

<https://www.carbonbrief.org/analysis-global-co2-emissions-set-to-rise-2-percent-in-2017-following-three-year-plateau>

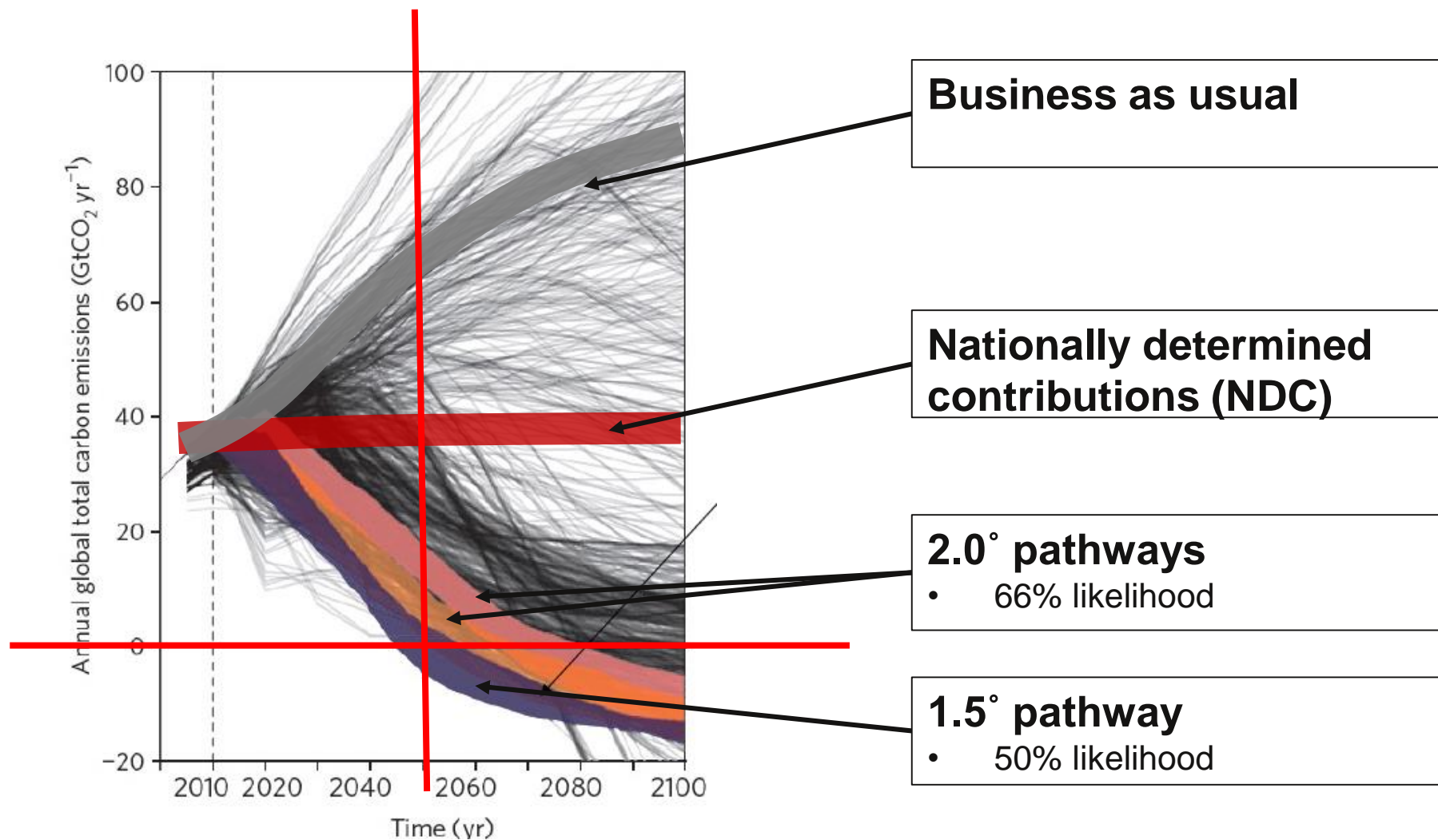
**In 2015 195 nations adopt climate agreement:  
2° C max, better yet, 1.5° C**



