

# MATERIALS FOR PROFESSIONAL TRAININGS



MODULE 1 - Current situation of space heating appliances in Europe

## Structure

- Module 0 – Introduction to the training programme
- **Module 1 - Current situation of space heating appliances in Europe**
- Module 2 - Labelling existing heating appliances with the HARP Tool
- Module 3 - The HARP Tool. Covering the whole journey
- Module 4 - Embedding HARP to your clients



# SUMMARY

- Current status of the heating solutions
- Key EU objectives
- Most common heating solutions installed
- Renovation potential

# Current status of the heating appliances at EU level



# Current status



40%

Buildings are the single largest energy consumer in Europe (40% of EU energy consumption)

9%

Only 9% of the European dwellings are heated with renewable source heating

60%

Among the 126 million boilers installed in the EU, 60% of the heating stock consists of inefficient heating appliances (class C or lower)

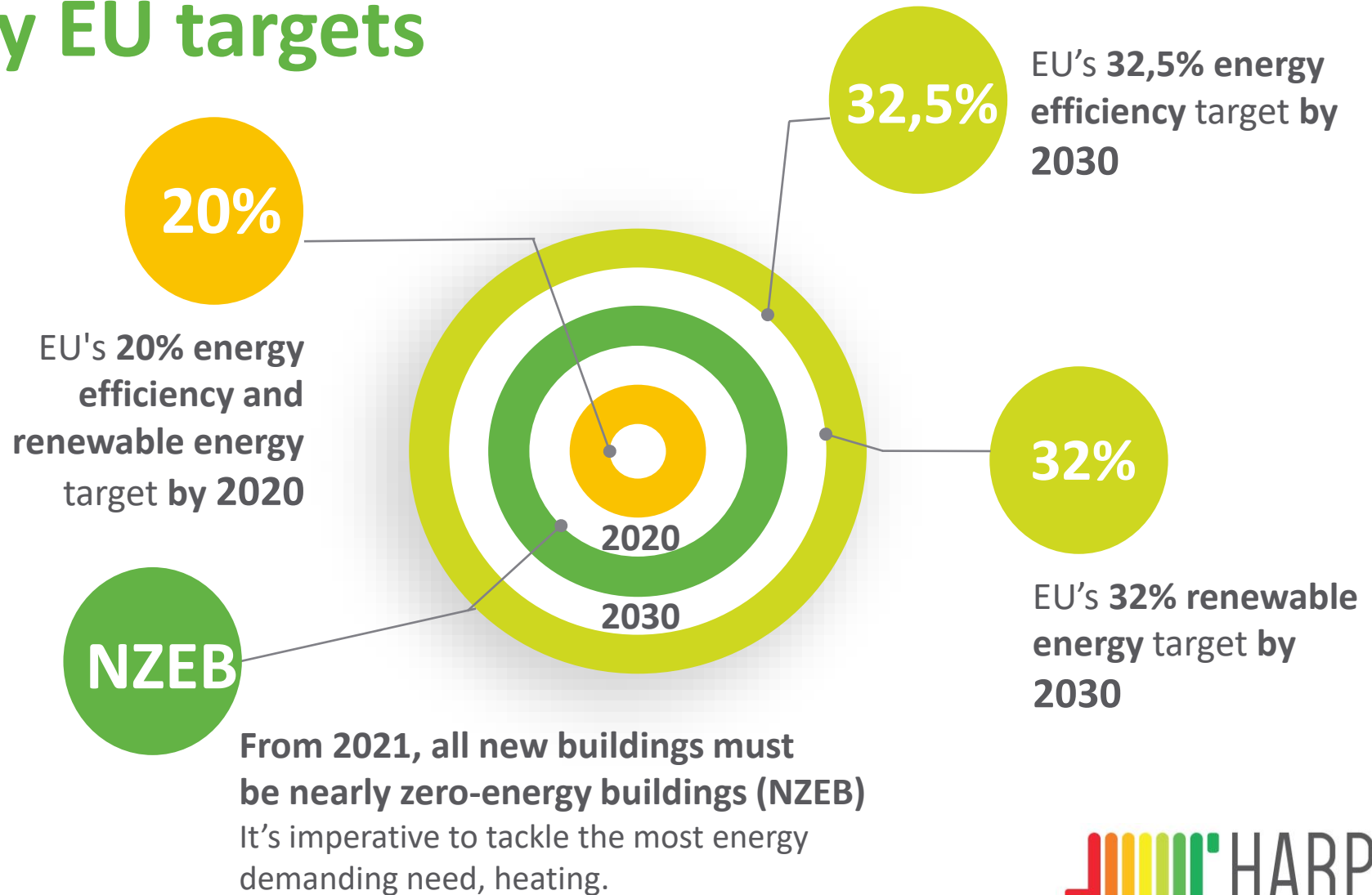
4%

The average replacement rate of the EU heating appliances is only 4% per year, covering essentially break-down situations.

# Key EU objectives



# Key EU targets





# European approach

By using **more efficient heating appliances** and thereby consuming less, Europeans can:

- ✓ lower their energy bills
- ✓ help protect the environment
