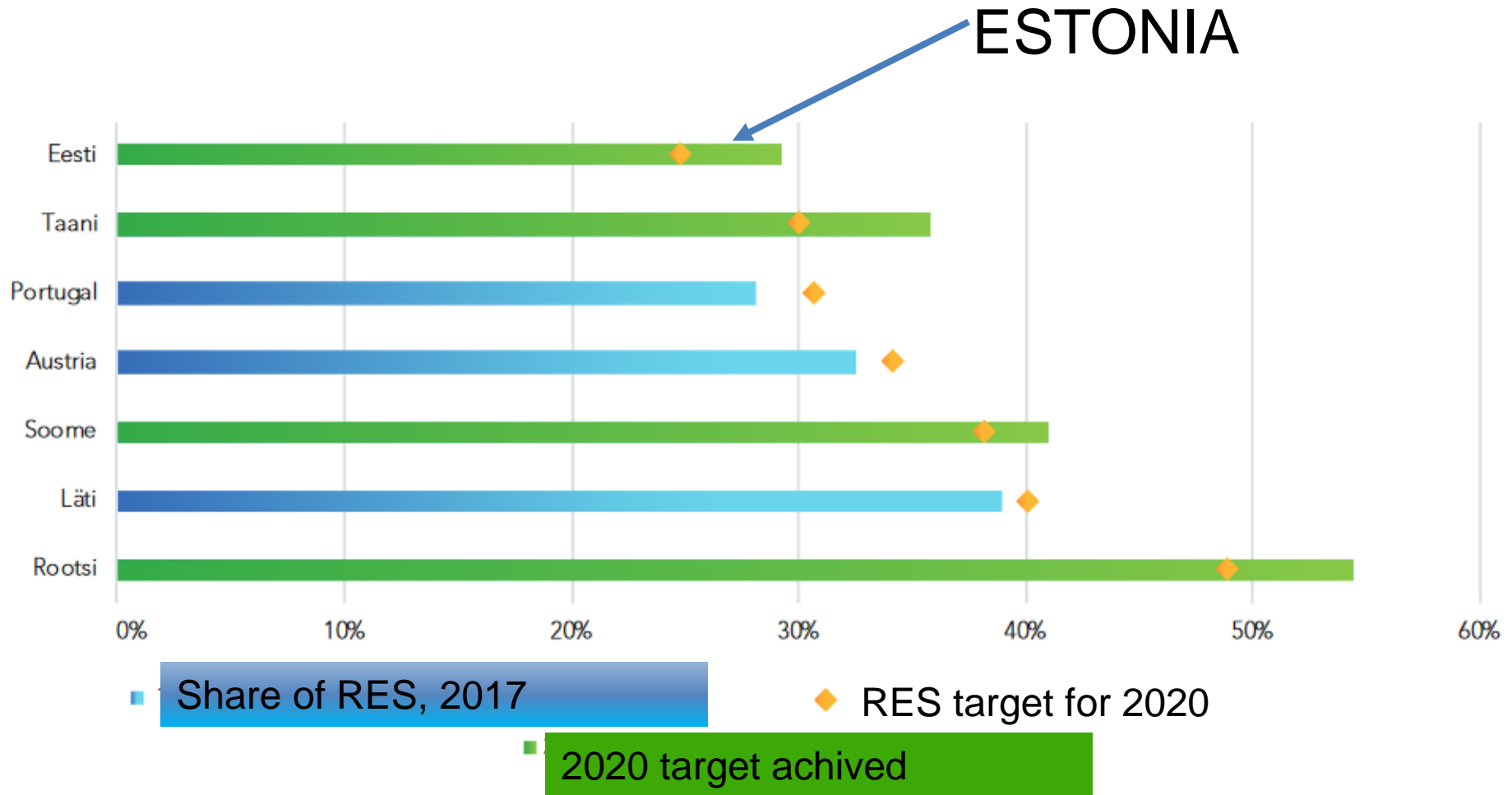
Biomass framework

National Energy and Climate Plan 2030 (REKK).