COP21·CMP11  
**PARIS 2015**  
UN CLIMATE CHANGE CONFERENCE

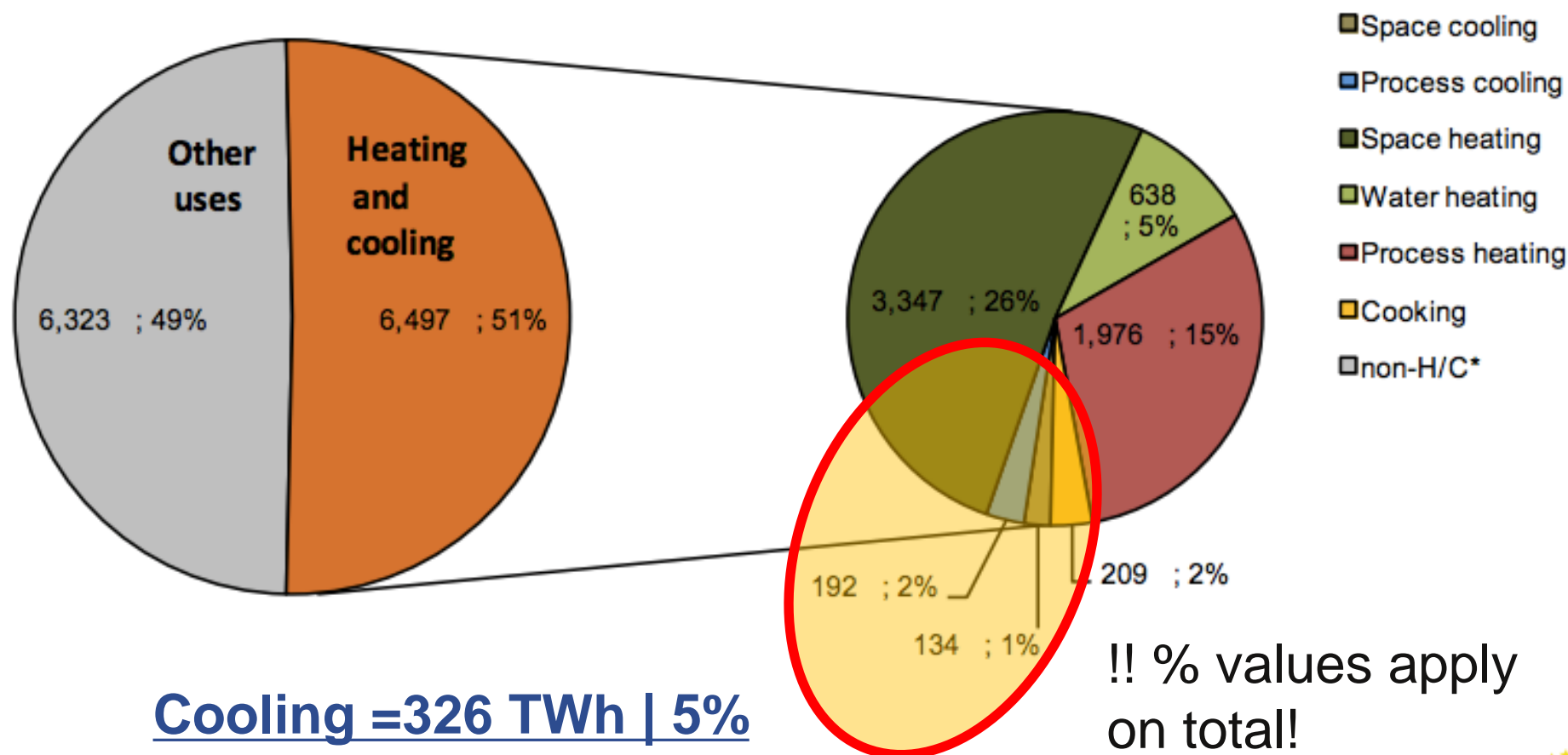


## Only 33 years later?



**Source: IPCC 5th assessment report**  
Rogelj et al. (2015): Energy system transformation for limiting end-of-century warming to below 1.5°C. Nature Climate change

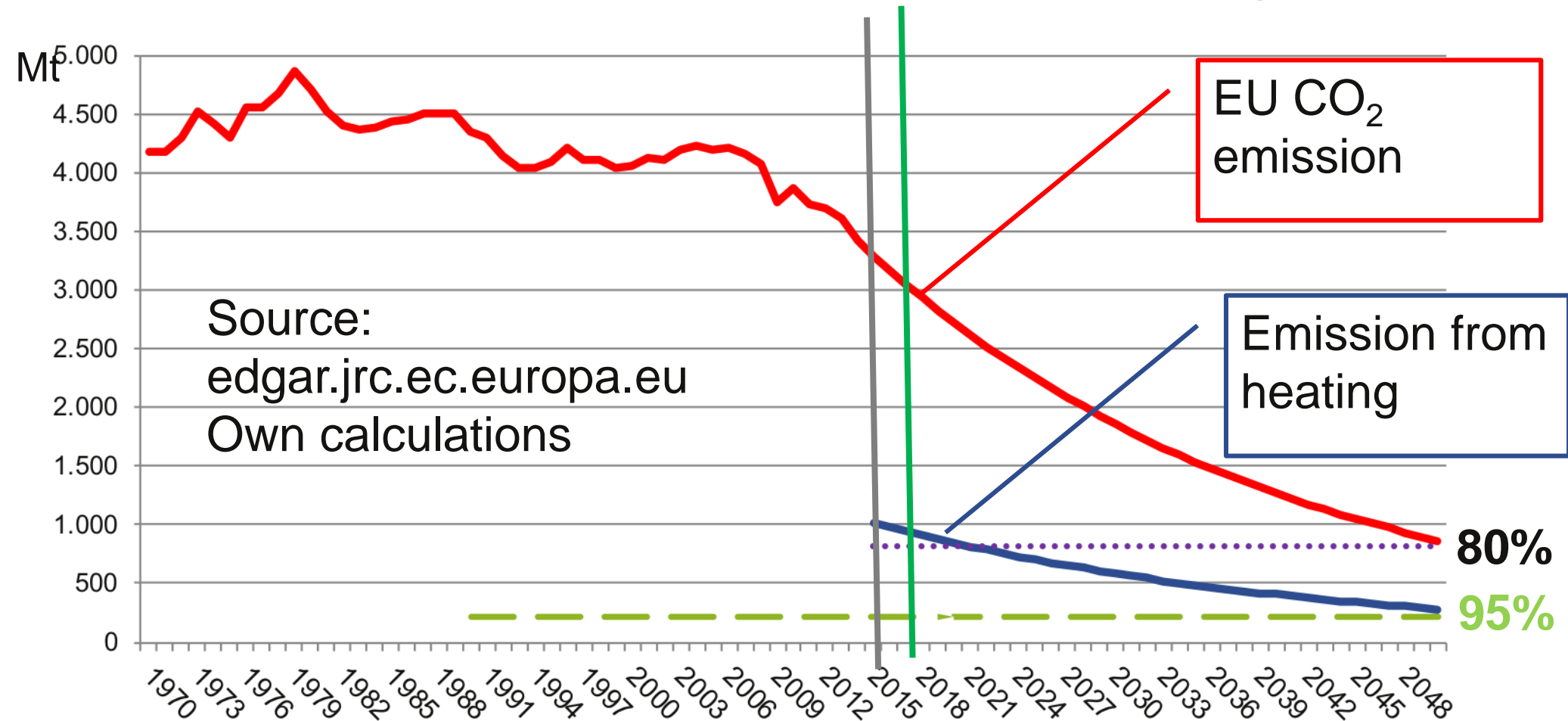
# Final energy demand for EU28 by end-use for H/C in all sectors in 2012 [total: 12 820 TWh]



