

Solar hybrid Heat Pump

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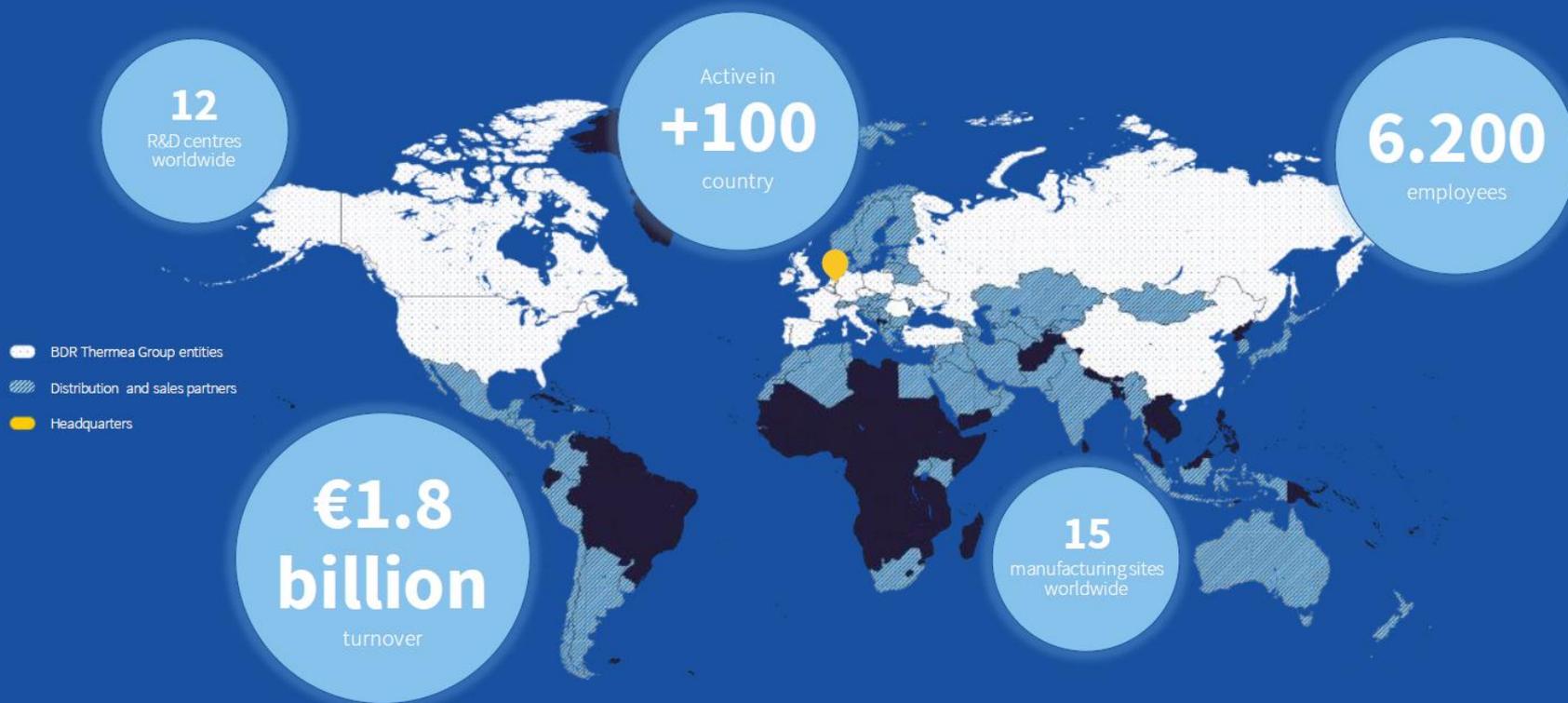
