



The European Heat Pump Association aisbl / founded 2000



143

Members

Heat pump manufacturers
Component manufacturers
National associations
Consultants
Research & test institutes

22

countries represented

International cooperation CECA, IEA, IEA HPC, IRENA, HPCJ

Vision

In a fully decarbonised
Europe, heat-pump
technologies are the
number one heating
and cooling solution,
being a core enabler
for a renewable,
sustainable and smart
energy system.











Industrial
Applications &
District
Heating

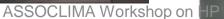


Applications





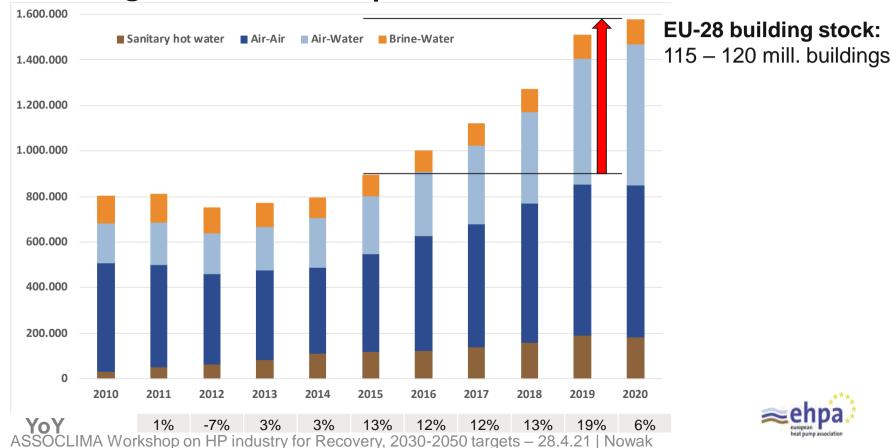


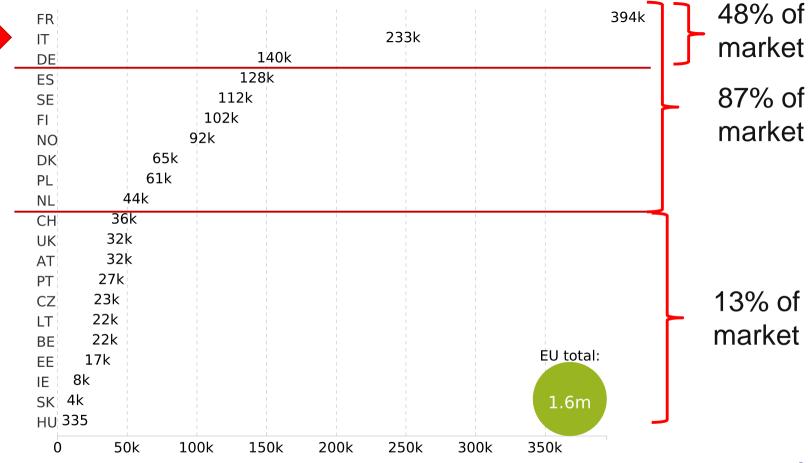






Market growth '05 – '20 | HP stock²⁰²⁰: 14.8 mill. installed







Heat pump benefits 2020 CO Based on 14.8 million heat pumps installed savings **Thermal** Useful **Fossil final** Renewable 40,6 Mt capacity energy energy energy savings 120 250 203 159 **TWh TWh GW TWh** No PM at point of **Demand Auxiliary** operation response energy potential If auxiliary energy is Up to 3.4 green, heat pumps **TWh** provide 100% green heat

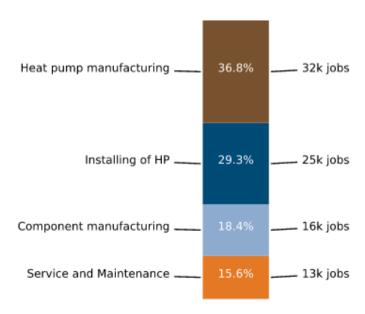


Heat pump providing employment

- 103+ manufacturing sites
- SME based
- Often located in rural/remote areas



Employment impact of heat pumps (FTE)





Legislation covering Heat Pumps

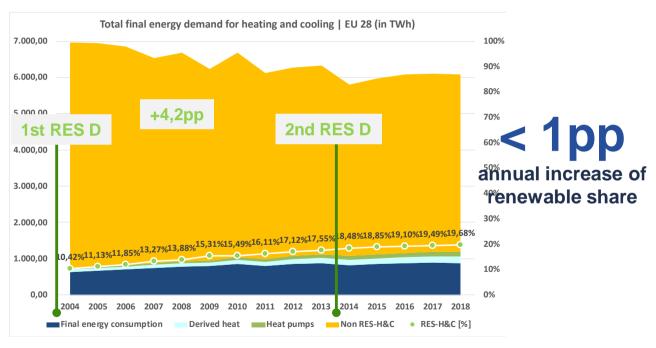
National legislation

Energy efficiency on systems level (+calculations for HP) directive Comprehensive assessments on heating and cooling package Clean energy 4 all Europeans package New builds, renovation strategy + modernisation of H&C Energy performance of Smart buildings Definitions: renewable energy / renewable cooling Renewable energy directive Sectorial target for renewable heating / cooling National energy and climate plans (NECP) Governance Regulation Improved data situation Flexible tariffs, smart grids F-gas regulation Reduction of F-Gas related emissions Requirements on boilers, combi-boilers, air conditioners Ecodesign regulations and smart appliances Transition towards a zero-CO₂ emission society If not More ambitious CO₂ – emission target European Green Deal successful Price for CO₂-emission And Extension of ETS to heating sector Climate law **Energy System integration** Renovation wave ASSOCLIMEON to the incontracted of industry for strengtes and the contract of the contract of