Source: Fraunhofer ISI et al. (2016): Report WP 1, p.83

# Decarbonizing the energy system

## How much CO<sub>2</sub> emissions are available for heating?





# European Heat Pump Association (EHPA)

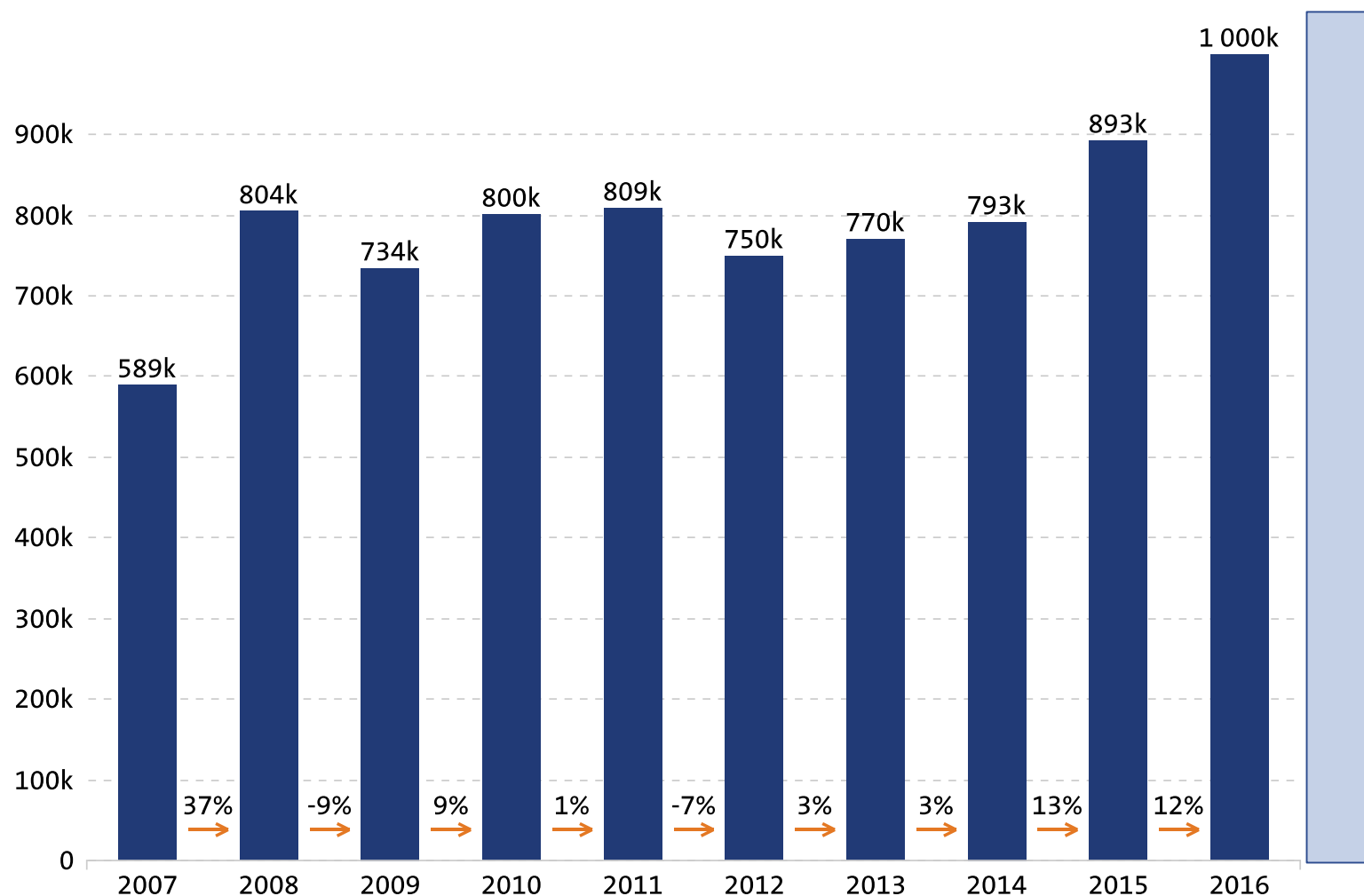
- **121 members from 22 countries (status 09/2017)**
  - Heat pump manufacturers
  - Component manufacturers
  - National associations
  - Consultants
  - Research & test institutes
- **EU-wide representative of heat pump industry**
- **Registered in Brussels**



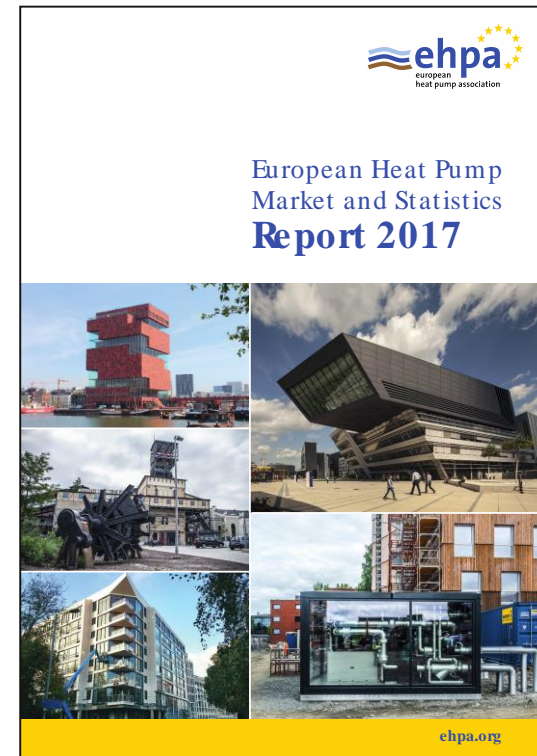
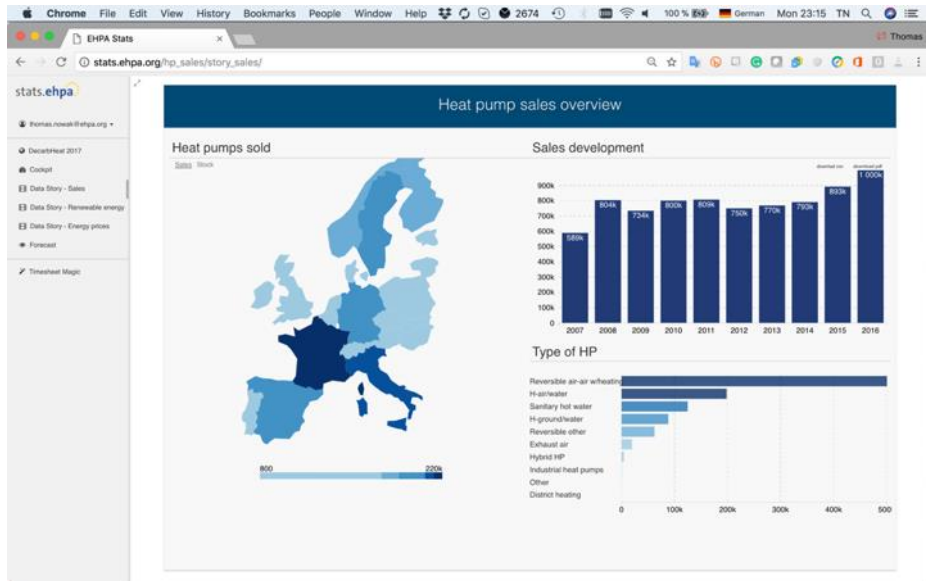
**EHPA represents the majority of players in the EU heat pump industry!**

