

Roundwood Markets In The Baltic Sea Region –seminar

# Fortum Biomass use

Kasper Karhapää / 14.09.2017

# This is Fortum

**“The world is changing, energy is changing. Our role is to make the energy transformation sustainable, with solutions optimal for different markets and regions. This will help us to stay competitive.”**

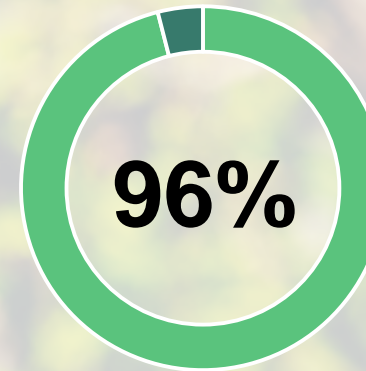
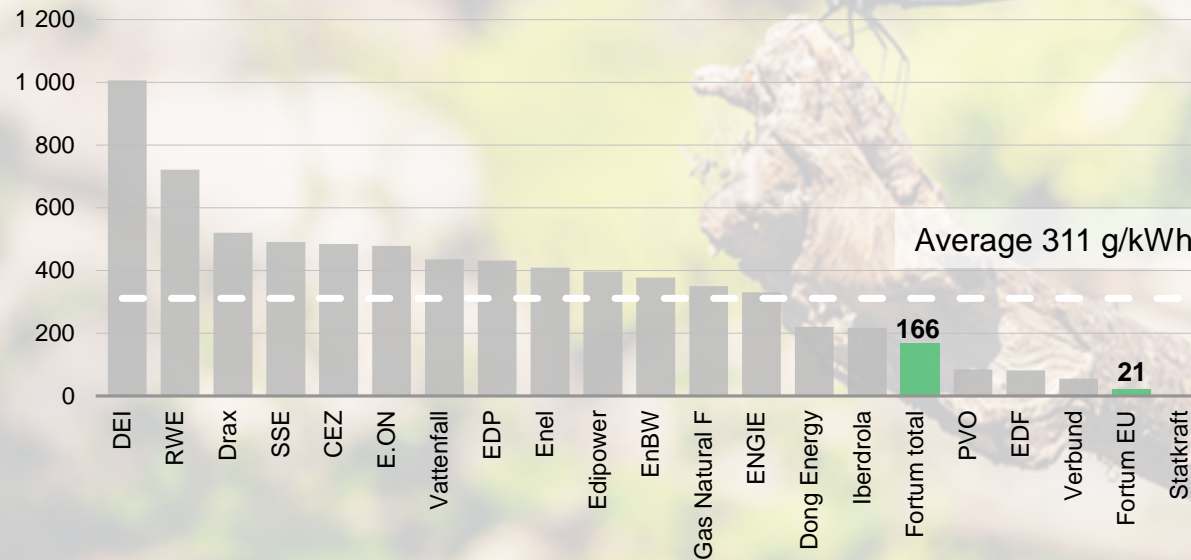
CEO Pekka Lundmark

# Our carbon exposure is among the lowest in Europe

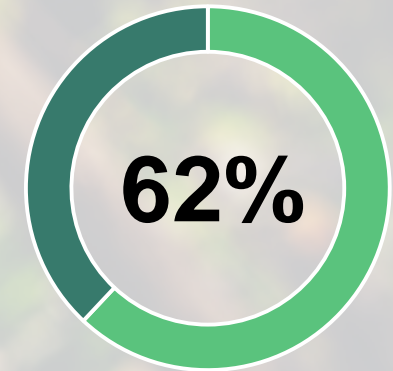
Fortum's specific emissions of the power generation in the EU in 2016 were 28 g/kWh and in total 173 g/kWh