F-gas, taxation, certification requirements, standards

RES in heating and cooling (based on Eurostat Shares)

http://ec.europa.eu/eurostat/de/web/energy/data/shares





EU Green Deal & Climate Law



CO₂ **-55**

(52.5 - 57% Council)



EU Green Deal & Climate Law

- EU Strategy for Energy System Integration
- EU Renovation Wave Communication
- Fit for 55% package (Revision of 15 initiatives)
 - More renewable energy
 - More energy efficiency

Build on heat pumps



EU Energy systems integration strategy

10 – 15 mio office & commercial buildings

90 mio residenti al single family units

15 mio residenti al multi family units

65 %



7-10 mio heat pumps



Targets

Challenges:

- Taxation of electricity
- Lack of internalisation of CO2 costs in heating fuels
- Fossil fuel subsidies
- → all by mid 2021

+ industry approx. 200 TWh = 0,1 mio



Renovation wave:

- Decarbonisation of heating and cooling
- Double the renovation rate
- Foster deep energy renovation: schools, public buildings
- Renovate the 35 million least performing buildings by 2030
- Allow for affordable and sustainable design via New European Bauhaus



Heat pumps work in all buildings and in energy grids

20% 40% 40% **Boiler exchange Boiler exchange** New 1:1 build "high temperature heating little/no renovation buildings" **HP** ready HP technology under condition ready renovation

Compared to other climate protection measures, it is cheapest to invest in heat pumps

Im Vergleich zu anderen Klimaschutzmaßnahmen kann mit der Wärmepumpe günstiger CO₂e eingespart werden

Dies zeigt sich anhand der Investitionen und THG-Einsparung klimafreundlicher Investitionen

Klimafreundliche Maßnahme	(6)	ů.	
	Wärmepumpe	Solaranlage	Elektroauto
	statt Ölkessel	statt deutscher Strommix	statt Dieselfahrzeug
Zusätzliche Investition	+6.100 €	+13.300 €	+7.395 €
Einsparung von THG- Emissionen über Lebensdauer	137 t CO ₂ e	96 t CO ₂ e	22 t CO ₂ e
Investition um 1 t CO₂e einzusparen	45 €/ t CO ₂ e	139 €/ t CO ₂ e	330 €/ t CO ₂ e
Quellen: BDEW (2018a), BDEW (2018b), IINAS (2019), VW (2019)			
17. Forum Wärmepumpe			Novem



EU Taxonomy Regulation

According to EC delegated acts, heat pumps are "sustainable" if:

 They are very efficient (i.e. HP in the 2 highest populated classes on the Energy label)

OR

• They are renewable (i.e. HP which contribute to the renewable targets for heating and cooling in the RED)

OR

They have a low GWP refrigerant and emit less sound (i.e. All other electric HP with a GWP not exceeding 675 and meeting the max. sound power levels for small A-A HP with rated capacity of 12kW or below)

→ ALMOST ALL HEAT PUMPS ARE SUSTAINABLE!



«4x as many heat pumps ... »

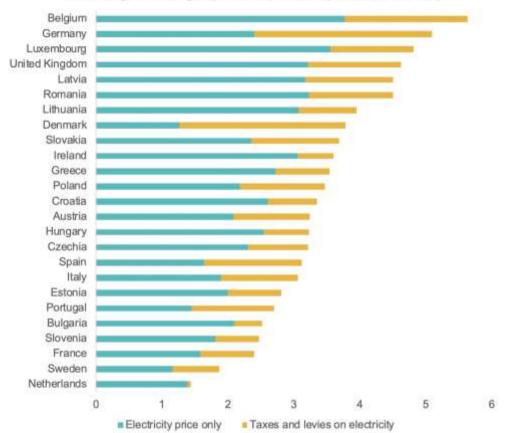
Industry can deliver, but

«We need framework conditions, that trigger end-user demand»



Taxation of electricity: need for level playing field

Electricity to fossil gas price ratio in 2020 (residential sector)

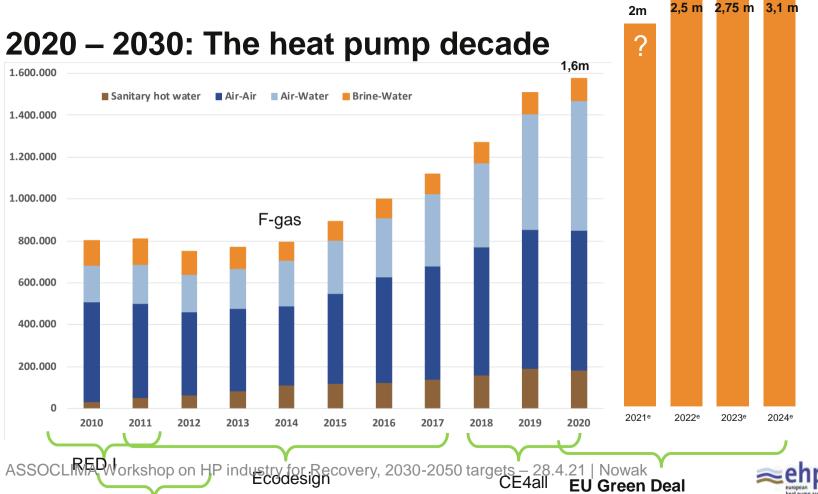




EHPA Recommendations for the Recovery Plans

- Implement the EU Strategy for Energy System Integration (quadrupling of installed HP)
- Implement the EU Renovation Wave Communication (decarbonised building stock in 2050)
- Promote Heat-pump friendly subsidy schemes (in line with *Taxonomy Regulation*)
- Build on Comprehensive assessments on heating & cooling (ANNEX VIII EED)
- Make electricity cheaper than fossil fuels





EED, EPBD