# Market development 2007 – 2016

## Accumulated: 9.5 million units installed



# Details in print or dynamic at stats.ehpa.org

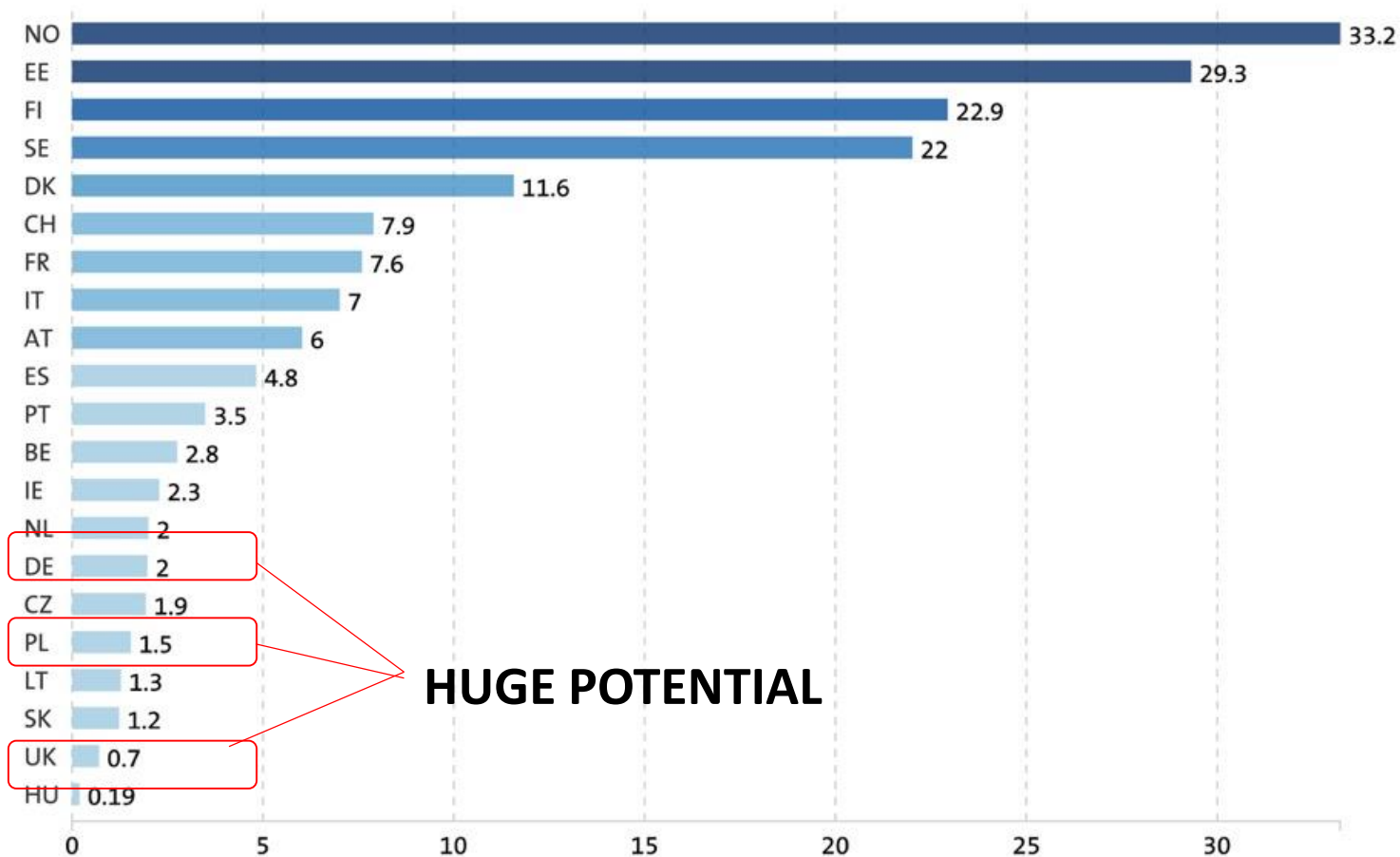






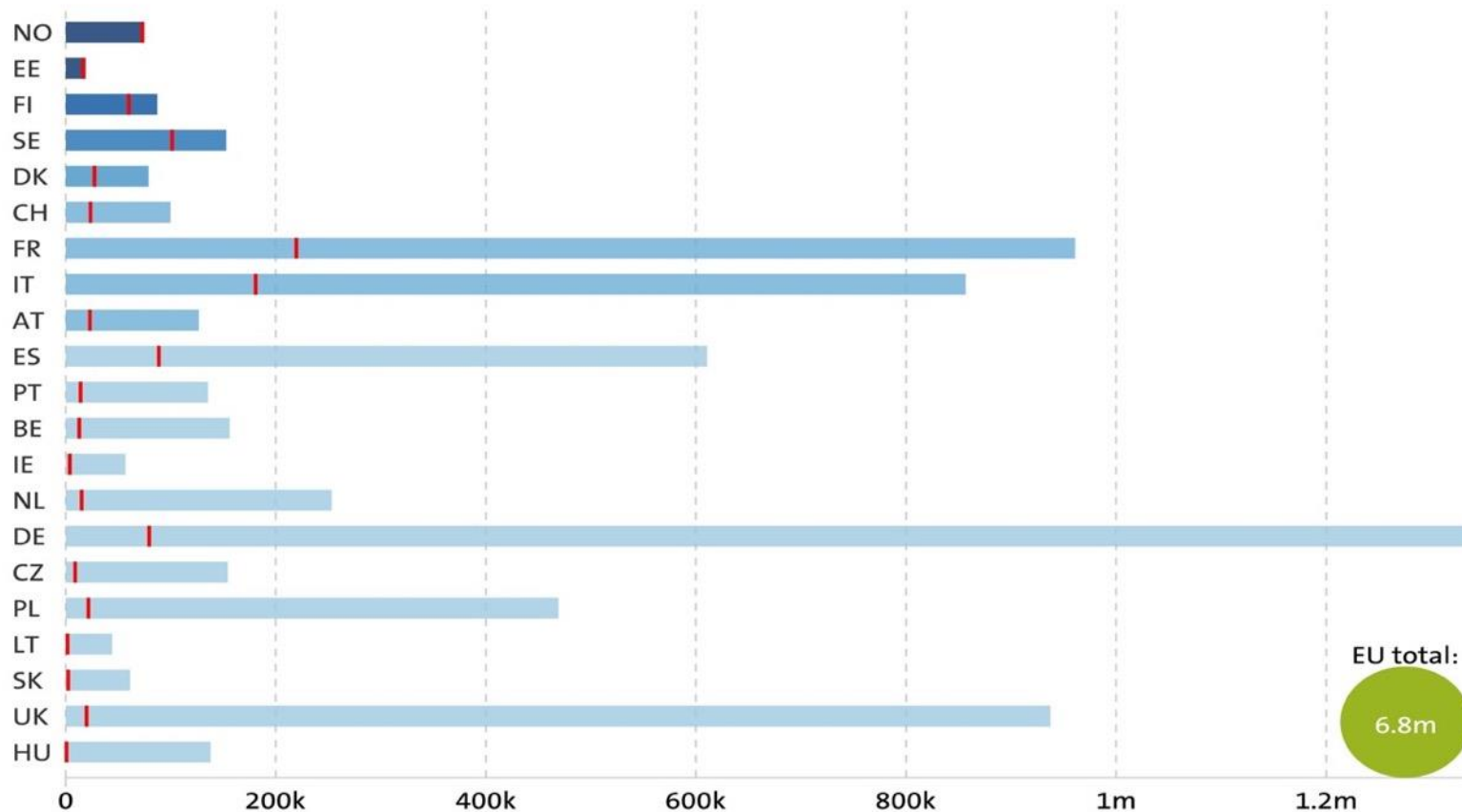
Register via <http://bit.ly/10millionHP>