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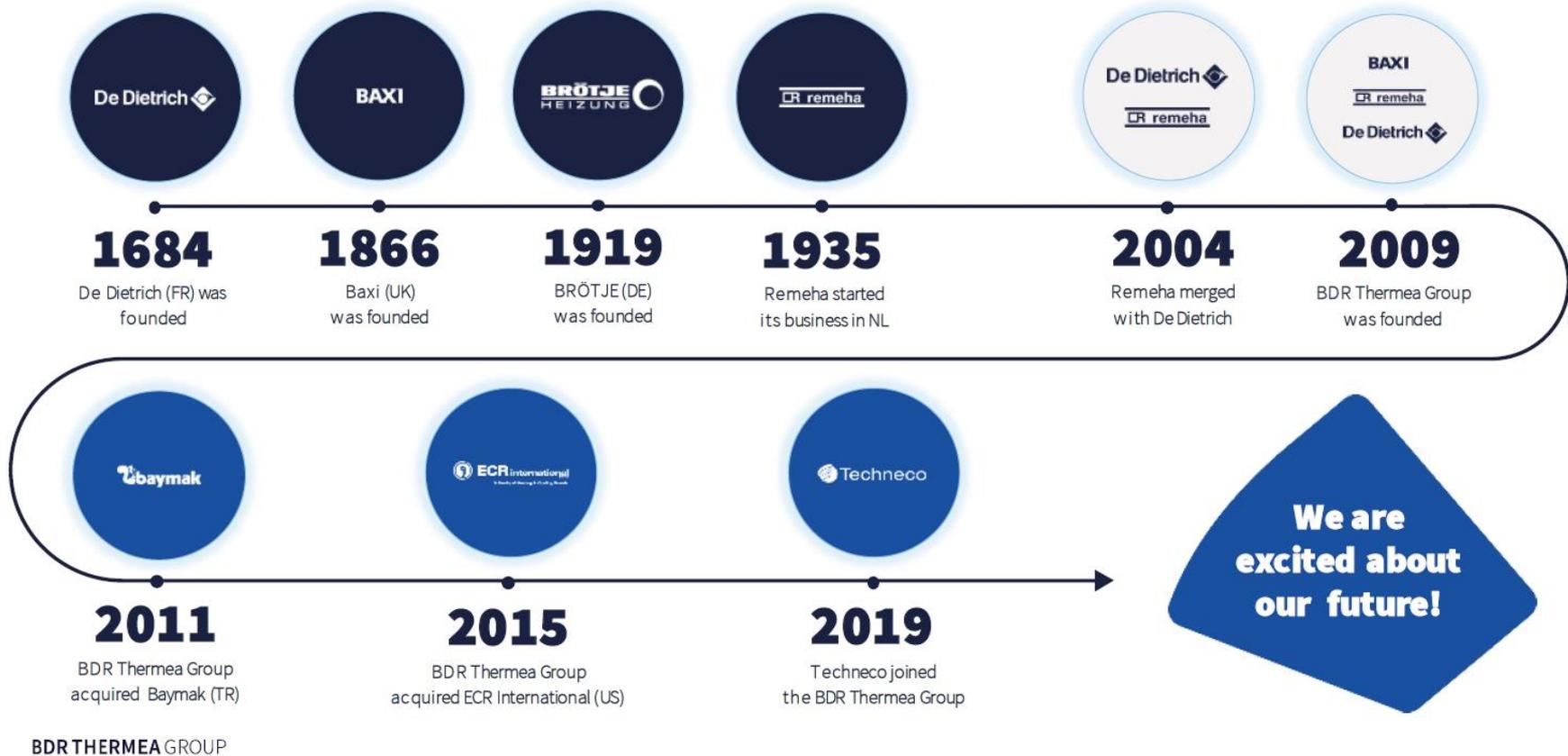
Company overview