Share of CO<sub>2</sub>-free power in Fortum's generation in 2016

g CO<sub>2</sub>/kWh electricity, 2015



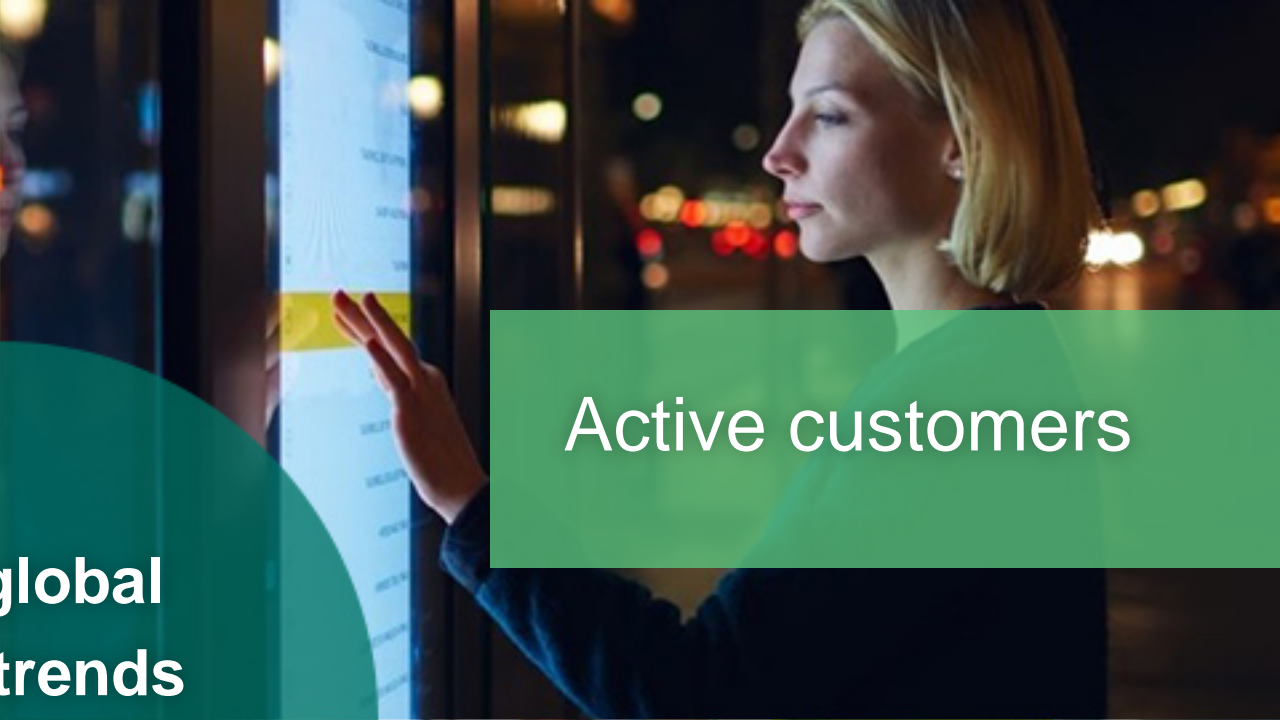
Fortum in the EU



Fortum total



Climate change and resource efficiency



Active customers



Urbanisation

The global megatrends affecting our industry

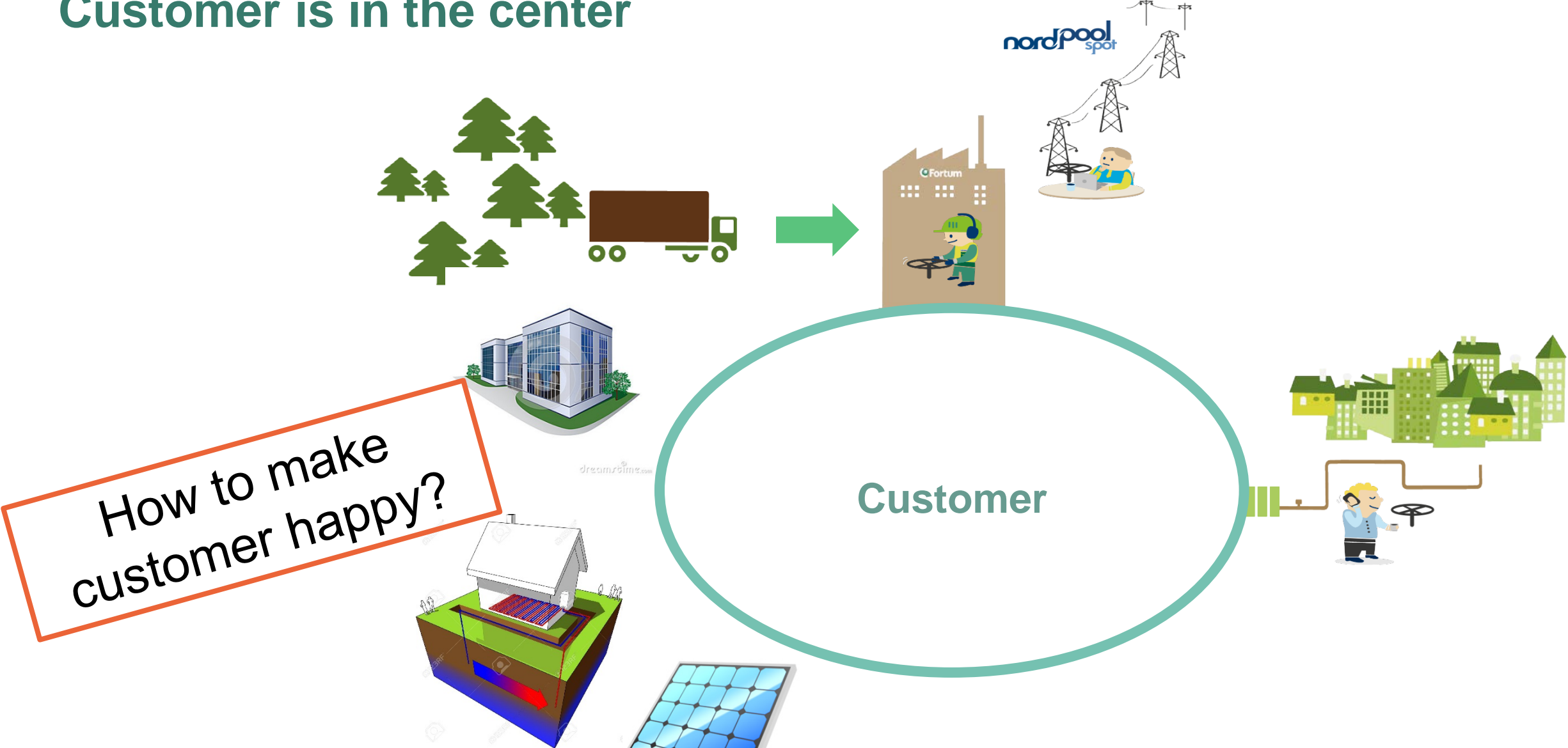


Digitalisation, new technologies

A close-up photograph of a sandy beach with a series of footprints leading from the bottom left towards the top left. The text is overlaid on the right side of the image.