# Market performance: Sales per 1000 households

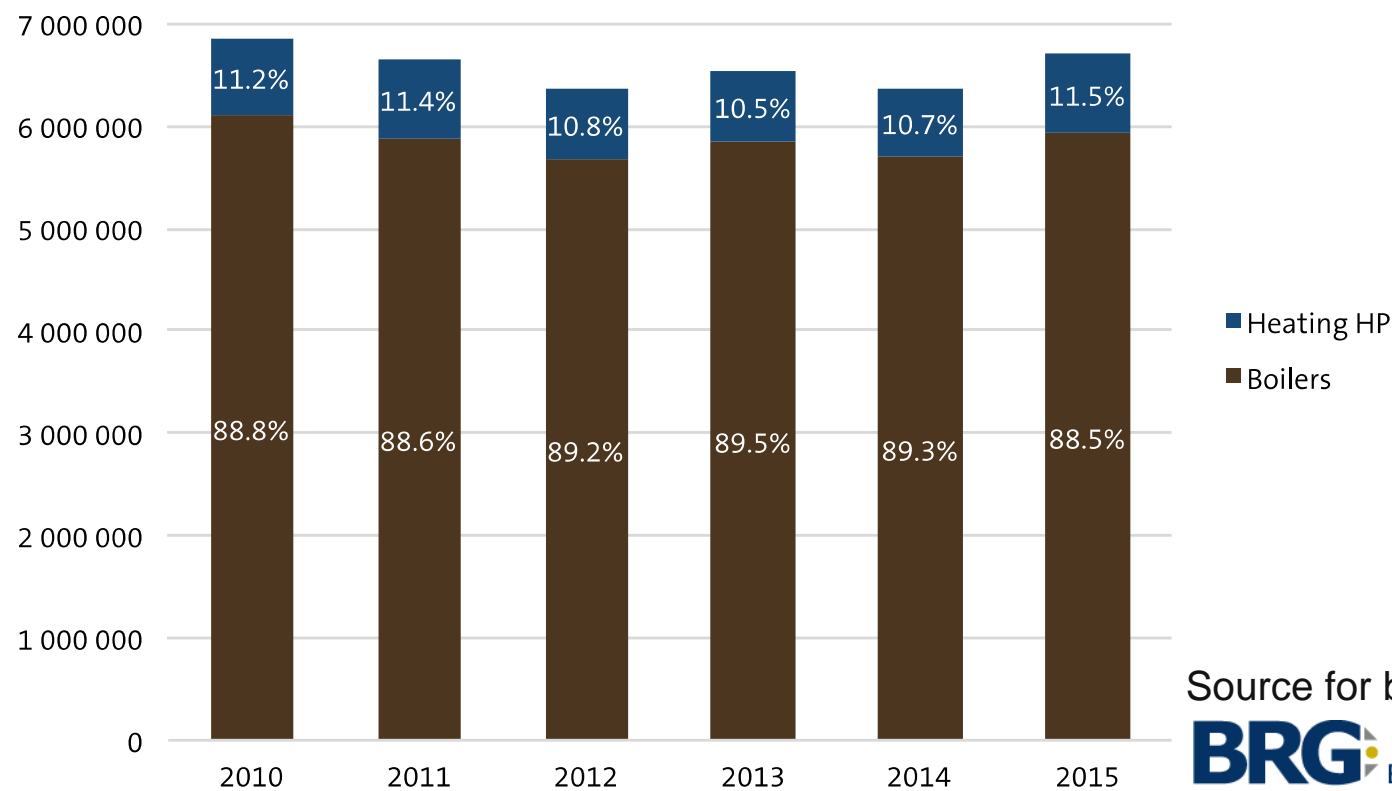


# If Norway was everywhere...

## Potential heat pump sales per year



# European heating boiler sales

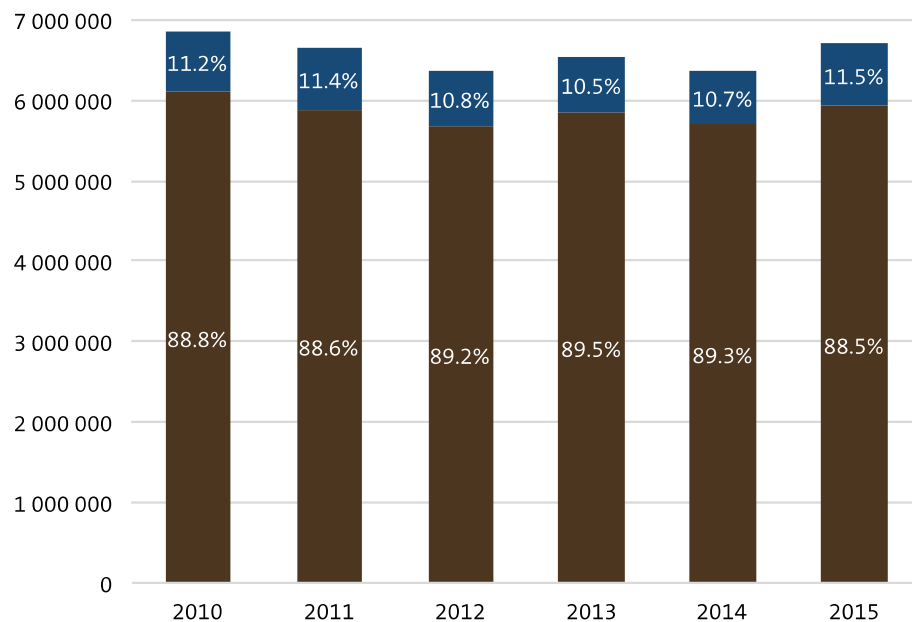


Source for boiler market data:

