

Instruments to achieve reductions in energy consumption through sufficiency: **Financial impacts for households and distributional considerations**

Behave 2018

F5. Policy implementation and evaluation II

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Results from a current project for the Federal Environment Agency (FKZ 37EV 16 124 0)

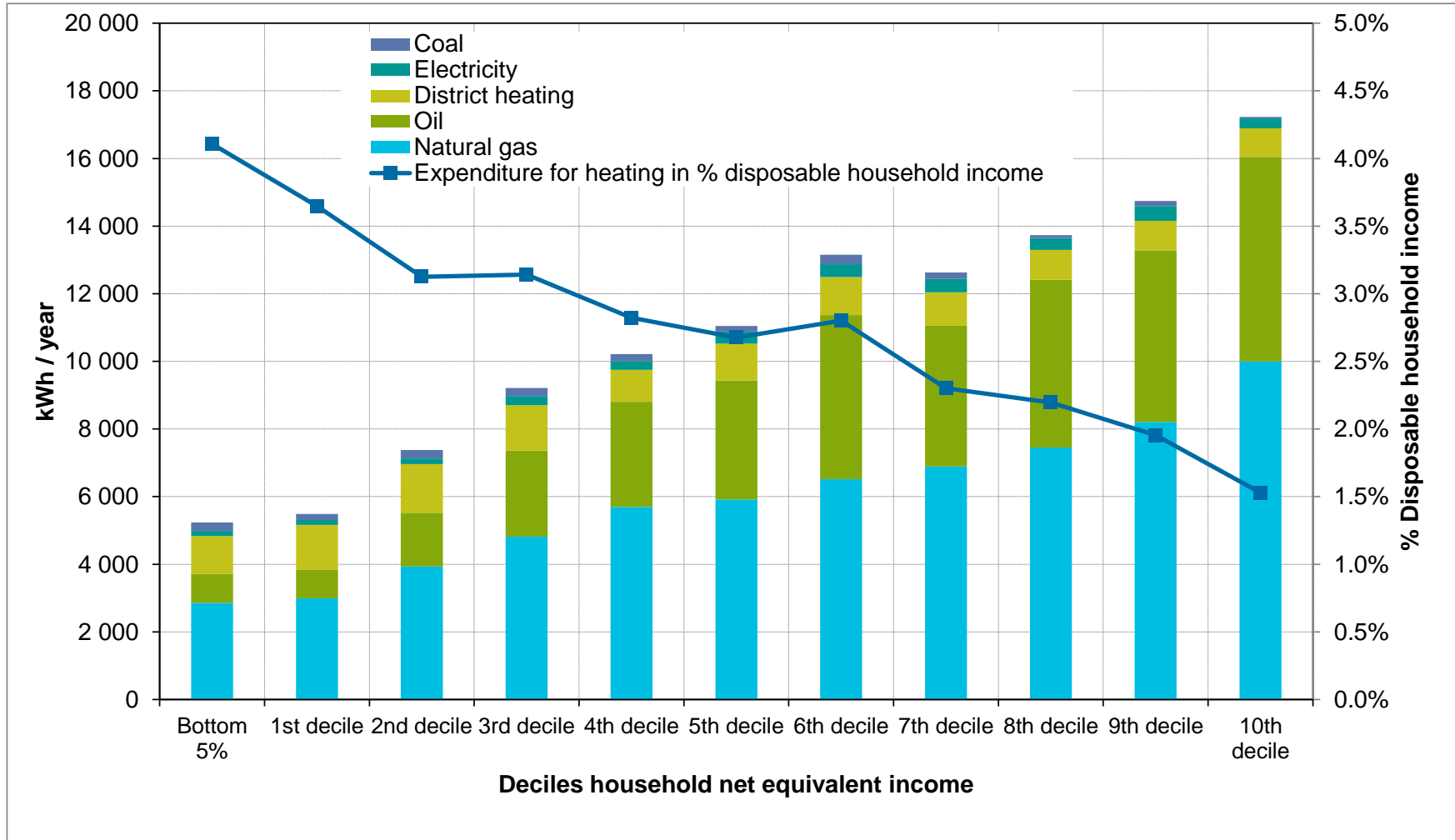
Project on behalf of the Federal Environment Agency: Instrumenting the reduction of energy consumption through changes in behaviour

- Reduction of living space, reduction of electricity consumption
- Step 1: Identifying target groups
- Step 2: Identifying overall reduction potentials
- Step 3: Analysis of barriers (literature, interviews)
- Step 4: Developing policy instruments
- Step 5: Quantifying reduction potential per policy instrument and associated costs
- Step 6: Analysing impacts for households that carry out the measures addressed by policy instrument
- ...

