



16-17 March 2015 in Brussels



boostHEAT
HEAT PUMP BOILER

INNOVATION | Energy Efficiency

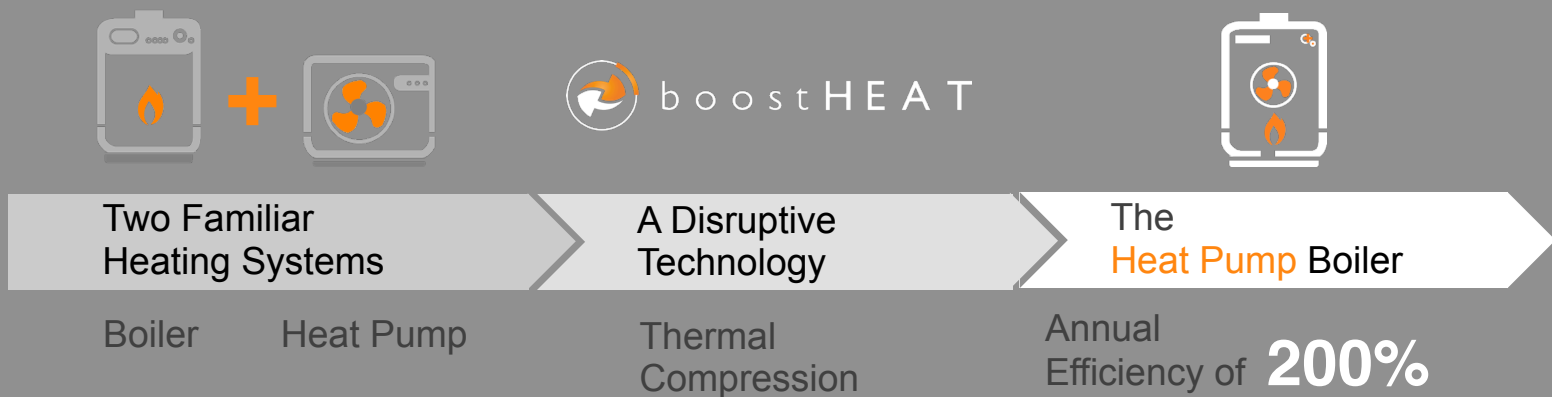
> boostHEAT has developed a **new generation** of very efficient and renewable heating, hot water and cooling systems. Fuelled by natural gas and renewable energy, the boostHEAT Heat Pump Boiler uses a natural refrigerant and the heat pump effect to achieve an efficiency of **200%**

> THE INNOVATIVE HEAT PUMP BOILER

> boostHEAT has achieved the **FUSION** of the **boiler** and the **heat pump**, into **ONE** very efficient and renewable heating system, thanks to our patented thermal compression