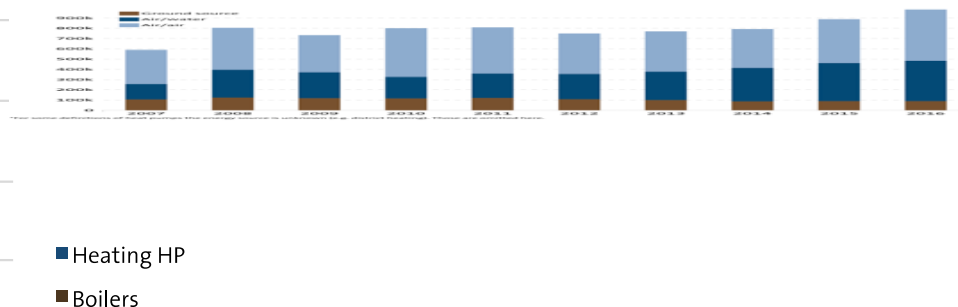
**BRG** BUILDING SOLUTIONS  
Profit Strategies for the Construction & Energy Industries

# Market development: heating vs. heat pumps

## 6.5 million boilers per year vs. 9.5 million heat pumps installed



Source: BRG / EHPA





# Starting points

- **Decarbonising society without decarbonising heating and cooling is not possible**
- **Decarbonising heating and cooling can be done based on proven, available technology, among them heatpumps**

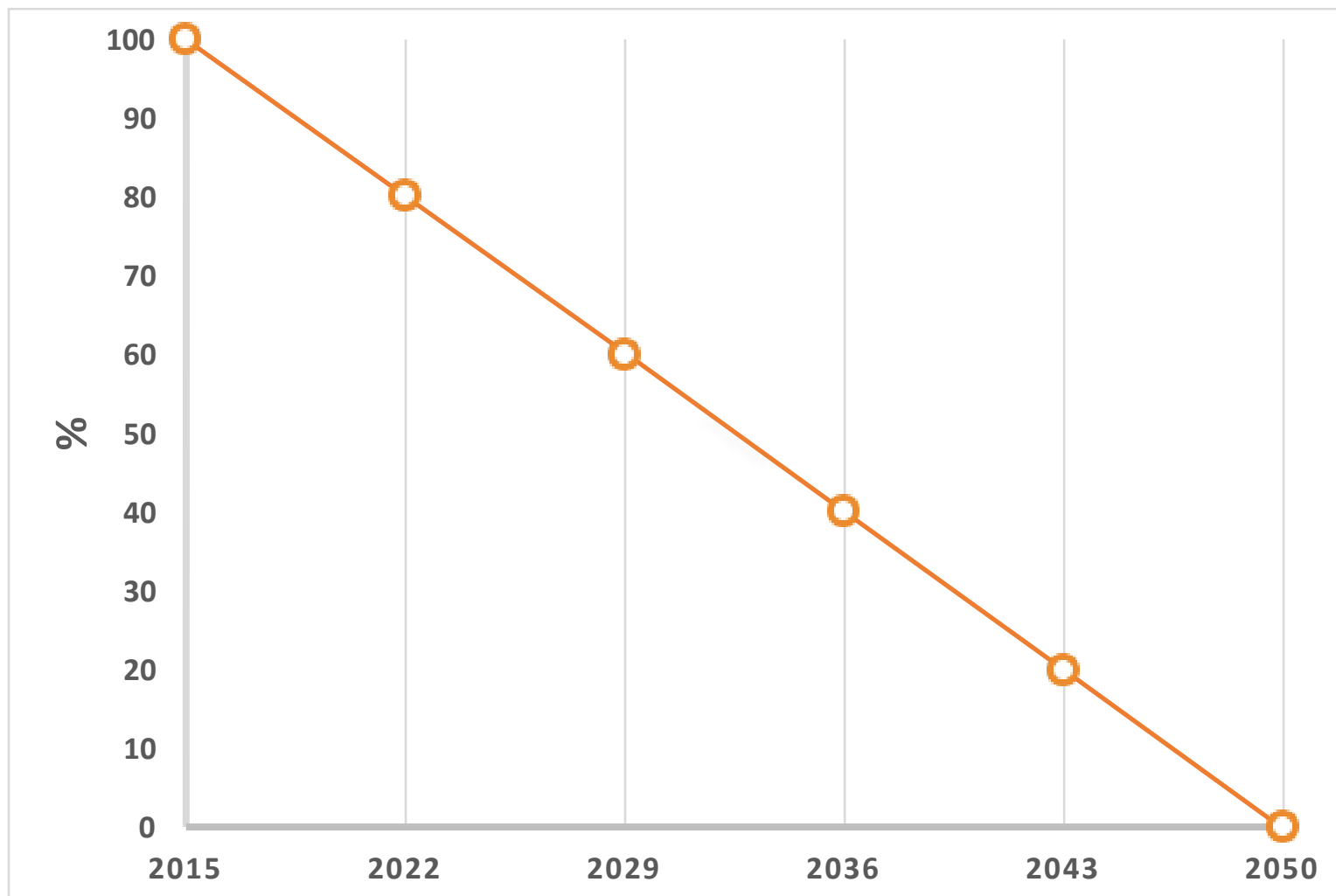


# DECARB HEAT

Acting together to decarbonise Europe

**Thomas Nowak**  
**[thomas.nowak@ehpa.org](mailto:thomas.nowak@ehpa.org)**  
**twitter: decarbheat**

## The simple truth: Decarbonising Europe's heating system means a reduction of average emission by 20pp every 7 years



# Reduction of CO<sub>2</sub> emissions in the heating sector

## Investment in efficiency AND technology essential

Investment in  
demand reduction / efficiency

Average value of specific CO<sub>2</sub> emission of heating technologies must be reduced by 45 to 50 % compared to today until 2030

end energy SH	end energy SH + DHW	specific CO <sub>2</sub> emissions for all employed heat technologies in % of today's value									
		100%	93%	86%	79%	72%	65%	58%	51%	43%	36%
% (of today)	% (of today)	CO <sub>2</sub> emissions for space heating (SH) and domestic hot water (DHW) in % of today's value									
100%	100%	100%	93%	86%	79%	72%	65%	58%	51%	43%	36%
90%	91%	91%	82%	77%	72%	65%	59%	53%	46%	40%	33%
80%	82%	82%	77%	71%	65%	58%	53%	47%	42%	36%	30%
70%	74%	74%	68%	63%	58%	53%	47%	42%	37%	32%	27%
60%	65%	65%	60%	56%	51%	46%	42%	37%	33%	28%	24%
50%	56%	56%	52%	48%	44%	40%	36%	32%	28%	24%	20%
40%	47%	47%	44%	40%	37%	34%	30%	27%	24%	21%	18%
30%	38%	38%	36%	33%	30%	28%	25%	22%	19%	17%	14%