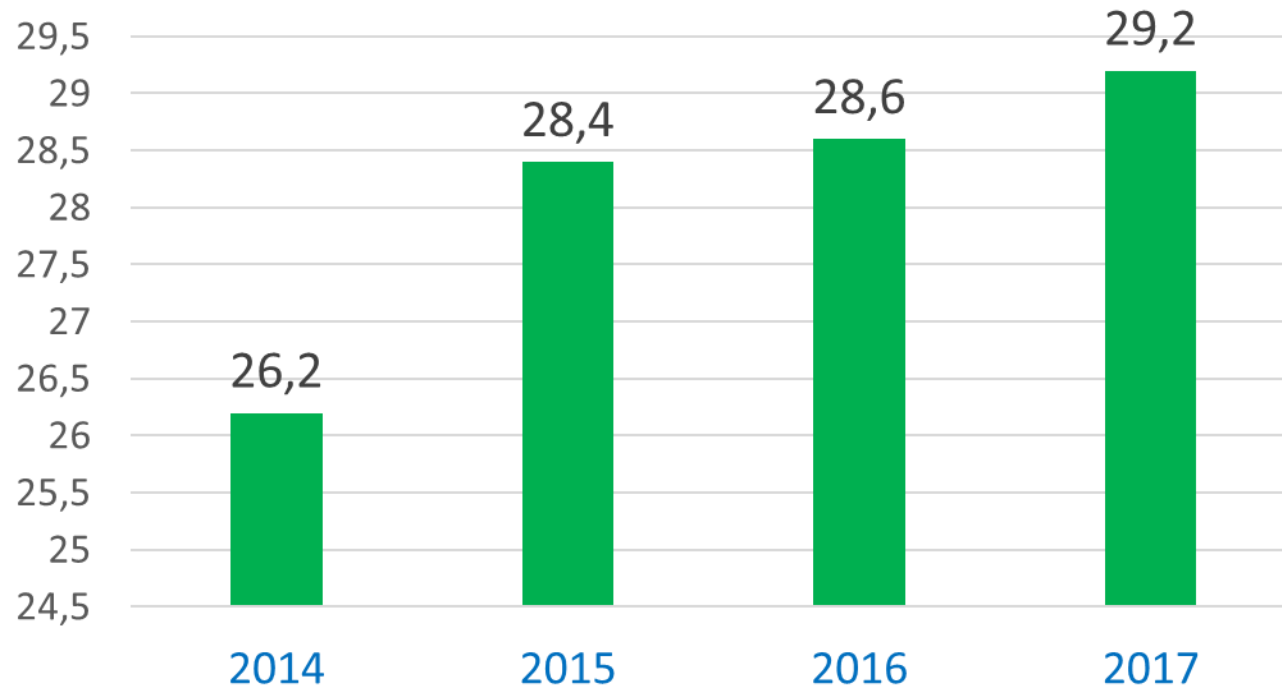
The REKK (NECP) is based on the **National Development Plan of the Energy Sector until 2030 (ENMAK)** (approved in 2017) and the **General Principles of Climate Policy until 2050**

By 2030, Estonia aims at **50% renewable electricity** share in final energy consumption, subsidy free renewable energy/electricity generation and **80% renewable energy share in heat** generation.

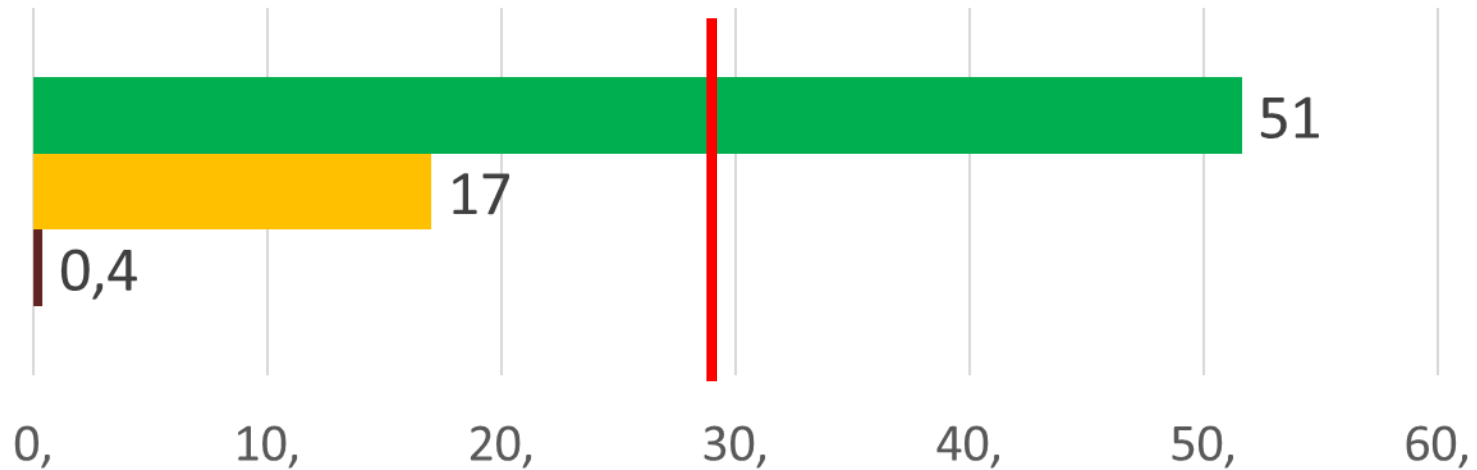
Renewable energy (RES) in Estonia



Share of renewables in energy final consumption, %



Share of renewables by sector 2017, %



- Renewable energy sources in heating and cooling
- Renewable energy sources in electricity
- Renewable energy sources in transport

