



## Activities of the ETIP RHC and its Biomass Technology Panel concerning research and innovation prioritisation

Workshop on “Paving the way towards clean energy and fuels in Europe”

Lisbon, 29.05.2019



**Dominik Rutz**, ETIP RHC Chair TP Biomass



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- **Support to the definition of a *stable and favourable research policy framework* for the development of renewable heating and cooling technologies at EU level**
- **Increasing the *visibility* and role of the sector**
- **Developing a *financing strategy* for research in the sector**
- **Facilitating the development of *strategic projects* in the sector**

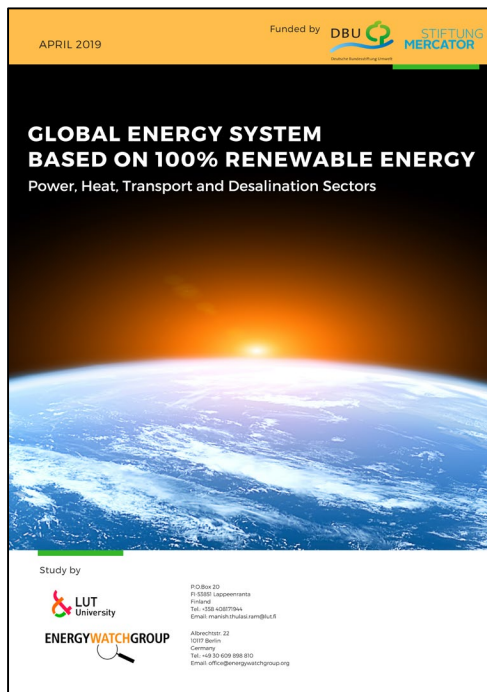


- **Contract to support the activities of RHC-ETIP: December 2018- November 2021**
- **Six associations representing renewable heating and cooling technologies and enabling ones**



- **1 strategic Horizontal Working Group, which will produce the RHC-Vision by end of the year**
- **5 Technology Panels**
- **4 technical Horizontal Working Groups**

We are currently elaborating a  
*Vision* for **100%** renewable heating and cooling  
by 2050



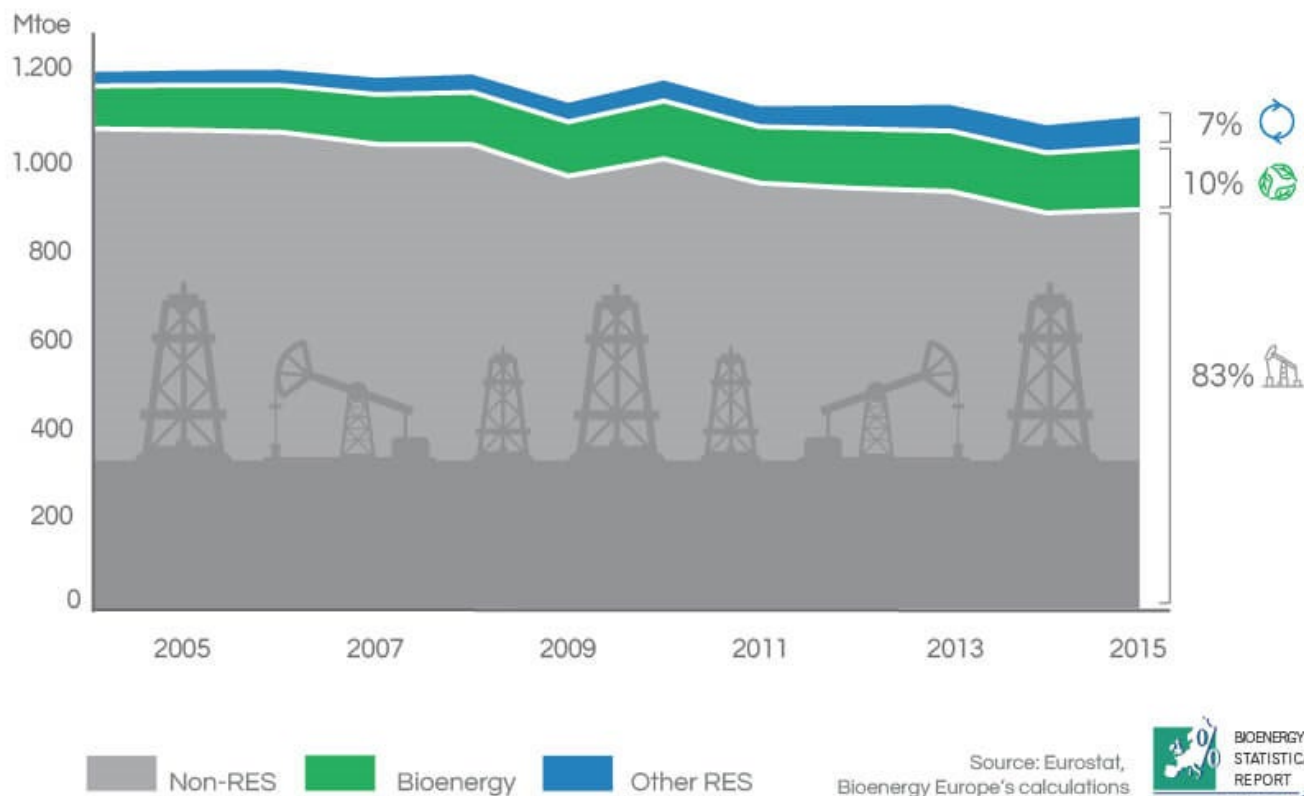
“A full energy transition to 100% renewable energy is not only feasible, but also **cheaper** than the current global energy system.”