Needed pathway

## Interim results...

- **Wide agreement that heating sector has to change until 2050**
  - **Agreement on the need for a 2050 heating vision**
  - **Unclear which steps are needed when, for change to happen**
- **a decarbonisation trajectory is needed,**  
to be aligned with 2050 vision and  
identifying the necessary steps on how to get there



## ”Re-think the heating industry...

HP business models

R&D

“re-design

manufacturing

“re-tool

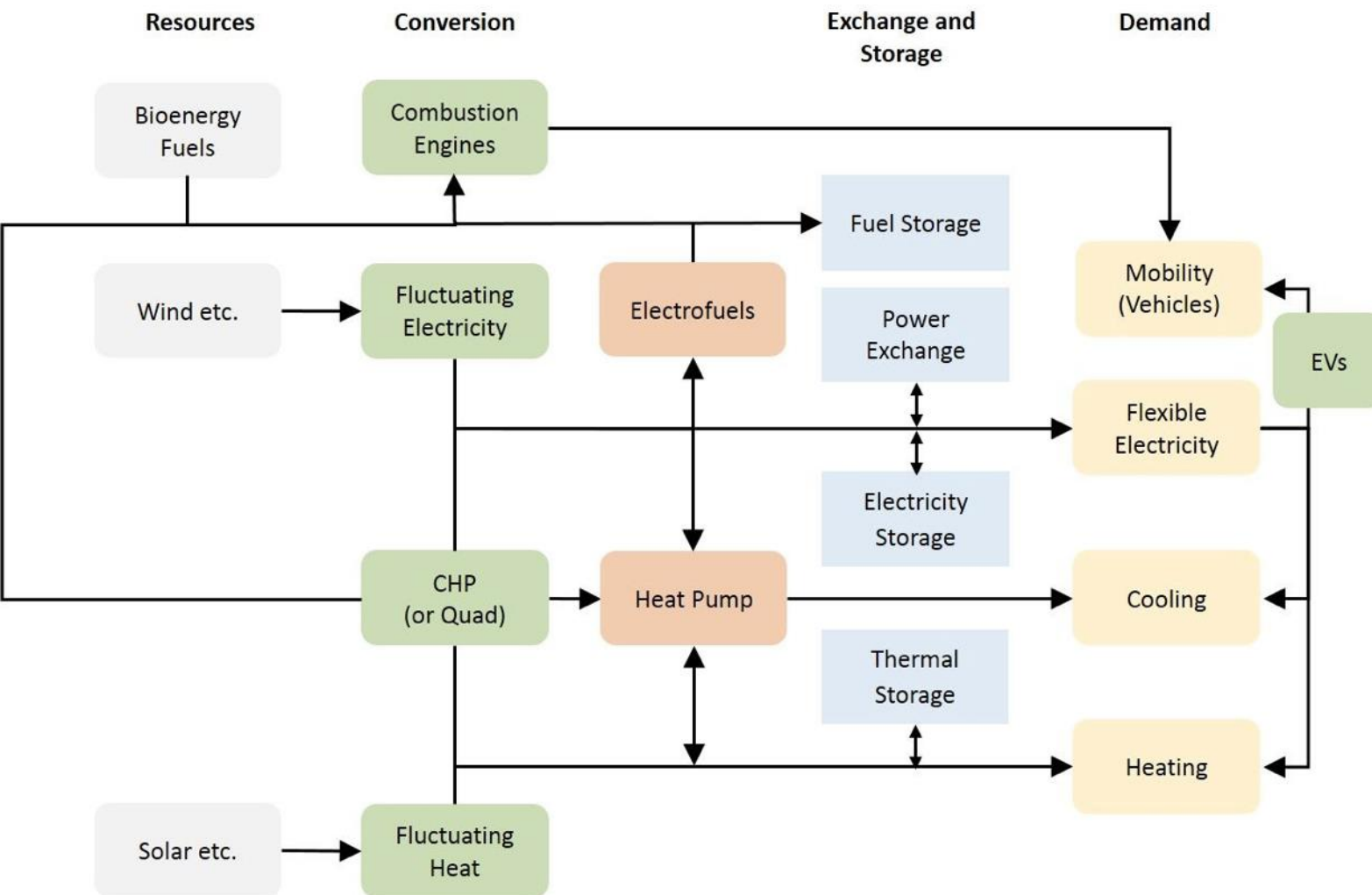
installation

“re-skill

maintenance

**...within 33 years**

# A possible vision for the 2050 energy system



Source: <http://www.energyplan.eu/>

# A possible pathway towards a 2050 energy system

UK Building Stock

## Decarbonising Heat in Buildings



Dense Urban – 22%

Suburban – 59%

Lower energy demand in all sectors through increasing thermal efficiency of buildings and changing consumer behaviour

High efficiency condensing boilers remain useful technology in this sector into the 2030s

Heat networks are a more efficient option for denser urban areas where there is limited space for individual heat pumps. Coupled with heat storage they can help balance the grid.

→ Industrial heat pumps can decarbonise heat networks

Gas absorption heat pumps use gas more efficiently... as do hybrid systems containing a boiler and an electric heat pump

High electric heat pump penetration faces fewer barriers in homes that are less clustered, starting with buildings off the gas grid, which are more likely to have space and be using high carbon and more expensive fuels like heating oil.

Source: Department for Energy and Climate Change

# The Decarb



# Heat Initiative

The DecarbHeat initiative aims to **bring together the major players of the heating and cooling industry and all major stakeholders in society and policy-makers** to turn the vision of a 100% decarbonised heating and cooling system in Europe by 2050 into reality.

# The Decarb



# Heat Initiative

**DecarbHeat vision:  
100% decarbonised heating and cooling system in Europe by 2050**

**industry pledge**

**policy  
requests**

**support  
document**

**Industry platform**



# Policy requests

Industry is ready – we need a supportive policy framework!

- Adopt **vision** of 100% carbon emission free heating&cooling sector by 2050
- Align current and planned **energy policies** with this vision, enshrining it in all policies (environmental, economic, tax, educational ...)
- Establish energy market driving decision makers towards 2050-ready solutions
- Take effective short term action to accelerate the deployment of these solutions
- Strengthen the confidence of citizens, investors & stakeholders by awareness-raising on and the promotion of existing '2050-ready' solutions
- Support RD&D activity for improved efficiency and system integration
- Follow a collaborative approach for further decarbonisation of the thermal sector by participating in and contributing to the DecarbHeat platform.