THE BOILER when condensing, effectively consumes energy

THE HEAT PUMP which extracts energy from the air outside

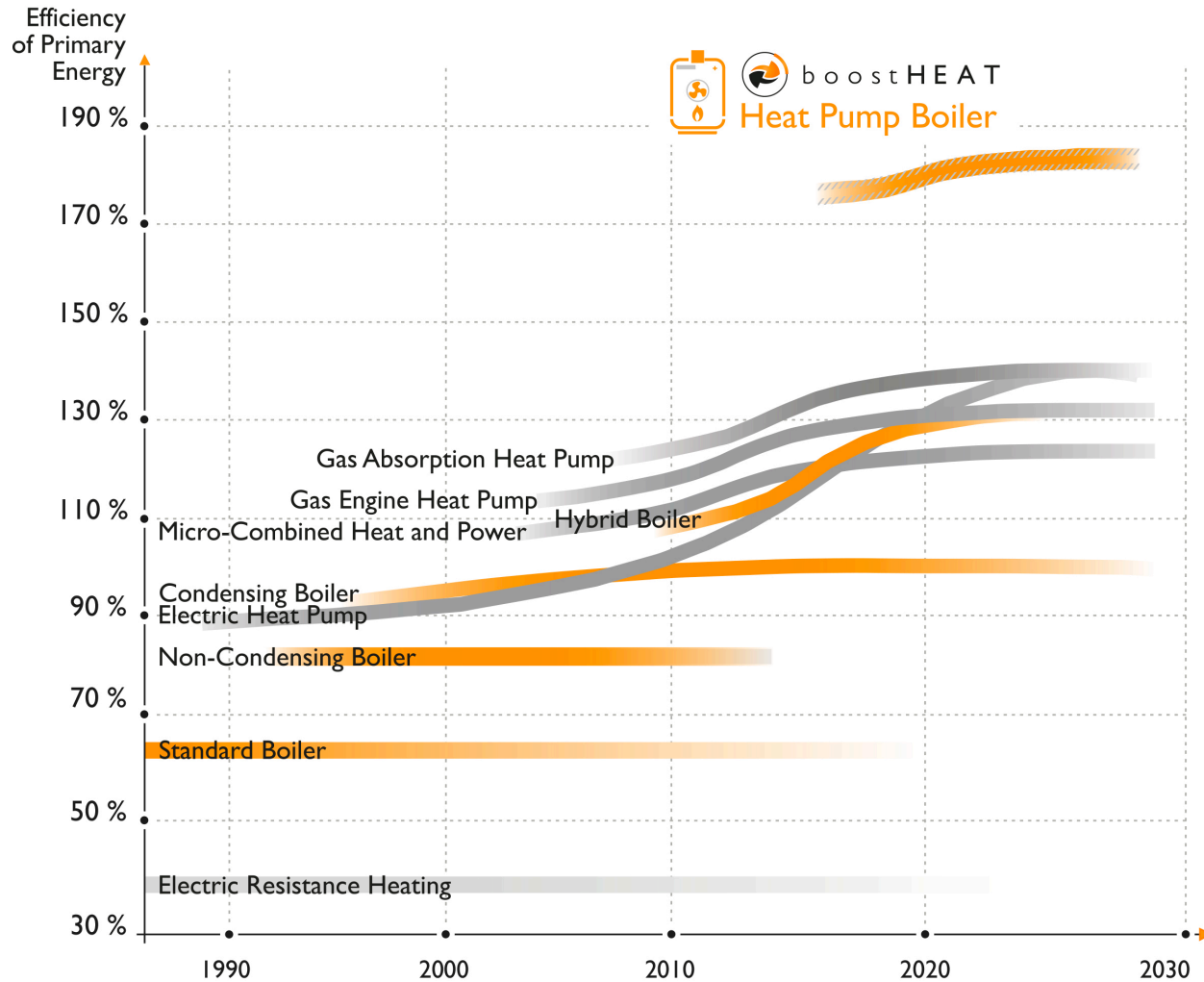


> boostHEAT THERMAL COMPRESSOR

THE HEART OF THE TECHNOLOGY is a new type of thermal compressor that uses the heat from the burner, instead of mechanical energy, to efficiently compress a natural refrigerant.

- > The boostHEAT natural gas fuelled thermal compression device activates the heat pump, an air-water heat pump using a carbon dioxide cycle.
- > The compressor activates a thermal compression cycle at a high temperature and without mechanical power transmission. Since the compression is done without mechanical power transmission, the pressure cycle is the result of the thermal cycle.
- > This feature also offers another unique technological advantage, the system undergoes very little wear, thereby achieving a long lifetime while running oil-free and maintenance-free.

> A VALIDATED TECHNOLOGY Audit by CRIGEN (GDF SUEZ) June 2013



> HOME Heating + Domestic Hot Water

Heat Pump Boiler for the home

- > Fuelled by natural gas and renewable energy
- > Providing heating and domestic hot water
 - All from one unit – a Combination Boiler
 - Ease of installation for heating and hot water replacements
 - A new option for newly-built homes