Electricity from biomass, 2018

According to Elering's (TSO) data, a total of **1,665 GWh** of electricity was generated from renewable sources in **2018**, representing **17.1 percent** of Estonia's total electricity consumption.

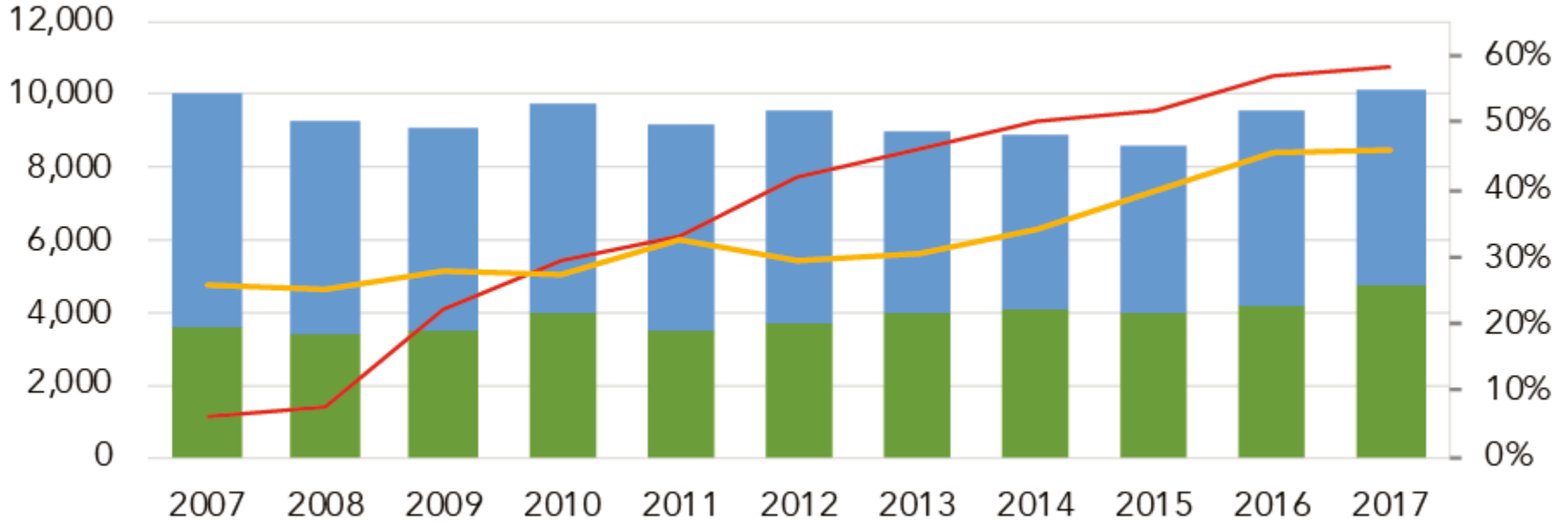
1006 GWh, or 60% of renewable electricity, was generated from **biomass and waste**

Electricity from RES

According to Elering's data, a total of 1,665 GWh of electricity was generated from renewable sources in 2018, representing 17.1 percent of Estonia's total electricity consumption.