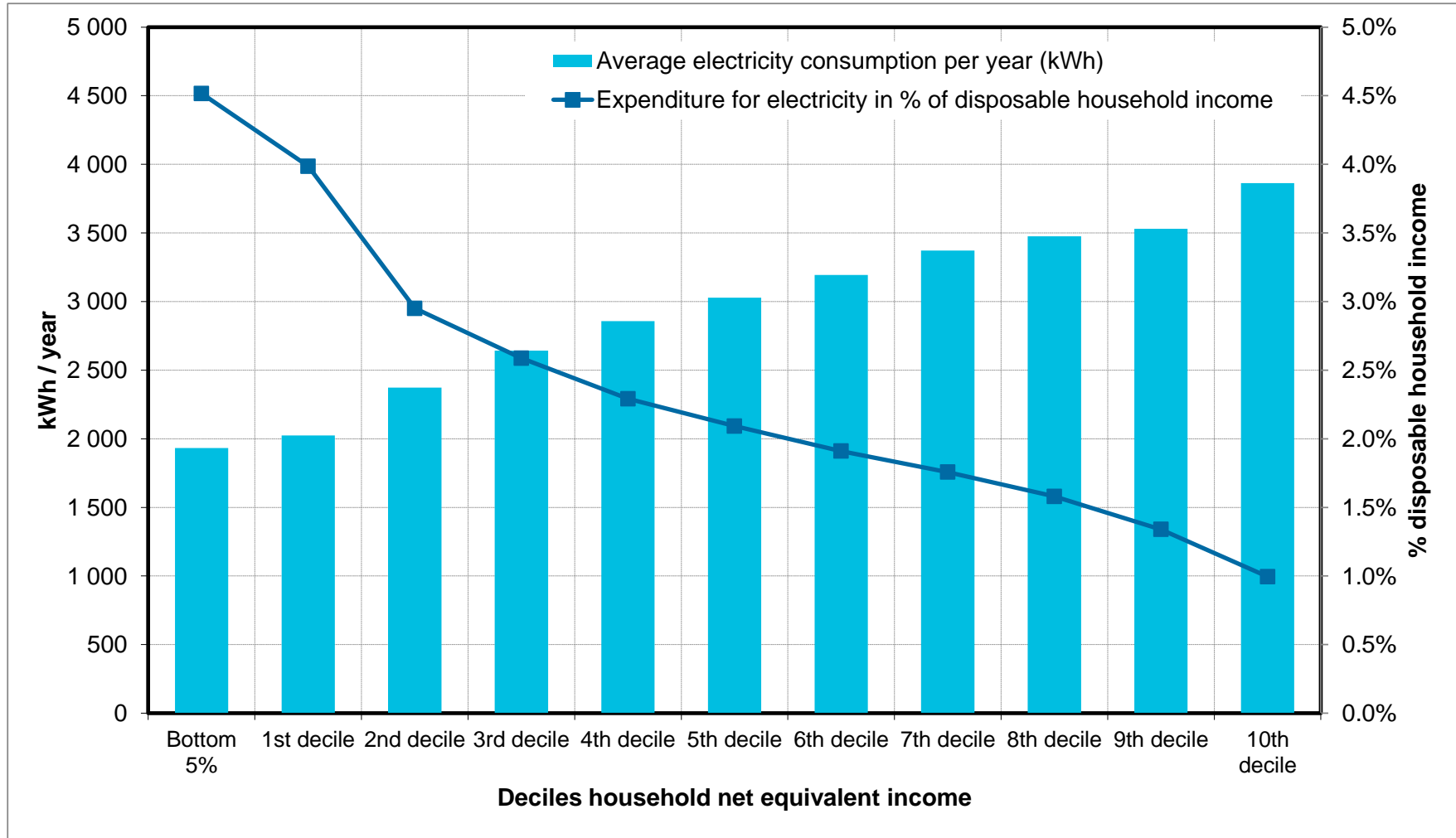
Why look at financial impacts and distributional effects?