“A transition to a global 100% renewable energy system is no longer a matter of technical feasibility or economic viability, but one of **political will**.”

Ram M., Bogdanov D., Aghahosseini A., Gulagi A., Oyewo A.S., Child M., Caldera U., Sadovskaia K., Farfan J., Barbosa LSNS., Fasihi M., Khalili S., Dalheimer B., Gruber G., Traber T., De Caluwe F., Fell H.-J., Breyer C. Global Energy System based on 100% Renewable Energy –Power, Heat, Transport and Desalination Sectors. Study by Lappeenranta University of Technology and Energy Watch Group, Lappeenranta, Berlin, March 2019

- ***Updated Vision for the RHC sector to 2050 (October 2019)***
- ***Updated research and innovation priorities for the RHC sector (October 2020)***
- ***Enlargement of the RHC-ETIP to complementary sectors, and experts involved in promoting the renewable heating and cooling sector***
- ***Set up of an online database on projects' results for the RHC-sector***
- ***Organisation of three annual conferences***

## EU-28 gross final energy consumption over a decade (From 2004 to 2015, Mtoe, %)

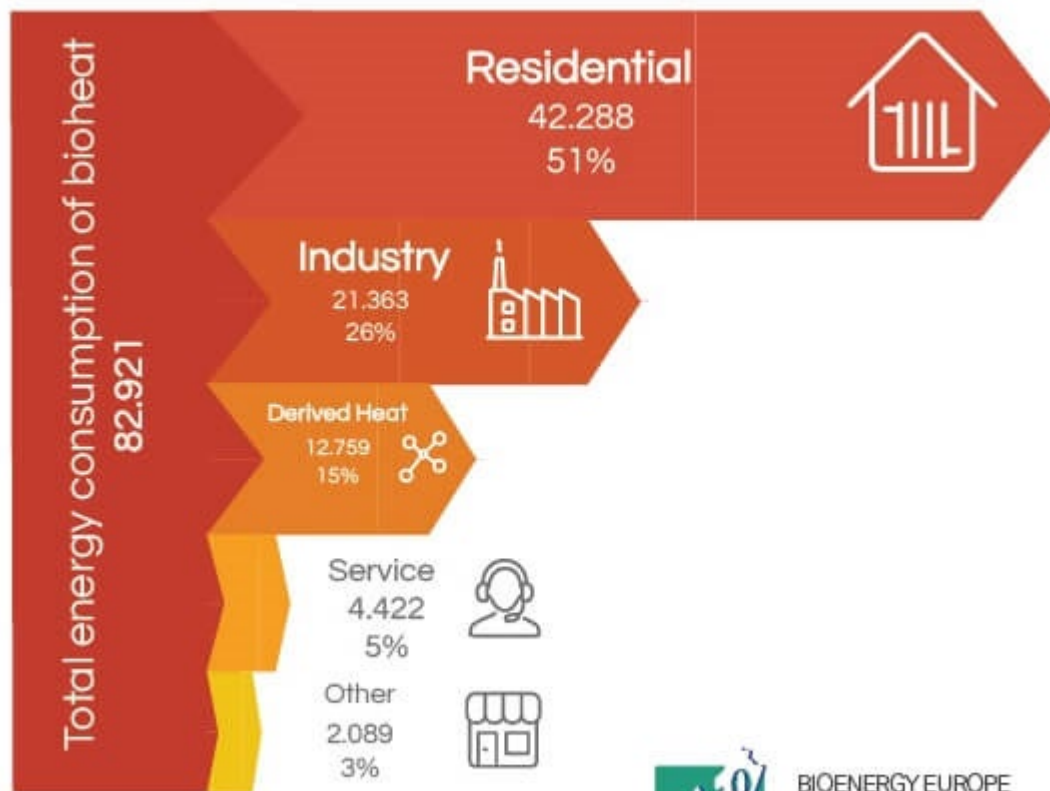




Every year, almost **50%** of the total energy consumed in Europe is used for the generation of heat for either domestic or industrial purposes.