1006 GWh, or more than half of renewable electricity, was generated from biomass and waste

Heat from biomass, GWh



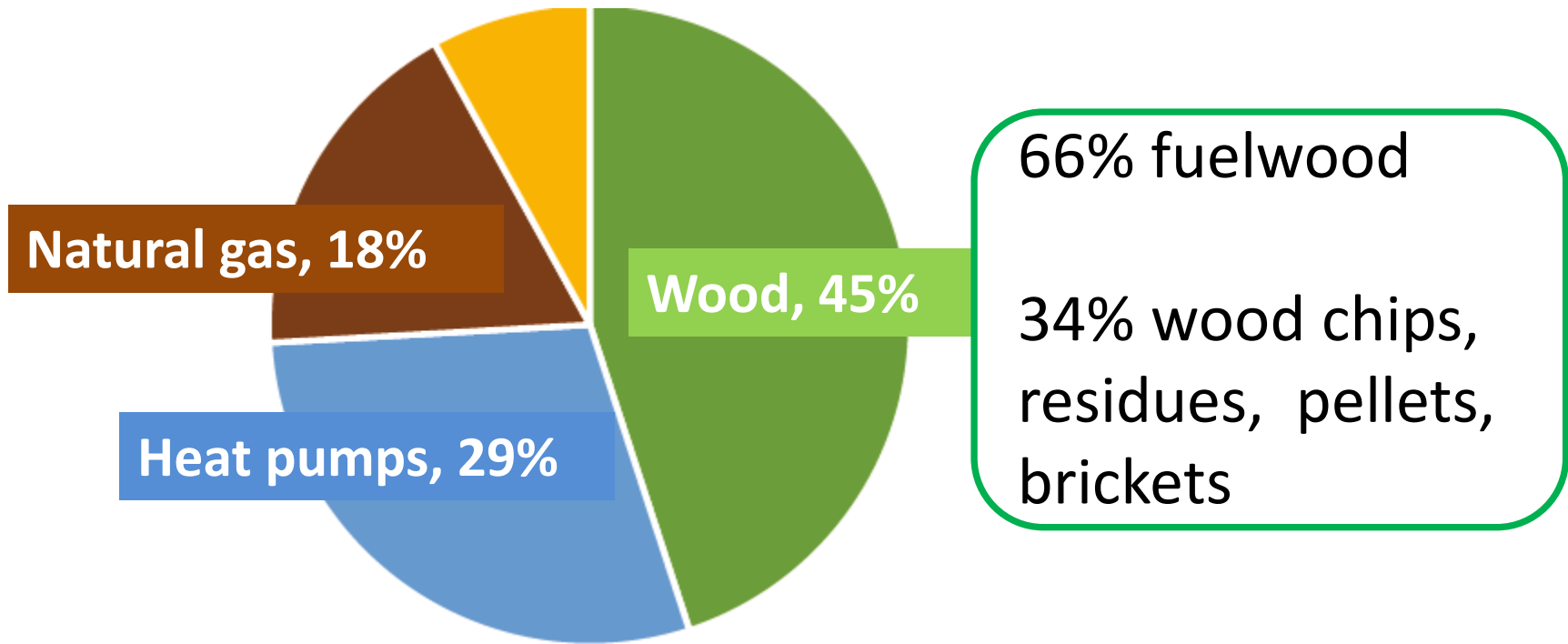
Heat produced by CHP

Share of biomass in CHP

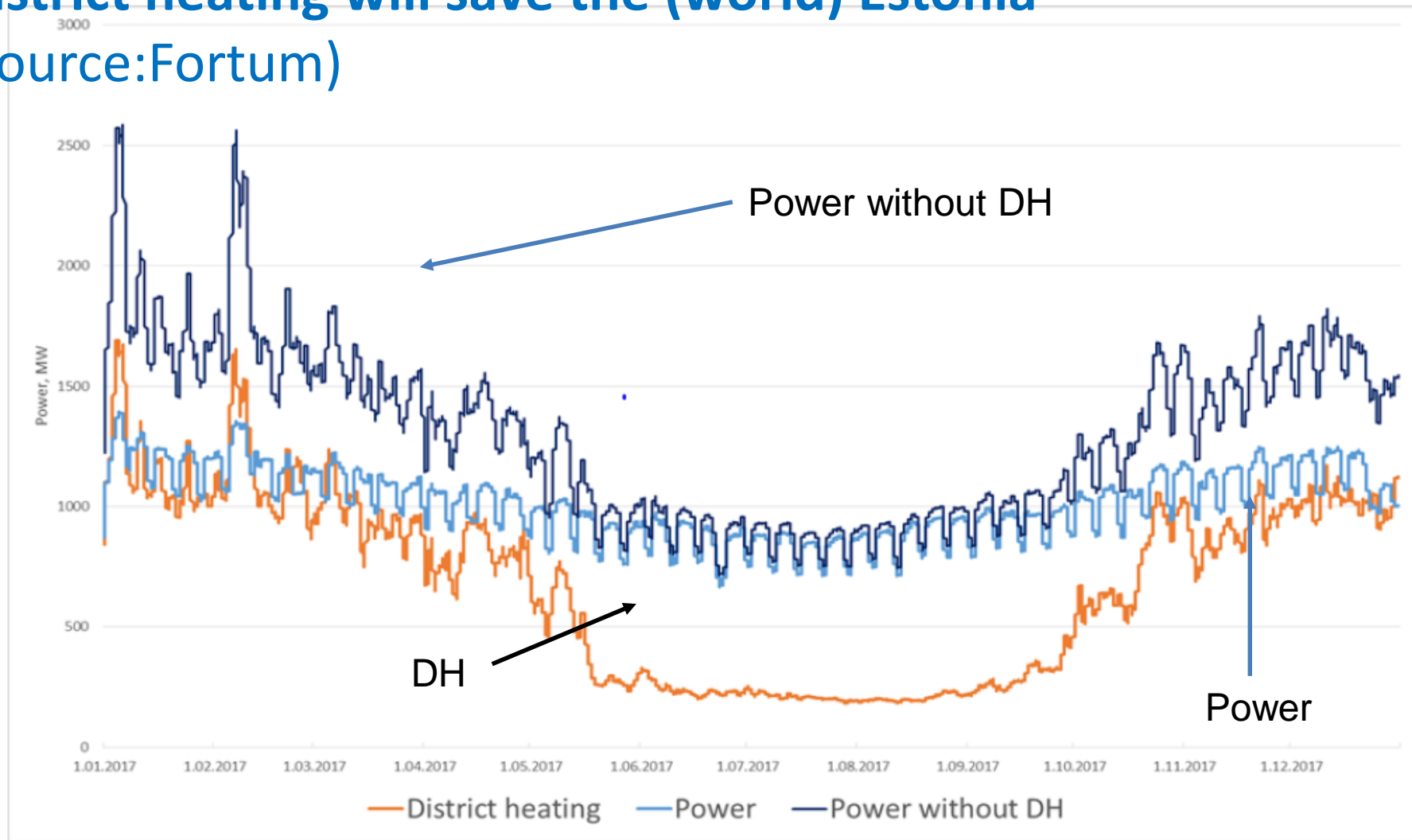
Heat produced by boilerplants