- ✓ mitigate climate change
- ✓ improve their life quality and their indoor living conditions
- ✓ reduce the EU's reliance on external suppliers of oil and gas

To achieve these benefits, the European Commission has established the following legislative framework



# Legislative framework

Energy Performance  
of Buildings  
Directive 2010/31/EU  
(EPBD)

2010

2012

Energy Efficiency Directive  
(EED) (2012/27/EU)

Clean energy for all  
Europeans package

Which amends the EED  
(2018/2002) and the EPBD  
(2018/844/EU)

2015

2016

Heating and Cooling  
Strategy (COM 51)

2019

- European Green Deal  
'Renovation Wave'
- Update of the Clean  
Energy for all  
Europeans package  
'Clean Energy package'

# Most common heating solutions installed



# Most common heating solutions in Europe

Over **160 million** space and combi heaters installed and **93 million** dedicated water heaters in Europe

## SPACE & COMBI HEATING

- ✓ The most common heating technology in Europe is the **gas boiler**, installed in approx. 57% of the dwellings



# Most common heating solutions in Europe

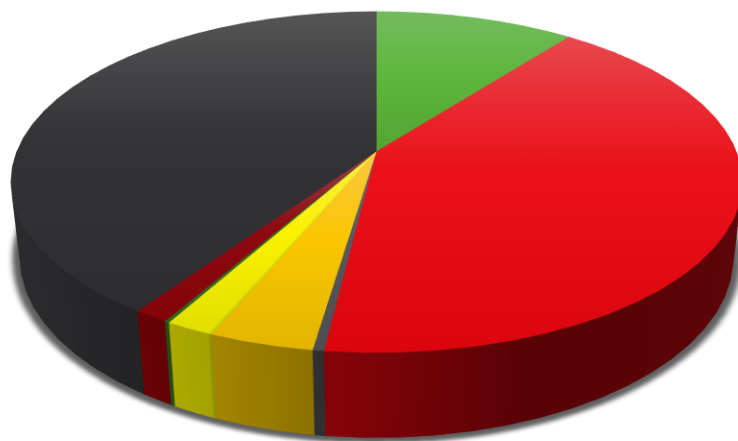
## WATER HEATING

- ✓ 70% of water heating appliances are electrical water heaters
- ✓ 18,5% of water heating solutions are gas instantaneous water heaters
- ✓ 7% are solar thermal solutions