**We bring a zero-carbon future closer
through smart thermal comfort solutions.**

Company facts and figures



Our Brand Heritage



What is a Solar Hybrid Heat Pump ?

The system is a combination of

Electric Heat pump (Air Source or Ground Source) to deliver heating, cooling, domestic hot water for residential and collective applications.

Combined with multiple solar sources :

- PV Panels for production of electricity used by the HP
- Solar collectors production of thermal energy for DHW mainly
- Hybrid collectors (PVT) production of thermal energy and electricity

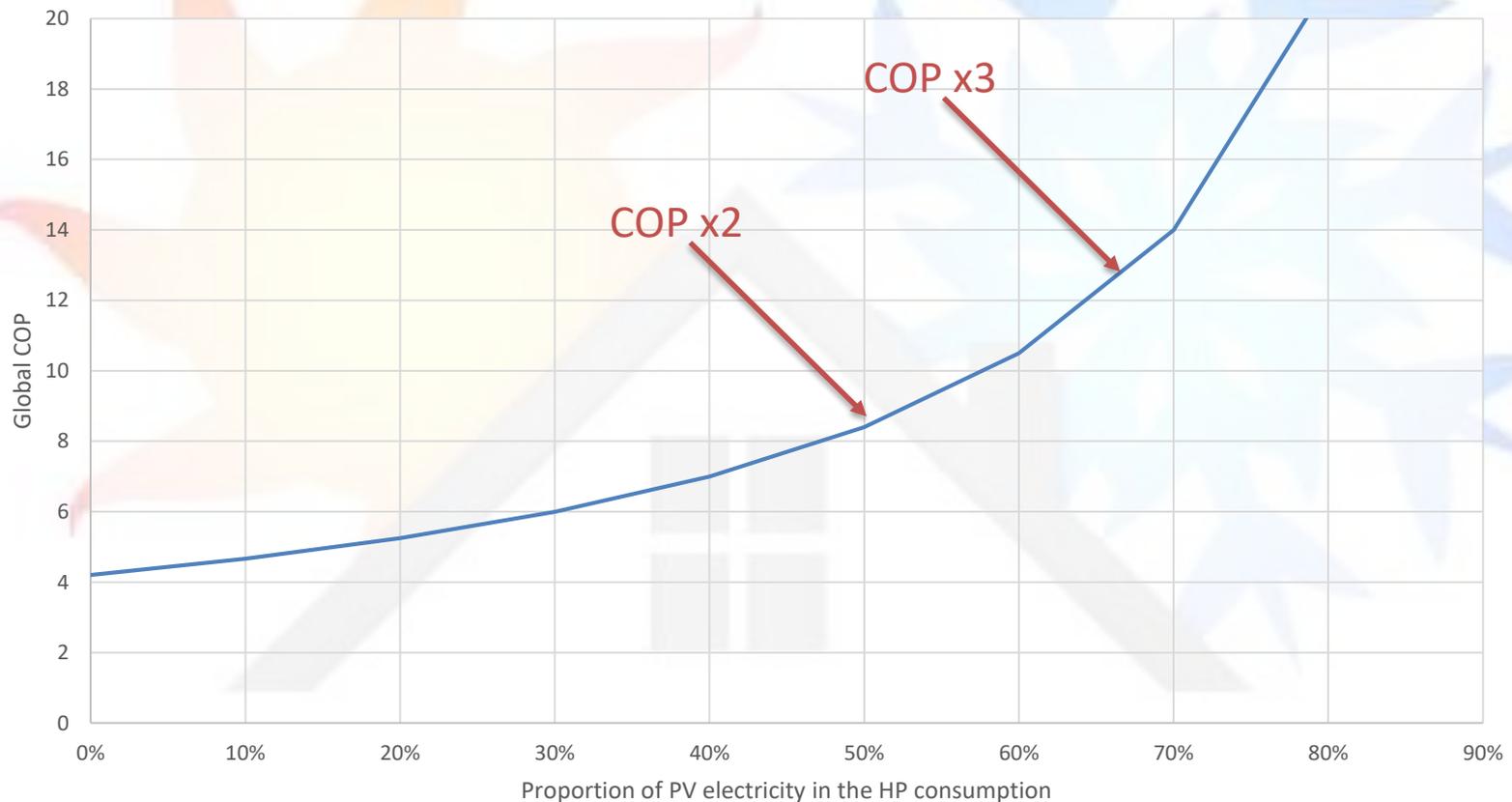


What are the benefits of a Solar hybrid Heat Pump ?