Share of biomass in boilers

Heat from biomass in local heating

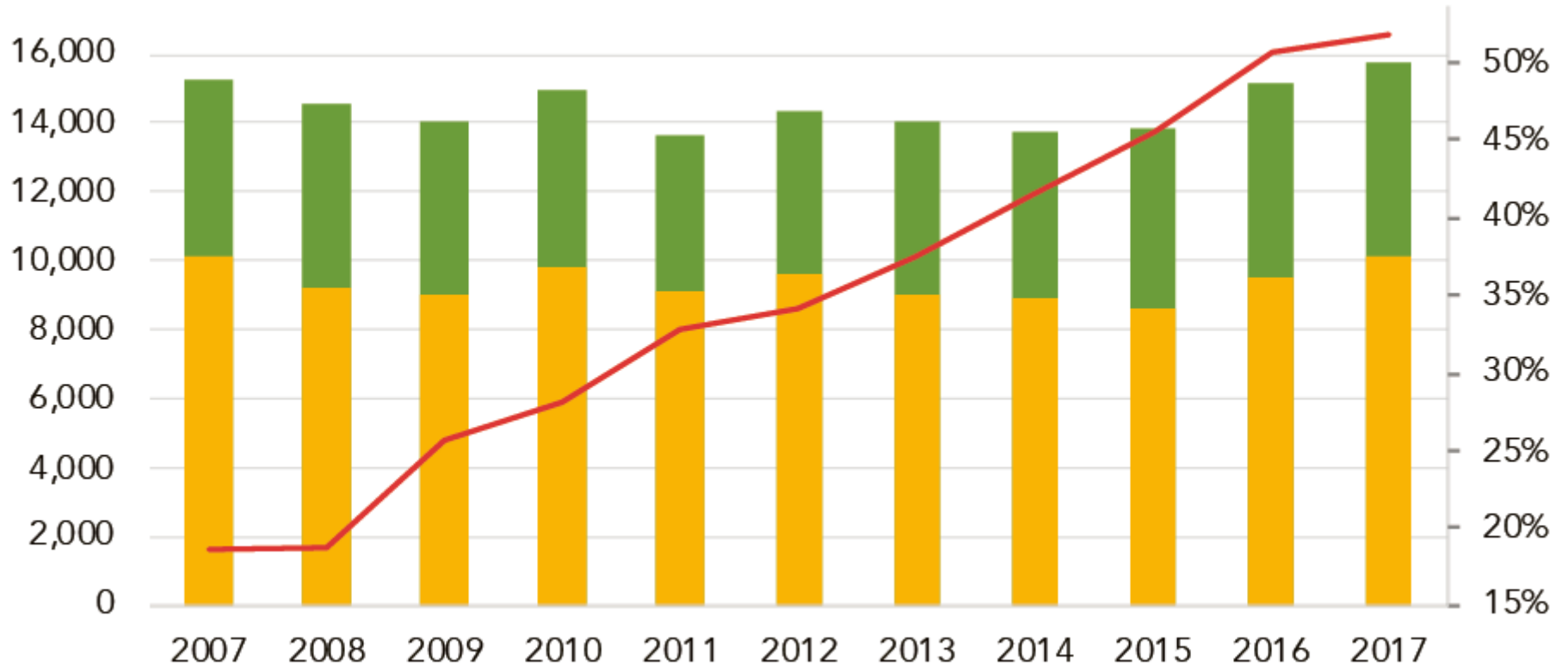


District heating will save the (world) Estonia (source:Fortum)



1000 MW additional capacity needed for heatpumps
650 MEUR investment to gasturbines