## EU-28 gross final energy consumption of bioheat (in 2015, ktoe, %)



Source: Eurostat, Bioenergy Europe's calculations

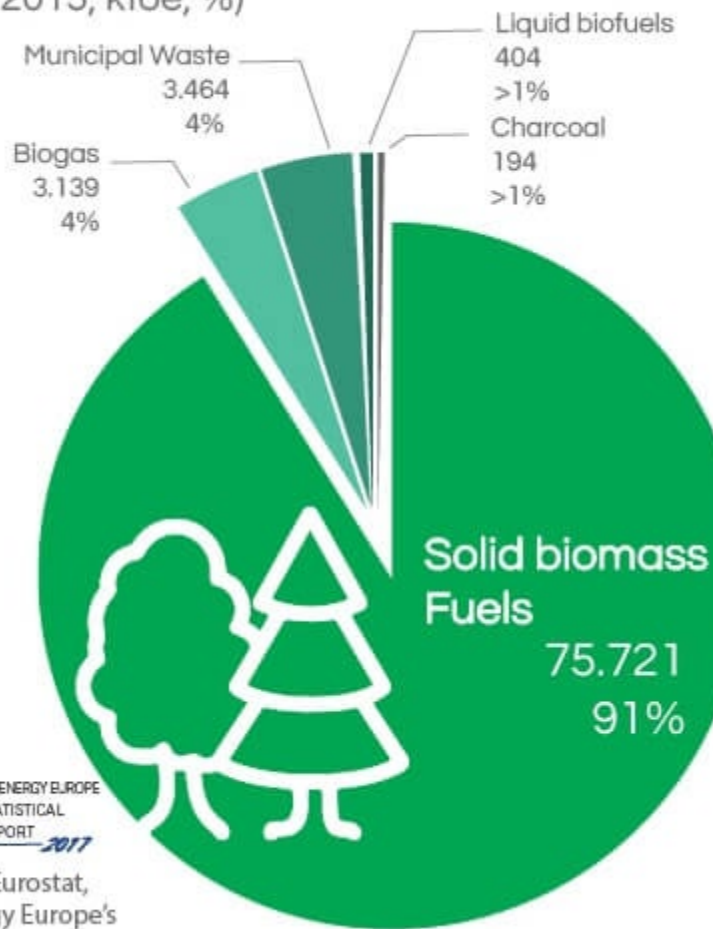


BIOENERGY EUROPE  
STATISTICAL  
REPORT  
*2017*



### Types of biomass used in EU-28 for bioheat

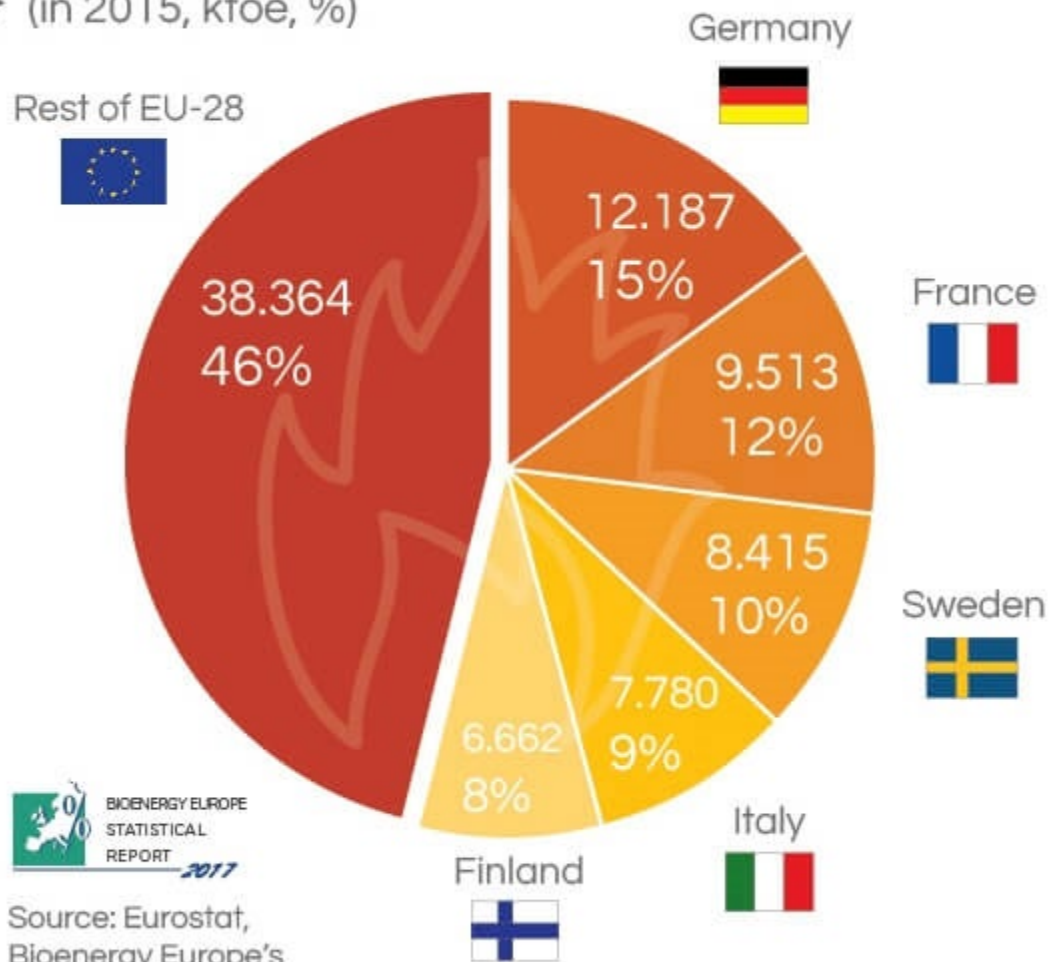
(in 2015, ktoe, %)



Source: Eurostat, Bioenergy Europe's calculations



## TOP 5 EU-28 countries in bioheat consumption (in 2015, ktoe, %)



Source: Eurostat,  
Bioenergy Europe's  
calculations

# Key (research) priorities

**With the main objective to:**

- **Apply 100% RE**
- **Reduce biomass wherever possible,  
as biomass is limited due to land use competition**

- Mainly solid biomass systems
- **Combinations** of biomass with other RE and storages
- Research on **micro CHP** systems
- Reduction of **emissions**
- **Replacement** of old and inefficient boilers with new biomass boilers
- **Cost reductions** are limited, but whole life cycle cost must be considered
- **Fossil fuel systems are still incentivised, which needs to be stopped!**
- **Consumer behaviour**
- Training and motivation of **middlemen**
- **Individual cooling:** mainly conventional AC as PV is getting cheaper

- **Upgrading** of old DH systems: biomass integration, efficiency increase
- **Combinations** of biomass with different RE for DHC
- **Coupling** of DHC with the power sector (through heat pumps): „power-to-heat“
- **Switch from centralized heat generation** to decentralized
- **Extending DHC**
- Implementation of **district cooling** where it is suitable

- Biomass energy is **urgently necessary** for various industries
- **Retrofitting** of existing industries: **integration** of biomass in processes
- Very **sector-specific** solutions
- **Energy types of industries**: conventional heating, steam, high temperatures, fire, cold



## Main future focus

- **Agro-processing**
- **Food industry**
- **Chemicals, Bio-polimers and other products**
- **Pulp & paper**
- **Construction business**
- **Vehicle/ship/aircraft manufacturing**
- **Raw material mining (other than fossil fuels)**

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→ *This is needed in the future, thus it needs to be supported*

Main future focus	„Dying“ industries
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→ *This is needed in the future, thus it **needs to be supported***

→ *Should these industries, which weill be „dying“ in the long-term, be supported?*

### SAVE THE DATE!

100%  
*Renewable Heating and Cooling*  
for a Sustainable Future



 Helsinki, Finland  
28 October 2019

 #100RHC



**Call for abstracts to present innovative RHC-projects is open**  
**Check our website: [www.rhc-platform.org](http://www.rhc-platform.org)**