Supply PV electricity to A/W Heat Pump is an efficiency booster

Basis AHP COP = 4,2 (A7/W35)

Combination of a Air to Water Heat Pump and PV



What are the benefits of a Solar hybrid Heat Pump ?

Combination of a W/W HP with PVT hybrid collectors

Example

WO/W35 → COP = 4,4

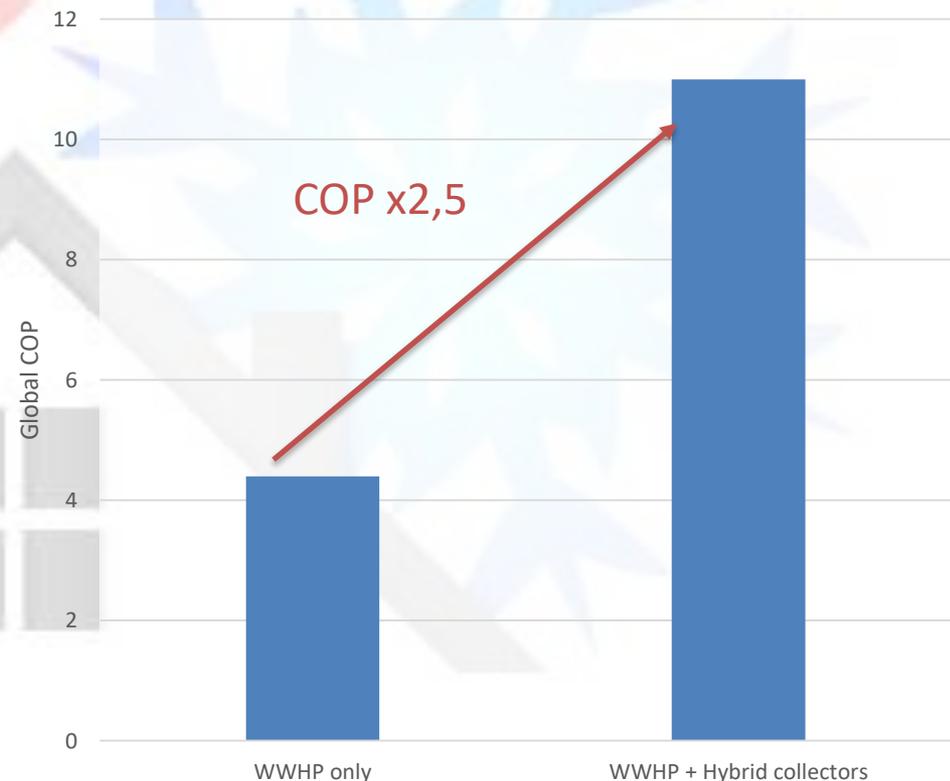
WIO/W35 → COP = 5,5

Increase the water source temperature with solar collectors will increase the efficiency,

Uninsulated collectors will allow to work all the time by recovering energy from air, rain and sun

Hybrid collectors combine both advantages : electricity from PV and better cold source temperature

Combination Water to Water Heat Pump and Hybrid collectors
50% PV electricity to HP and cold source +10°C



Demo sites to check the annual savings in real conditions



1- Demo site close to Barcelona in a residential house : ASHP 6kW + 5 PV 1,7m² + 2 Thermal panels 1,7m²

Savings expected of 60% of the cost of the energetic invoice (heating, cooling, DHW)

2- Madrid for collective application: ASHP 27KW + GSHP 9kW + 50 m² PVT

Saving energy expected : 77%

Modelisation of the building done to define the optimum size of PV compared to the need and the savings expected

The demo sites will help us to check the simulation done and compare with real life figures, also improve the management of the solar sources for the HP use.



A stylized illustration of a house with a grey roof, a chimney on the right, and a window with four panes in the center. To the left of the house is a large, multi-pointed sun with a gradient from yellow to orange. To the right is a large, multi-pointed snowflake with a gradient from light blue to white.

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