Biomass in district heating



Heat production, in total, GWh

Heat production in DH, GWh

Share of biomass in heat production in DH, GWh

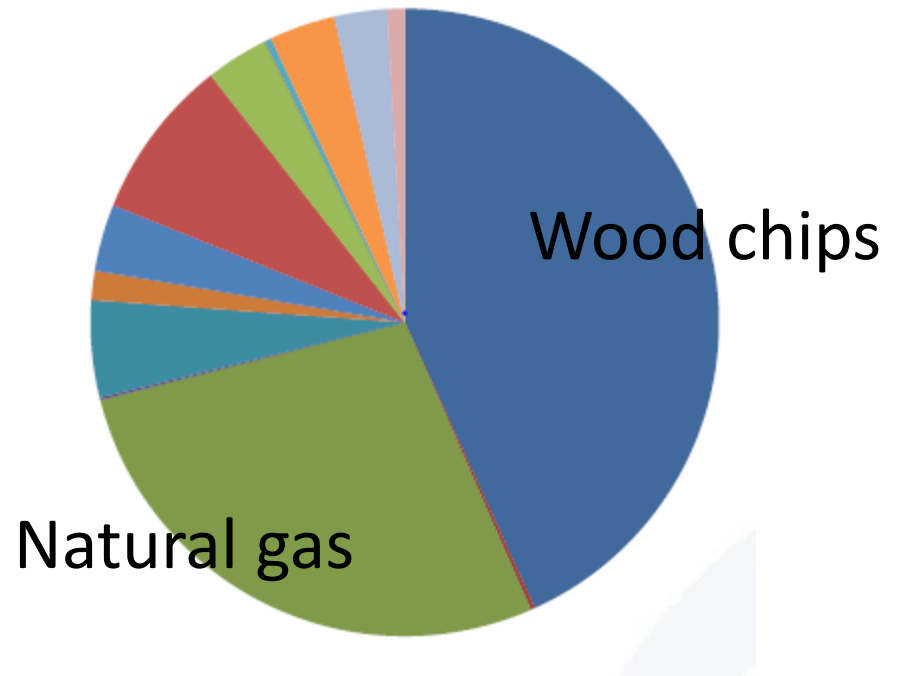
Biomass in district heating

Total heat produced in DH
5,07 TWh

From renewables
2,33 TWh (46,2%)