# Most common space & combi heating solutions in Spain

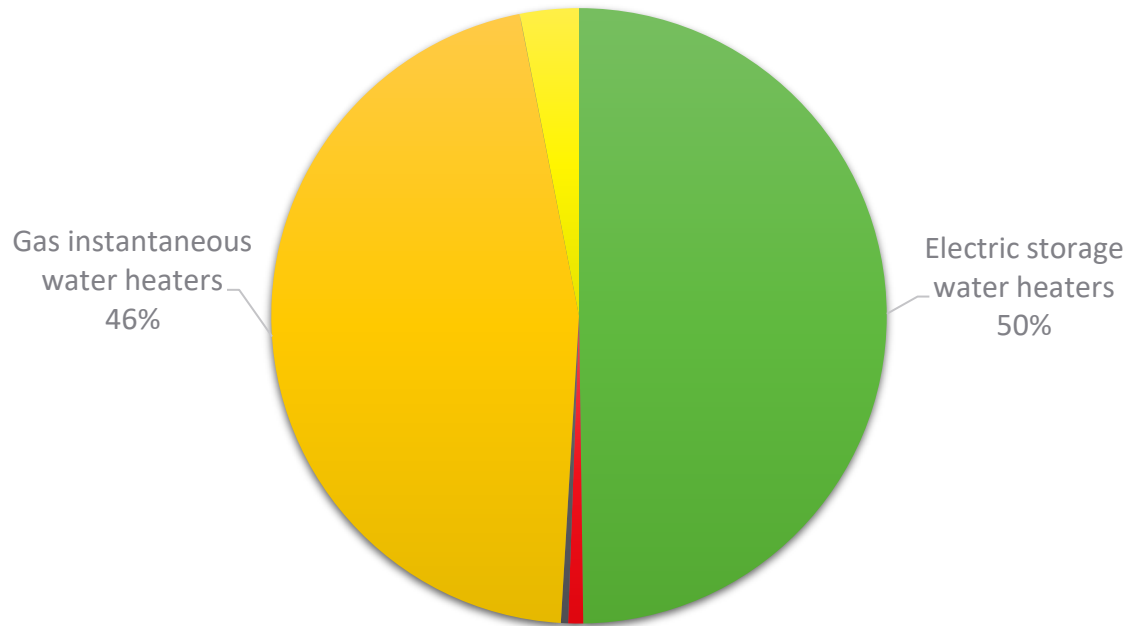
The number of space heating units installed in Spain are 18.6M, being **condensing gas boilers** the most common heating technology:



- Condensing gas boilers
- Non-Condensing gas boilers
- Condensing oil boilers
- Non-Condensing oil boilers
- Coal boilers
- Heat pumps
- Solar thermal COMBI
- Biomass boilers
- Electric heating

# Most common water heating solutions in Spain

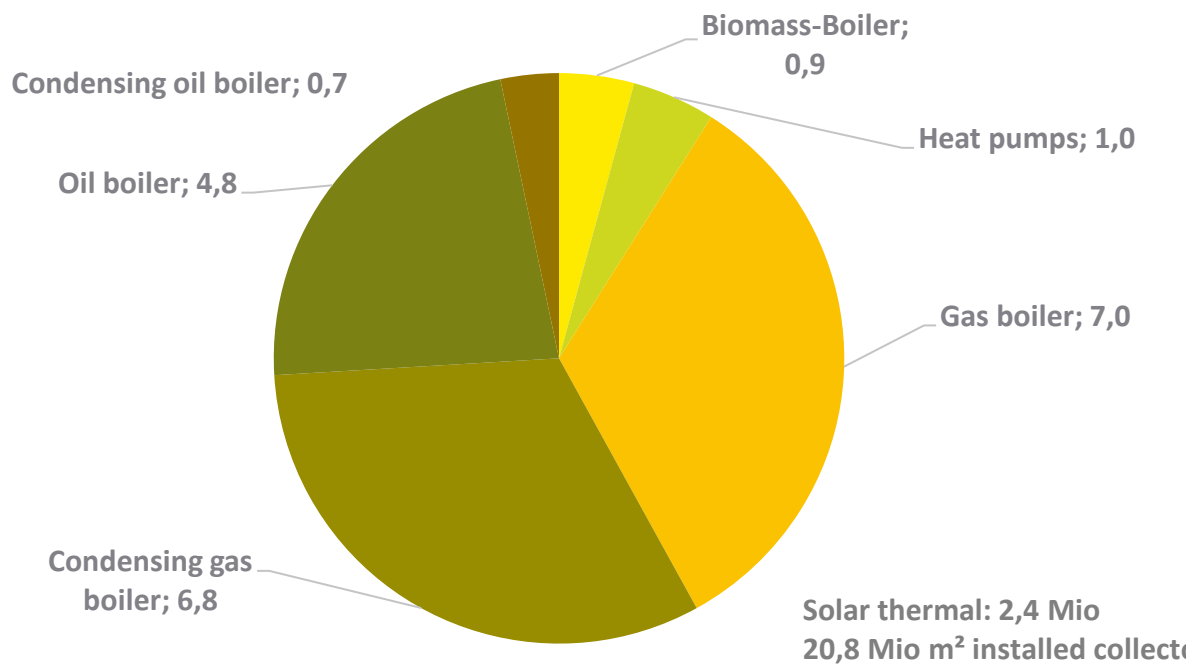
Spain has 14,6 million water heaters installed: 57% of the entire dwellings stock in Spain (25,6M) is provided with a water heating unit:



- Electric storage water heaters
- Gas storage water heaters
- Electric instantaneous water heaters
- Gas instantaneous water heaters
- A/W Heat Pumps DHW
- Solar Thermal DHW

# Most common space & combi heating solutions in Germany

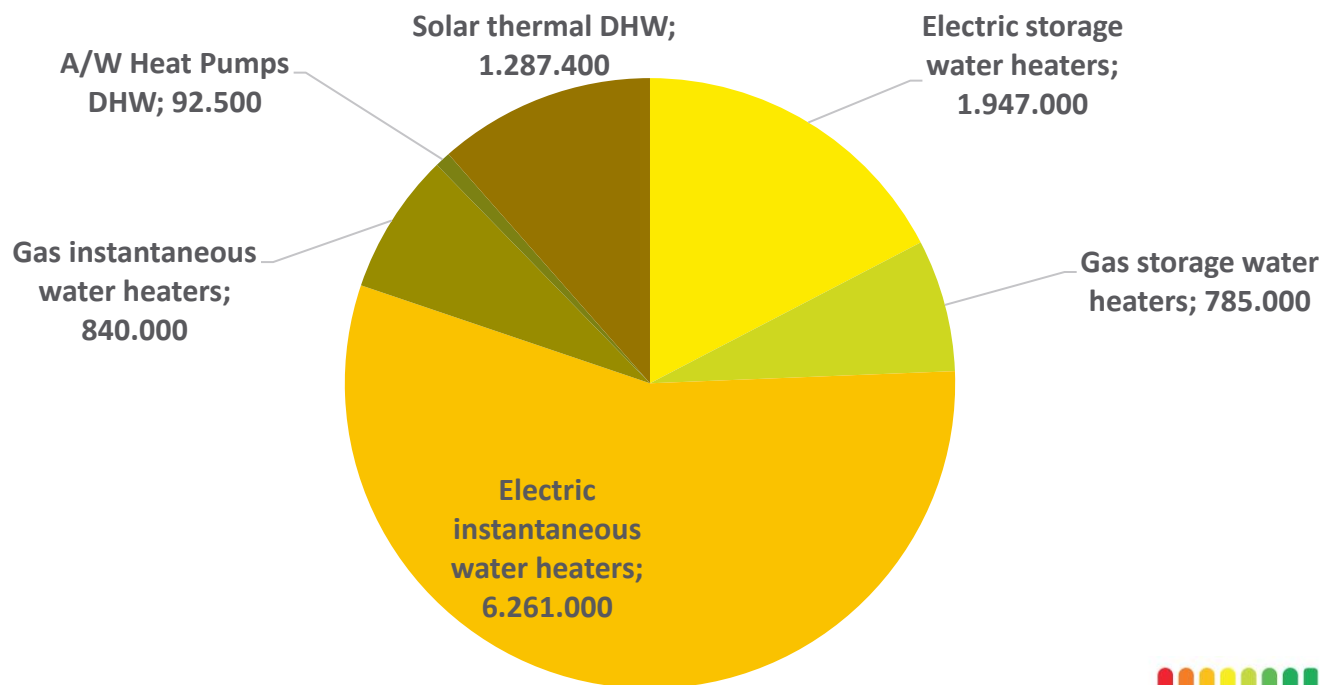
The number of space heating units installed in Germany are about 21,2 Mio appliances  
**Gas boilers** are the most common heating technology



# Most common water heating solutions in Germany

More than 2/3 of the hot water is heated by central water heating systems, i.e. in combination with heat generators.

Germany has 11,2 million water heaters installed, see graph.





# Renovation potential



# Renovation potential

In total, **81 million inefficient installed units in Europe could be replaced with new high-efficiency devices.**

On average, installation of **EE equipment** based on renewable energy are labor-intensive (**creating twice as many jobs** as conventional energy generation equipment)

**Benefits go beyond cost savings:**

- ✓ Improved air quality
- ✓ Noise reduction
- ✓ Higher market value of the building

**1,5 million consumers** expected to be reached

**10,000 consumers** could be motivated to replace their heating through HARP's initiatives