# **Biomass in City Solutions -division**

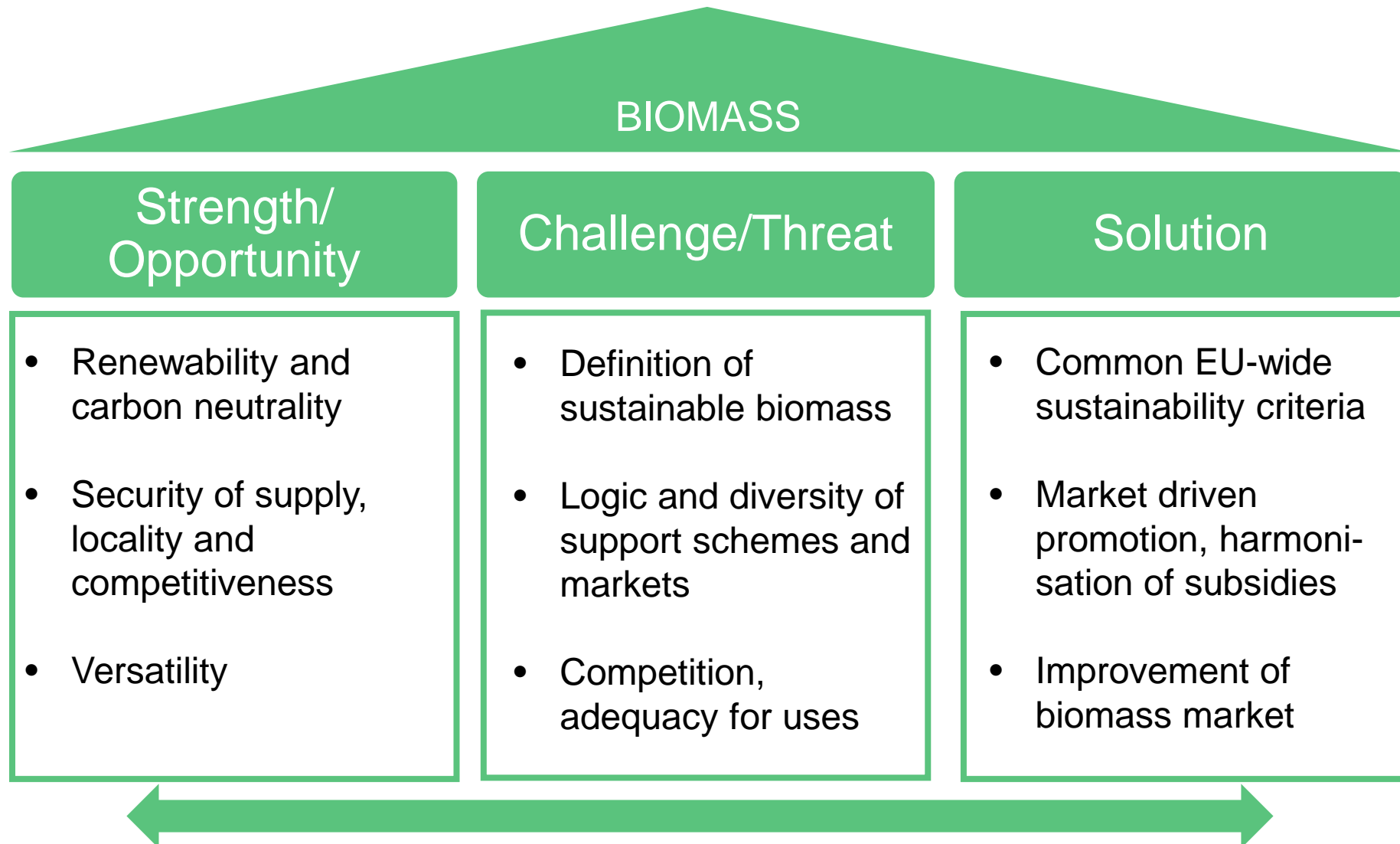
# Customer is in the center



*In Fortum's view, bioenergy plays an important role in the energy transition and especially as a local energy source for heat and CHP production.*