# Start of the campaign with the joint decarbheat conference



## DECARB HEAT

Acting together to decarbonise Europe

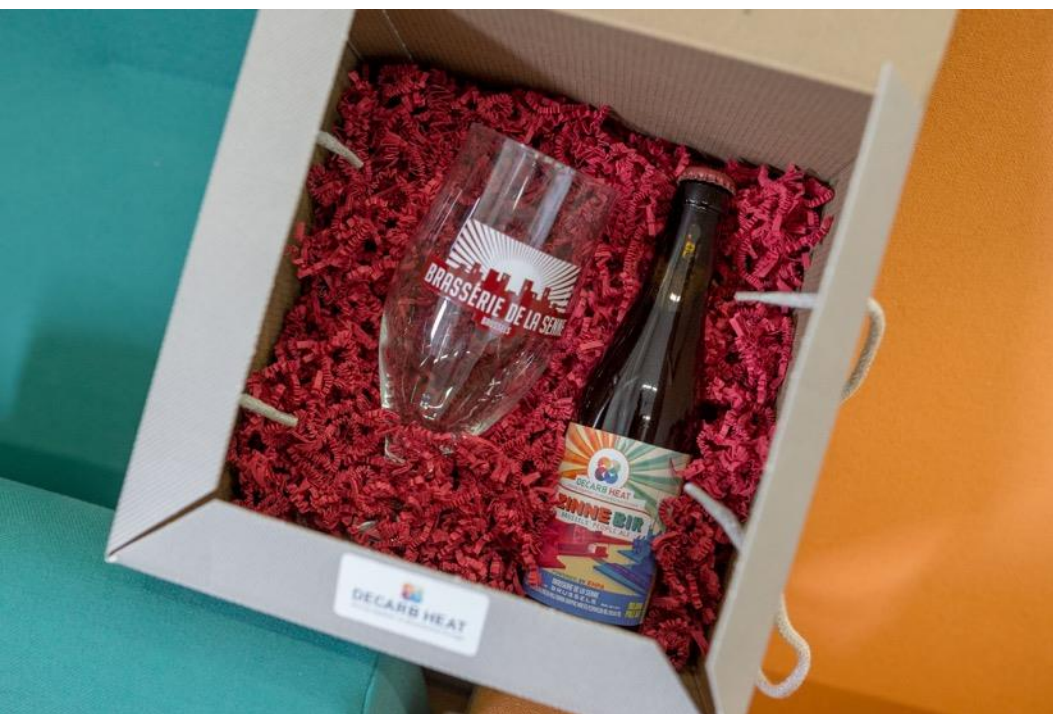
**11-12.05.17 at the BEL, Brussels**  
**[www.decarbheat.eu](http://www.decarbheat.eu)**

**#DecarbHeat 2017**

An initiative of EHPA



**Lots of goodies! Decarbheat mugs, beers, pins and pens.**

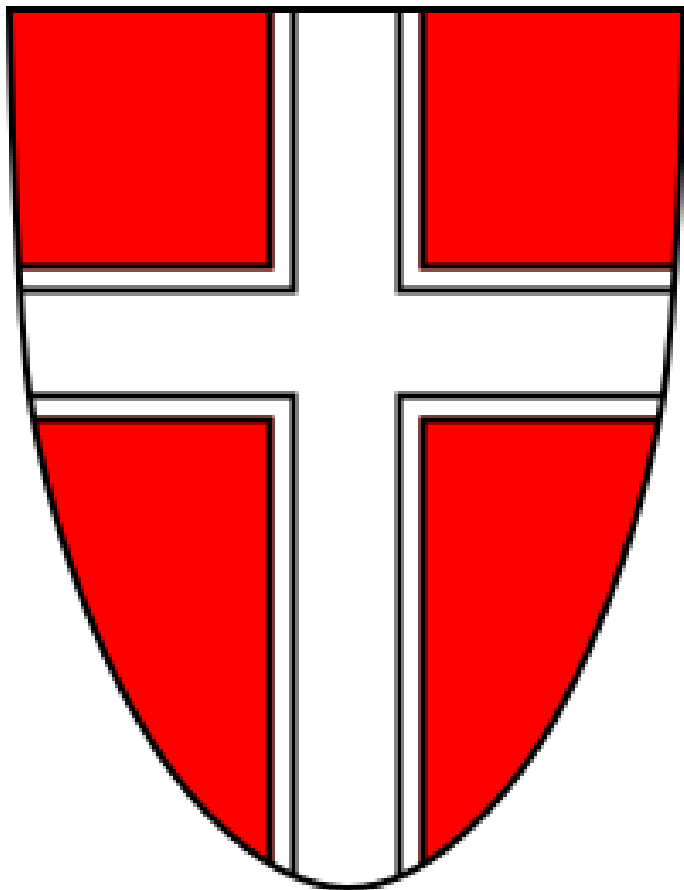




**Lots of support: 240 participants,  
71 signatures from the industry, associations and policy makers.**



**We also nominated a heat pump city ... but you know this already!**





# Decarb



# heat: follow up

- **Several meetings with other heating related associations**  
➔ **open the campaign to all associations**
  - Agreement in favour of the initiative by the major stakeholders active in renewable heating/cooling
  - Joint action planned for 2018
- **Meetings with the European Commission**
  - General support. 2018 Heat conference?
  - Idea is taken on board for the **Horizon 2020 research program:**  
**Support for heating/cooling**  
**Support for an initiative to decarbonise the sector**

A few reasons why

## #DecarbHeat is also for cooling

The DecarbHeat initiative aims at bringing together the major players of the heating and cooling industry and other major stakeholders. Together we can make the vision of a 100% decarbonised European heating and cooling system, a reality. While called “DecarbHeat”, the initiative includes cooling in the vision for a **100% carbon emission-free thermal sector by 2050**.



The full decarbonisation of Europe is possible and starts with heating and cooling.

Decarbonisation of heating & cooling will lead to:



100% CO<sub>2</sub> emission-free sector



a fuel switch towards renewable energy



research and development keeps local know-how and jobs



a stable policy framework supporting new business models



the DecarbHeat industry platform will shape a joint vision for 2050

# Decarb



# heat: whats next?

- Kickstart of the **industry round table**
- High level **meeting with VP Maroš Šefčovič**, European Commission on 6.12.2017
- Workprogram of the initiative for 2018
  - Apply for horizon 2020 support
  - Contribute to heat conference
  - Decarbheat satellite events

# A 100% renewable society is possible – by 2050

Join us at [www.decarbheat.eu](http://www.decarbheat.eu)

