

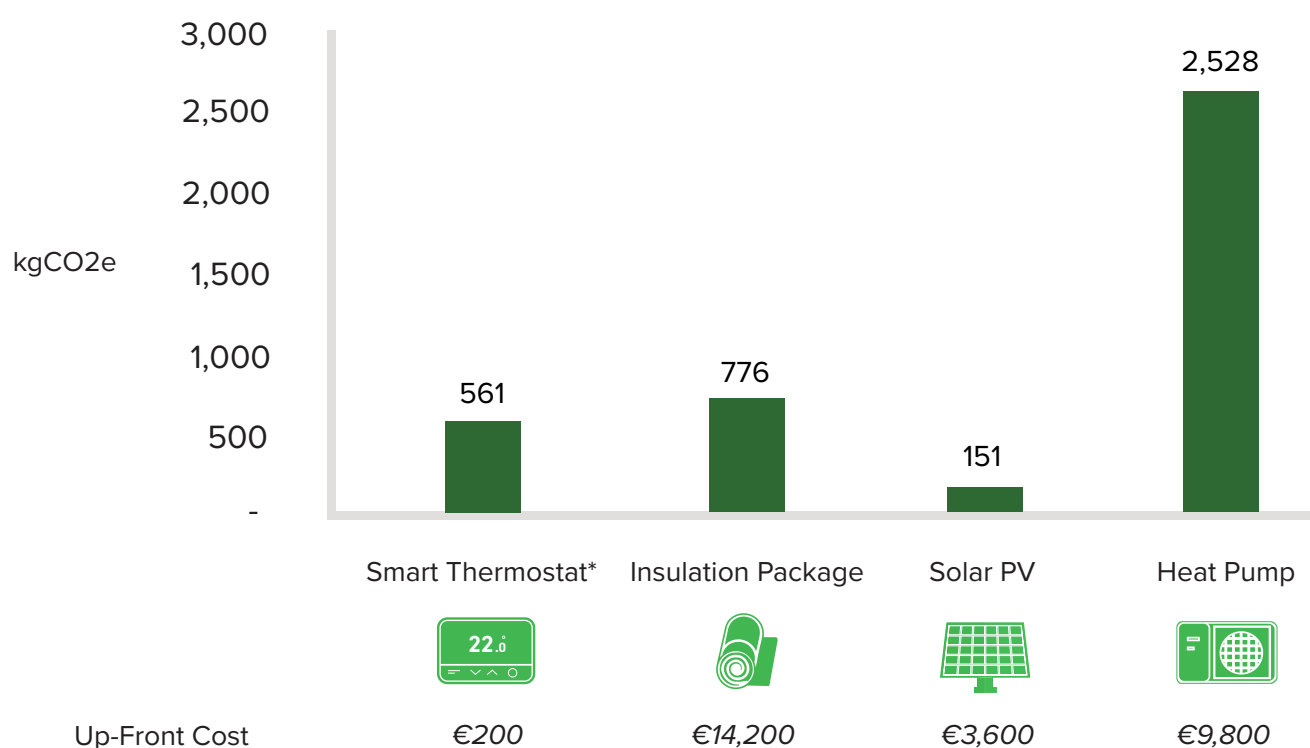
# COST EFFECTIVE DECARBONISATION OF THE EUROPEAN HOUSING STOCK

## How to best invest in green home renovation

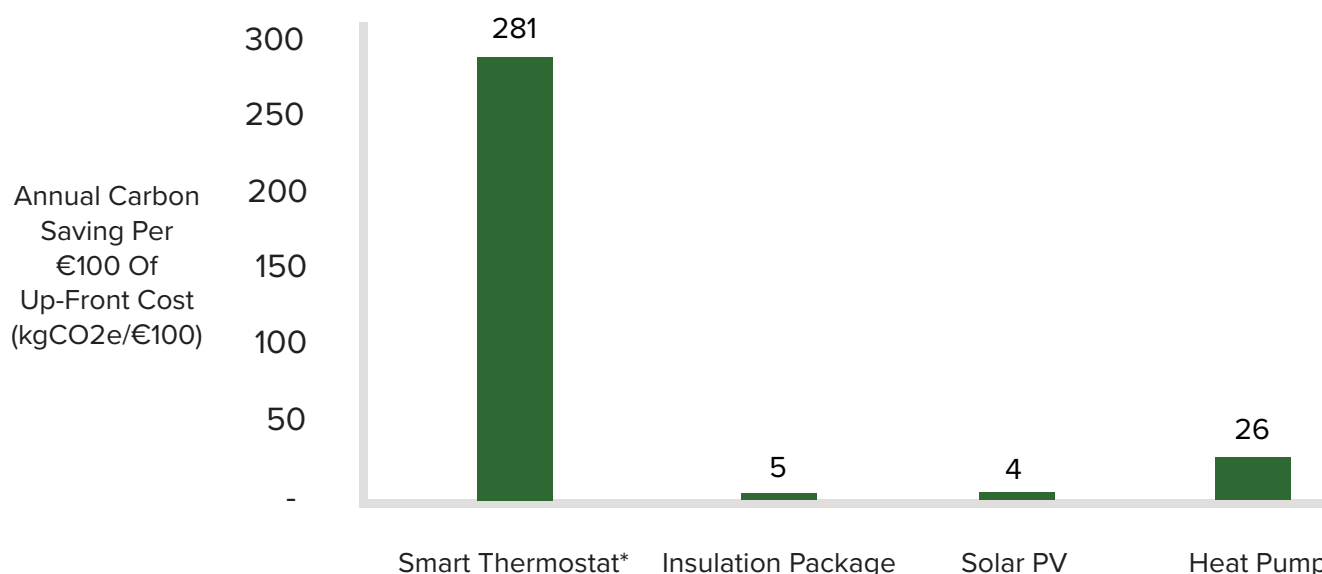
### THE CHALLENGE

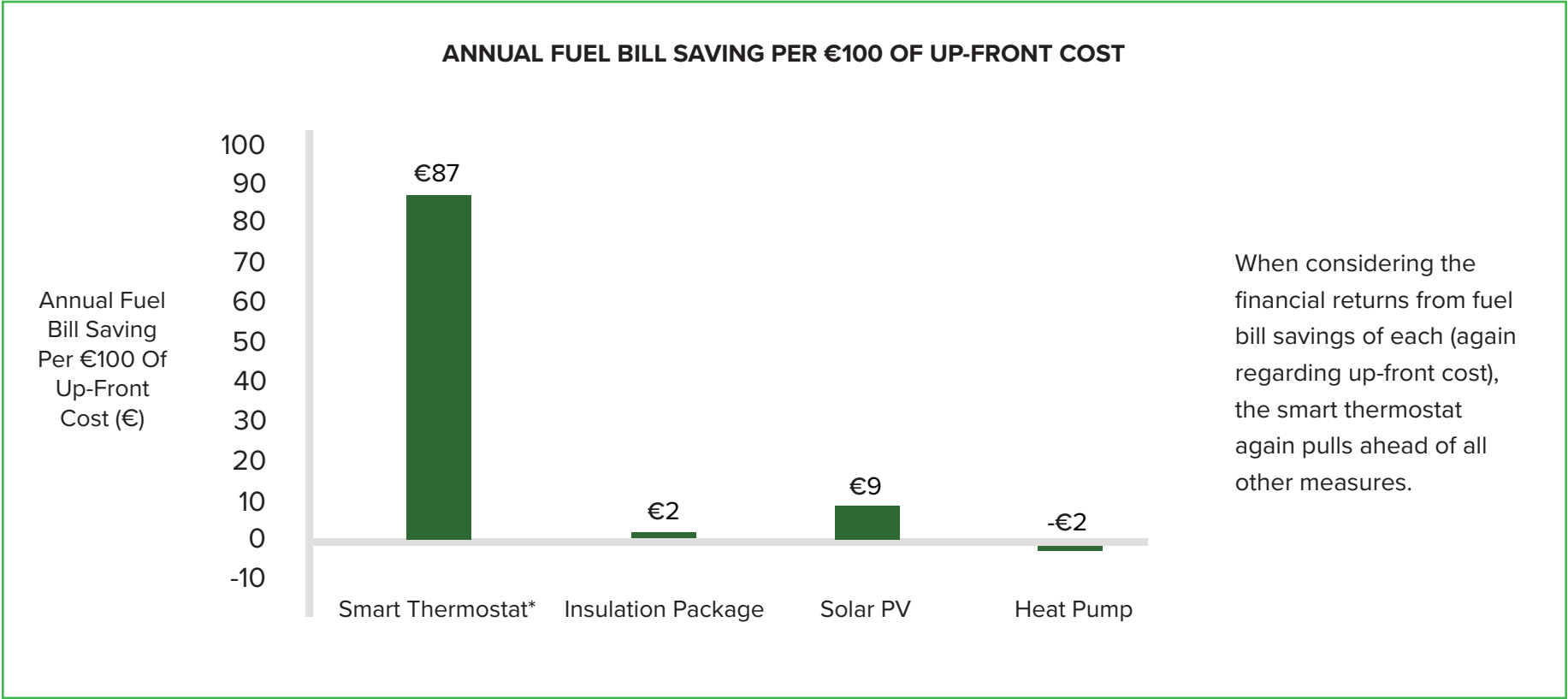
- 1 Both the UK and EU governments have committed to a net zero climate economy by 2050.
- 2 Buildings account for roughly 40% of total energy consumption and 36% of greenhouse gas emissions across the EU and the UK – in households, heating and hot water alone account for 79% of residential energy use.
- 3 Given that action must be taken in this area, the energy saving performance of smart thermostats should place them at the forefront of consumer or policy-maker discussion.

ANNUAL CARBON SAVING: AVERAGE EUROPEAN HOUSEHOLD



ANNUAL CARBON SAVING PER €100 OF UP-FRONT COST





Smart thermostats deliver the **most cost-effective route** for decarbonisation.

Smart thermostats outperform the next best alternative **10 times over** with regards to up-front costs.

Smart thermostats lead performance, **across housing types and climates.**

**Given the results of our analysis, we propose several key recommendations for policymakers.**

- 1 Public awareness campaigns to better educate consumers around the benefits of smart thermostats.
- 2 Recognise the value of smart thermostats in regulatory policy, such as building regulations.
- 3 Seek to redress the financial obstacles around heat pumps, for example improving the relative running cost via the use of carbon reflective taxation applied equally across all fuels.

**Peer Review by Dr. Tim Forman - Professor of Sustainability, University of Cambridge**

Smart thermostats show compelling potential to reduce energy demand, thereby reducing energy-related carbon emissions, based on the study assumptions.

\*Based on operational data of over 100,000 smart thermostat installations across Europe by tado°