- Financial impacts of a measure can help us understand how attractive this measure may be *financially* from the point of view of a household – and whether this attractiveness varies between different household types
- This information can be used to design policy instruments
- Consumption of and expenditure for heat and electricity are distributed unevenly in society
- Need to analyse whether novel policy instruments may lead to positive or adverse distributional effects

Heating energy consumption per income deciles of German households

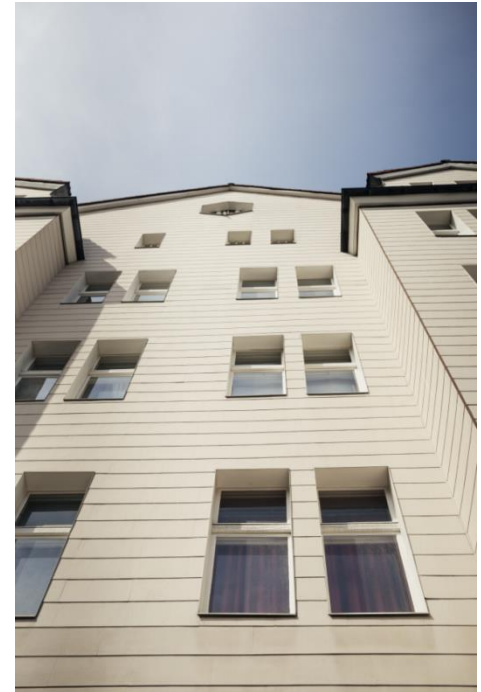


Electricity consumption per income deciles of German households

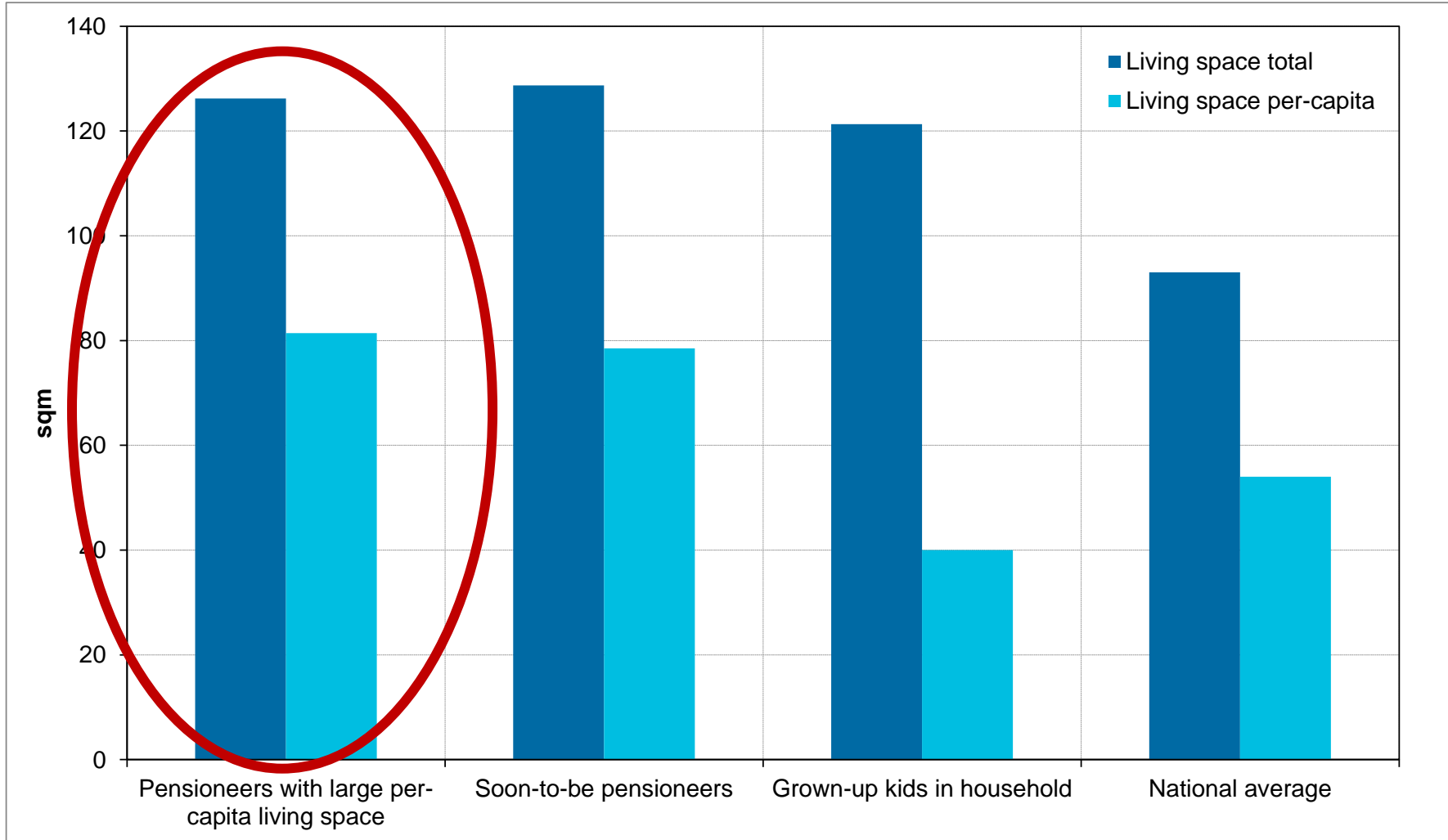


Reduction in living space

- Measures
 - Splitting the owner-occupied home
 - Sub-letting a room
 - Moving into a smaller apartment
- Instrument: Combination of information schemes (a local office advising households on space-saving housing alternatives) and investment support