- What is essential?*

# Threats and opportunities of biomass as fuel and raw material

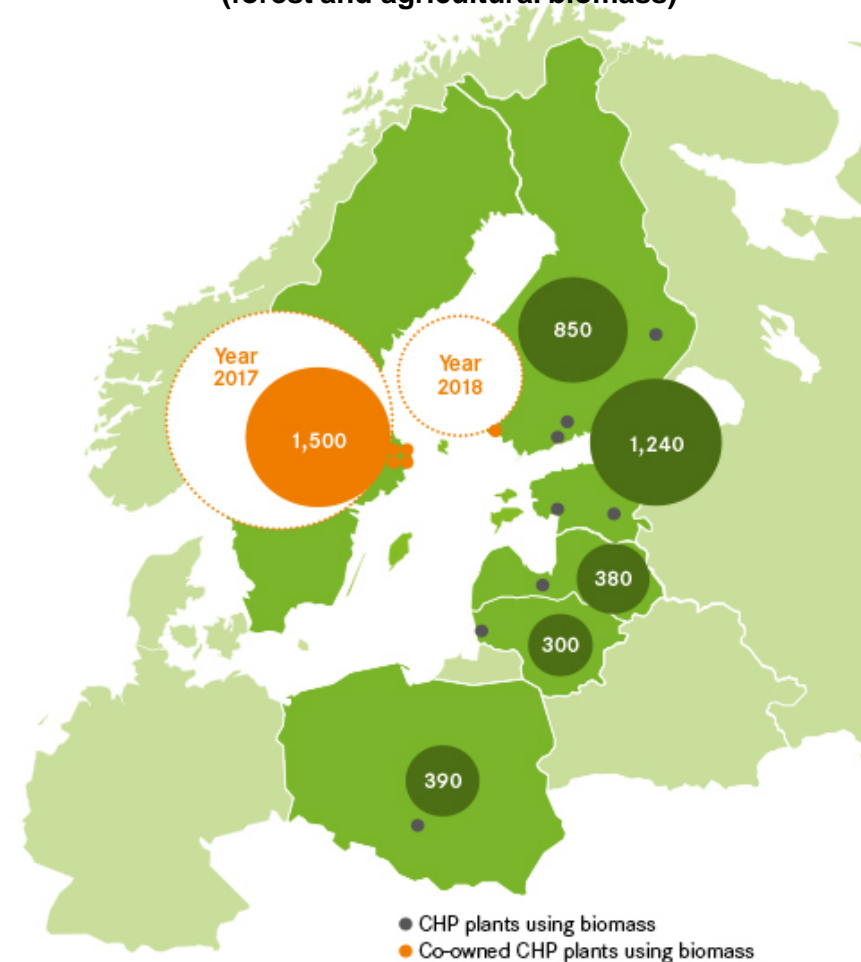




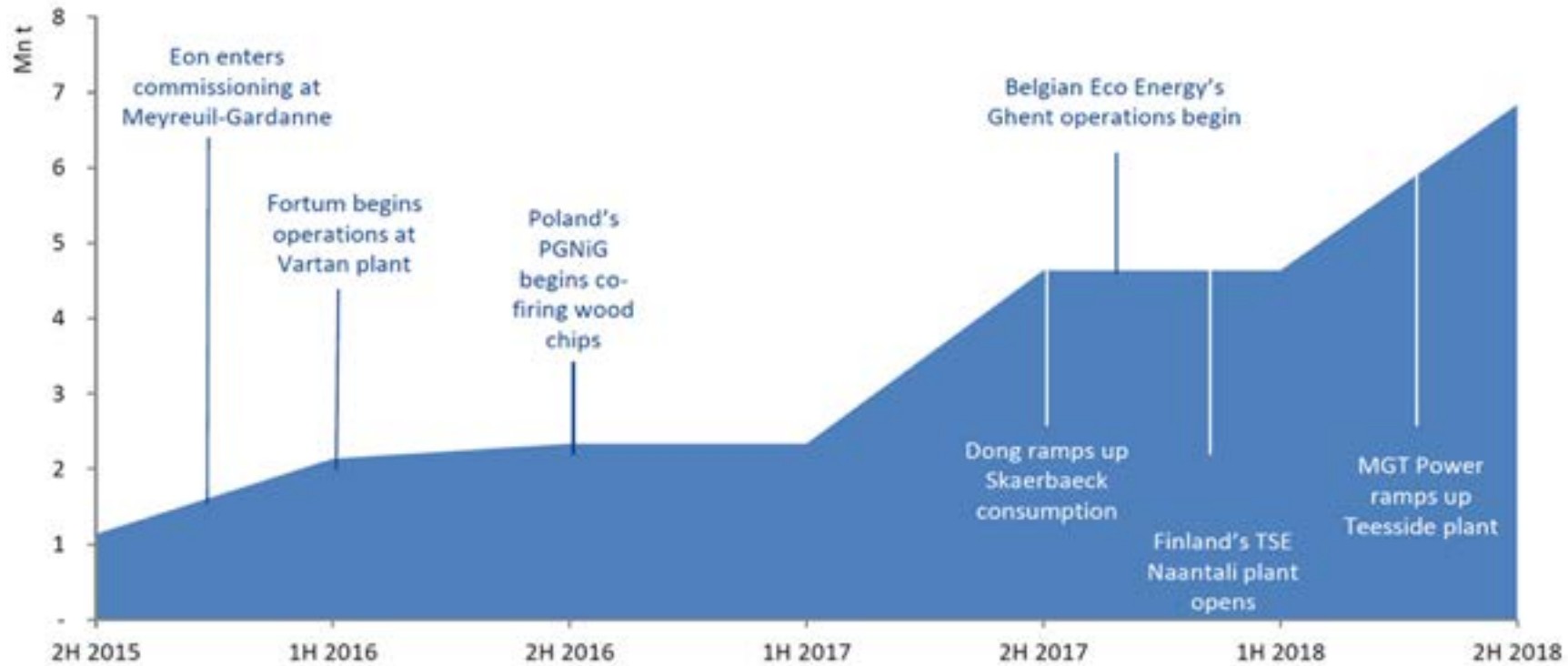
# Fortum – a major user of biomass

- Annual use 5.1 TWh (2.6 million m<sup>3</sup>), expected increase 50% during the next two years
- The share of biomass ¼ in our fuel use in heat production in the EU
- The share of forest biomass 80%, wood chips account for 84% of forest biomass
- Purchasing area: Nordic countries, Baltic countries, Poland, Russia, Belorussia
- Certification systems of biomass fuel chain (Stockholm, Joensuu)
  - In 2016, we will strengthen and standardize the agreement requirements related to the origin of wood-based biofuel, and we aim to set a target for the use of wood-based biofuel from certified sources.

Use of biomass (TWh) in 2015  
(forest and agricultural biomass)



## Increase in use of wood based fuels in 2015 - 2018



Industrial wood chip market poised for exponential growth (over 6mn t/yr by 2018)

Traditional supply bases will expand, buyers will look to the wider Atlantic basin

Major projects still under consideration (Dong - 142MW Asnaes, 371MW Esberg, Hofer - 583MW Amager, Antwerp Biopower - 150MW Antwerp)

# Where biomass for increased use is located?



# Biomass has to be sustainably produced

## Fortum's views:

- Common and binding criteria targeting the origin of biomass regardless of its end use.
- Key aspects of the criteria:
  - Greenhouse gas reduction
  - Resource efficiency
  - Biomass not originating from no-go areas
  - Biomass production in line with sustainable forest management practices
- Target should be global sustainability criteria, but at least EU wide, mutually recognised principles.
- Proving sustainability based e.g. on national or regional risk assessment or voluntary sustainability system.
- Utilisation of existing legislation, e.g. sustainable forest management.
- Scope of the sustainability criteria: energy production plants  $>20 \text{ MW}_{\text{th}}$ .