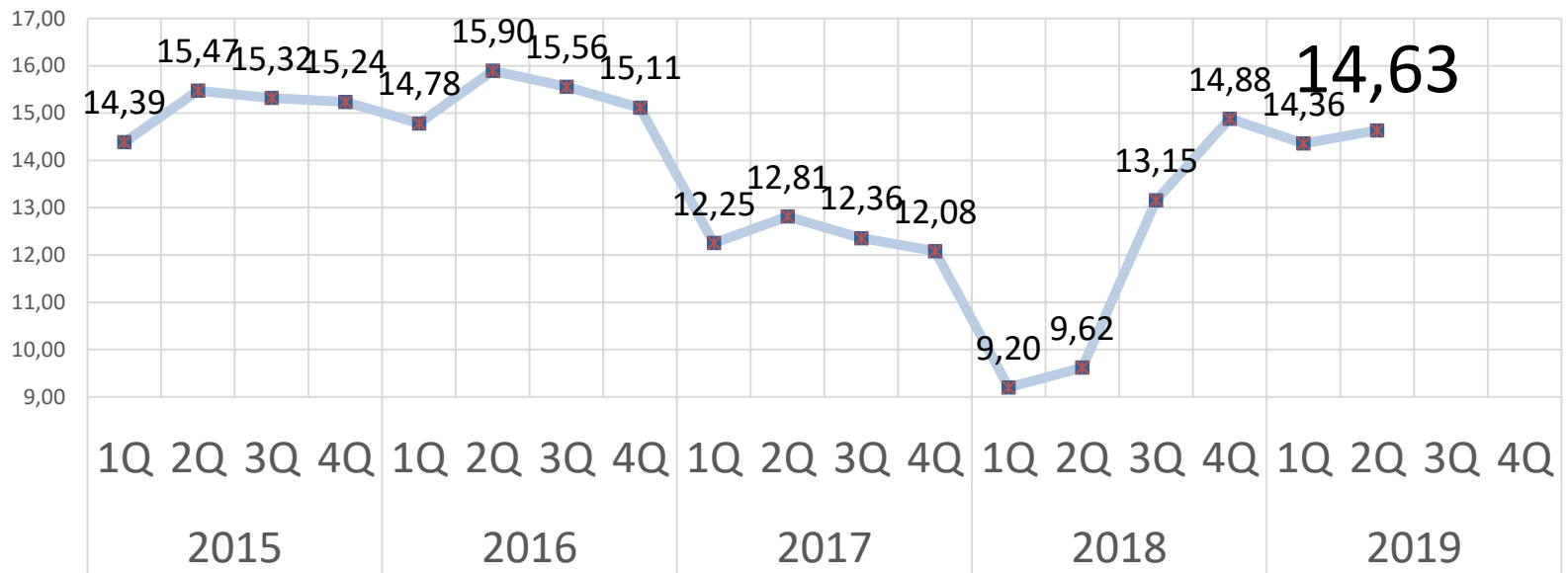
Natural gas
1,39 TWh (27,6%)