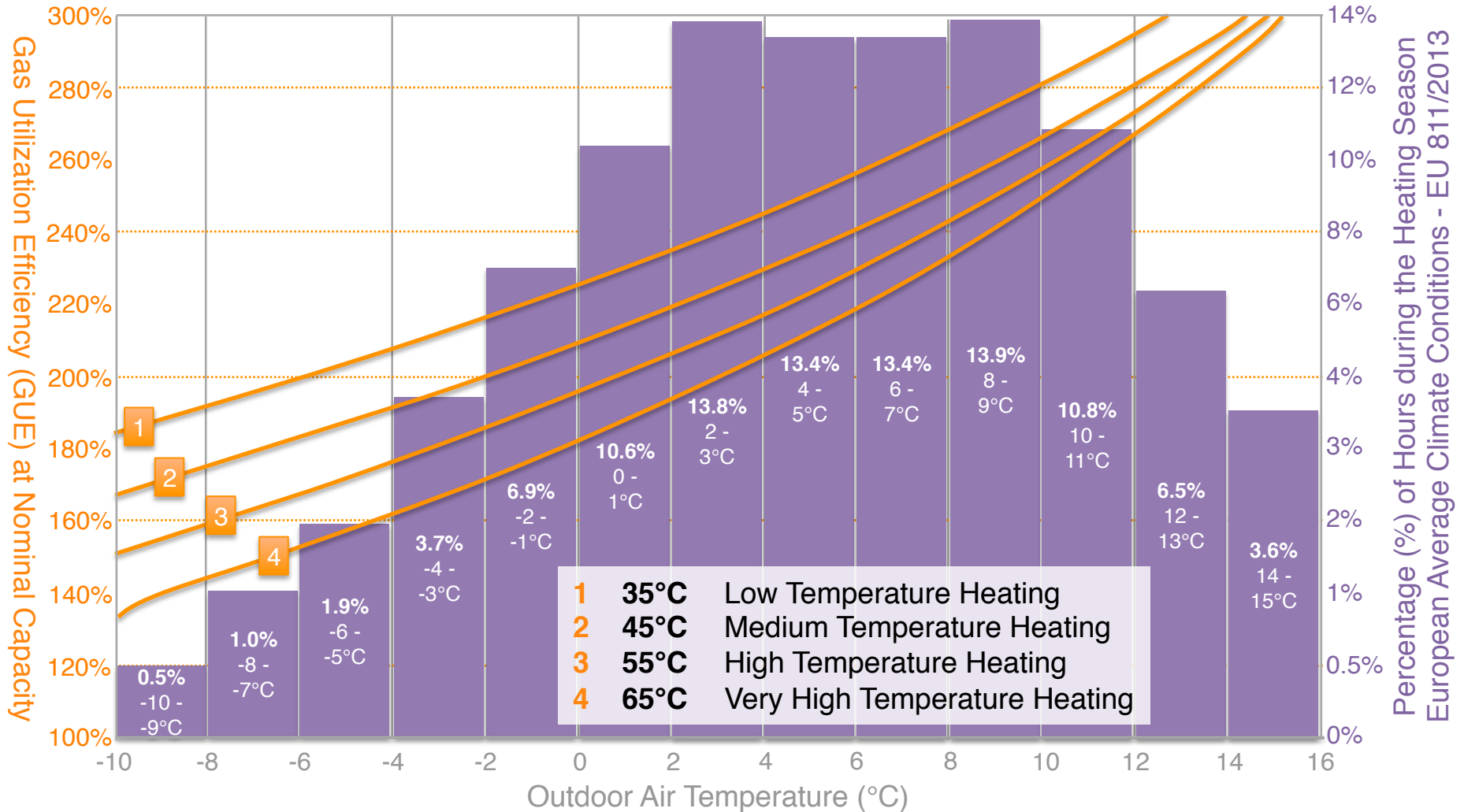
- > A solution for the global residential heating and hot water market

> HOME Heating + Domestic Hot Water

- > Field testing by GDF SUEZ in 2015
 - Including the 2015-2016 winter season

Efficiency for Heating and Hot Water (GUE - EN 12309)	Electric Heat Pump Equivalent COP
200% 35°C Low Temperature Heating	5.20
188% 45°C Medium Temperature Heating	4.89
175% 55°C High Temperature Heating	4.55
165% 65°C Very High Temperature Heating	4.29

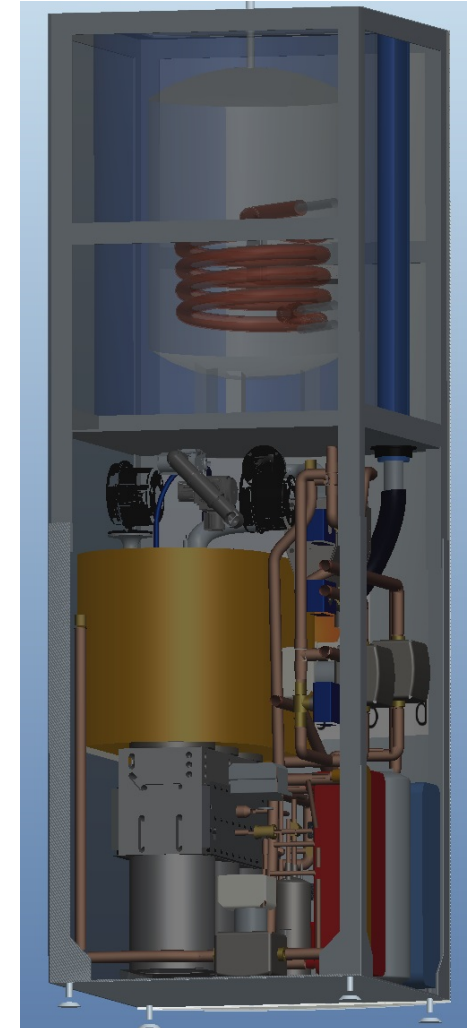
> VERY EFFICIENT FOR ALL YOUR HEATING NEEDS



Expected values based on lab tests and modelling

> HOME Heating + Domestic Hot Water

Capacity	22 kW at -10 °C 33 kW at 7 °C Integrated boost burner to provide additional output if needed
Capacity Modulation	20 % - 100 %
Domestic Hot Water Supply Temperature	50 - 60+ °C Integrated high temperature storage tank with adjustable mixing valve
Domestic Hot Water Specific Flow Rate	≥ 18 l/min (EN 13203) “XL” load capacity
Indoor Unit Dimensions	H 200 cm x W 60 cm x D 80 cm
Outdoor Unit Dimensions	H 116 cm x W 85 cm x D 50 cm





solutions for europe

natural refrigerants

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