Peat
0,25 TWh



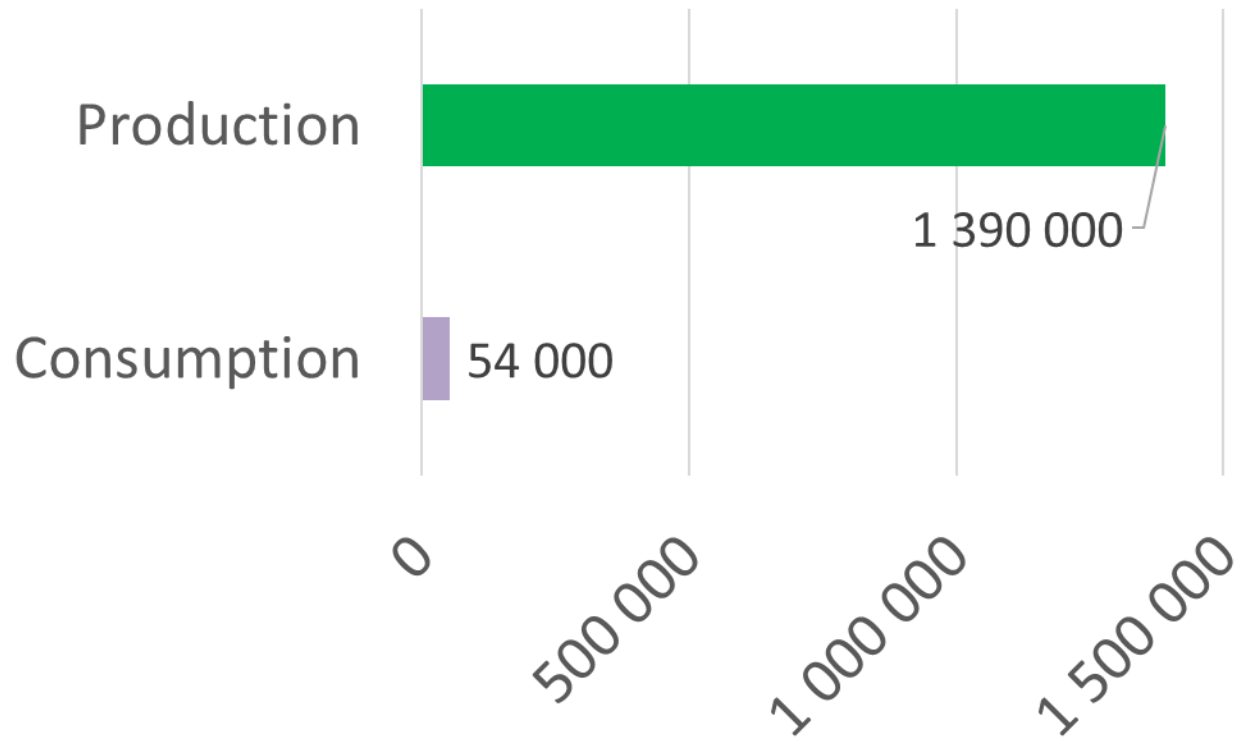
Wood chips

Dynamics of wood chips price, EUR/MWh

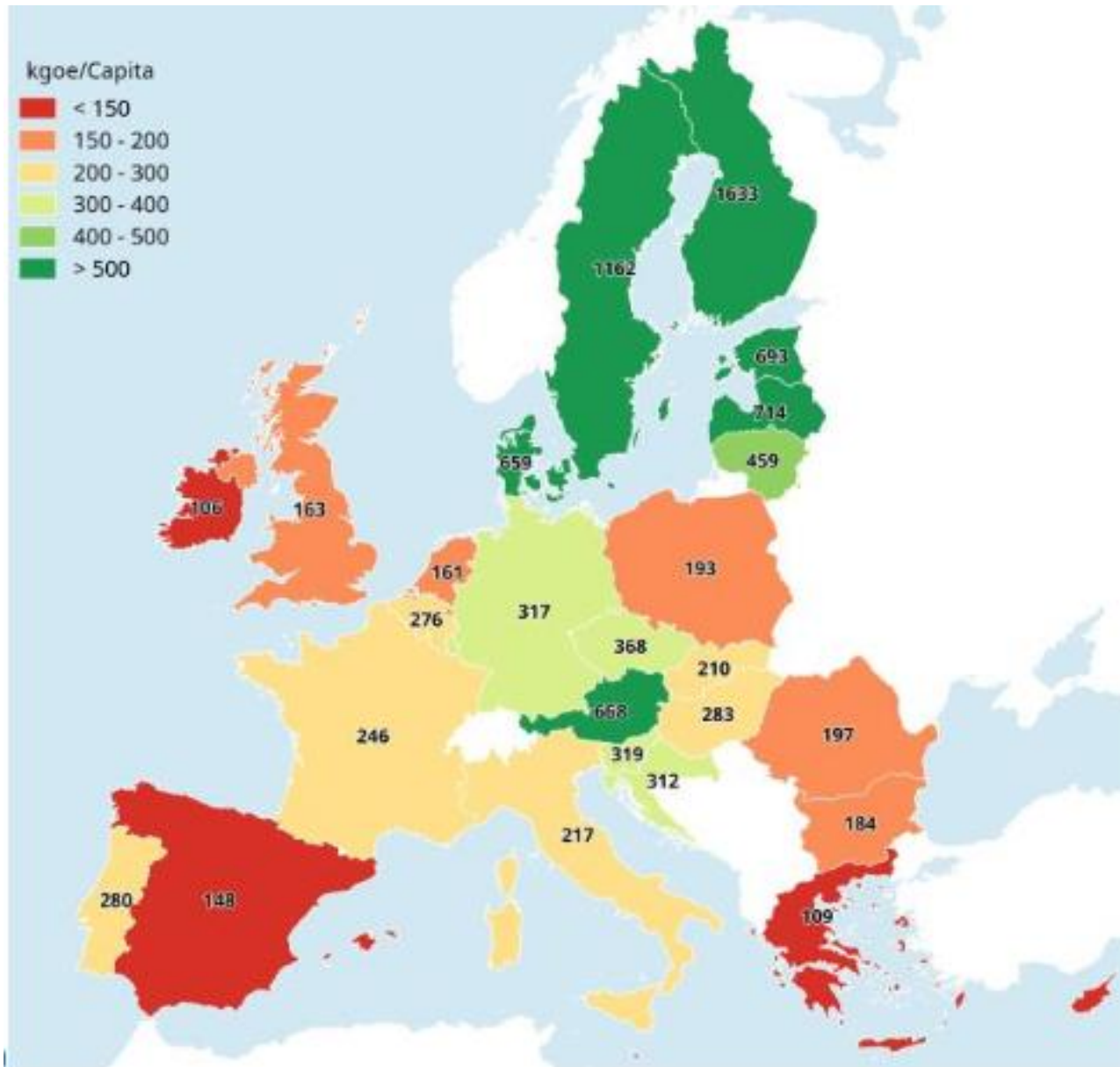


Pellets

Pellet production and consumption in Estonia 2017
(in tonnes)



Gross inland Bioenergy consumption in EU (kgoe/per capita)



TREA

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Thank you for your attention!

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