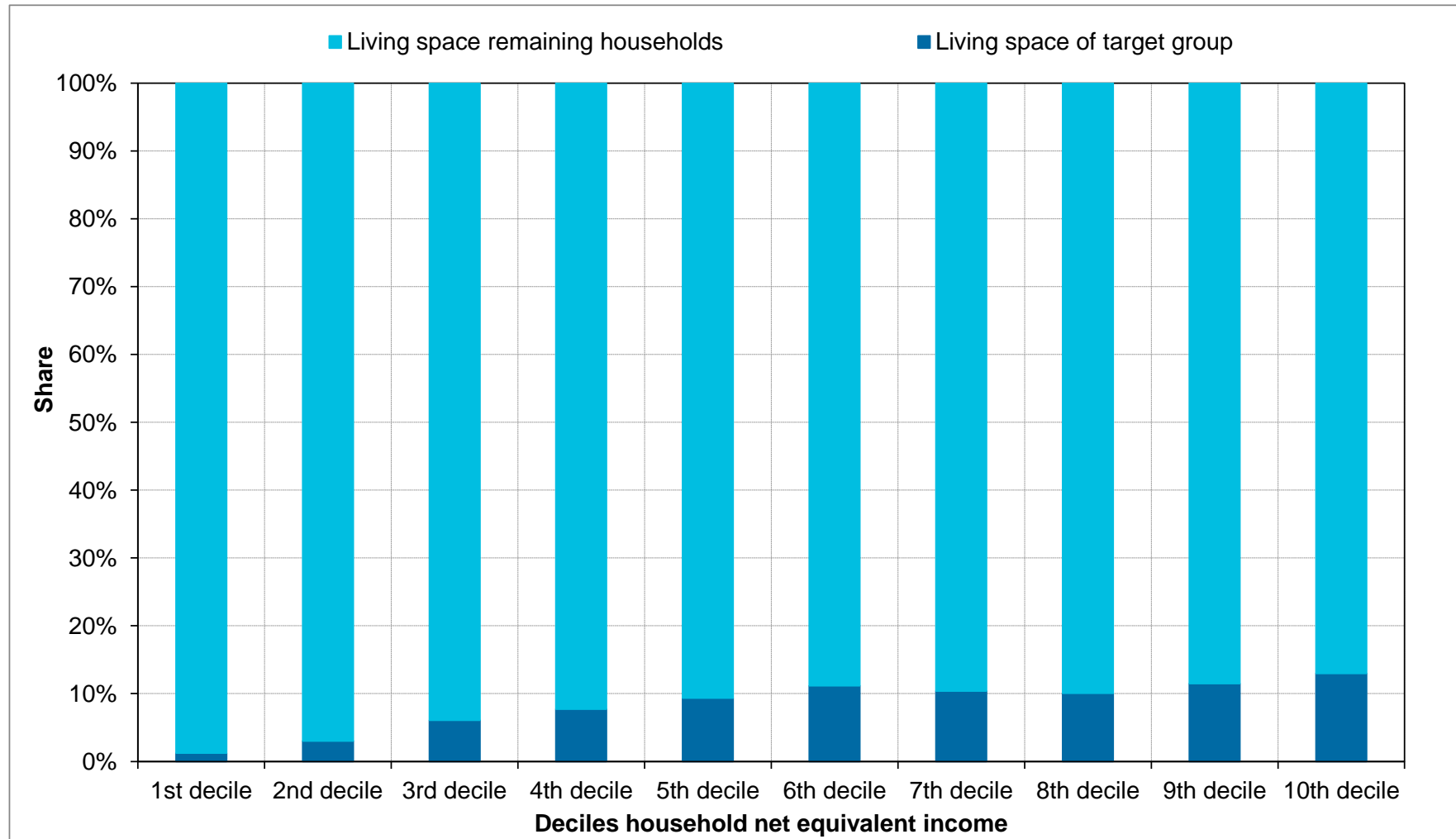


Target groups for a reduction in living space

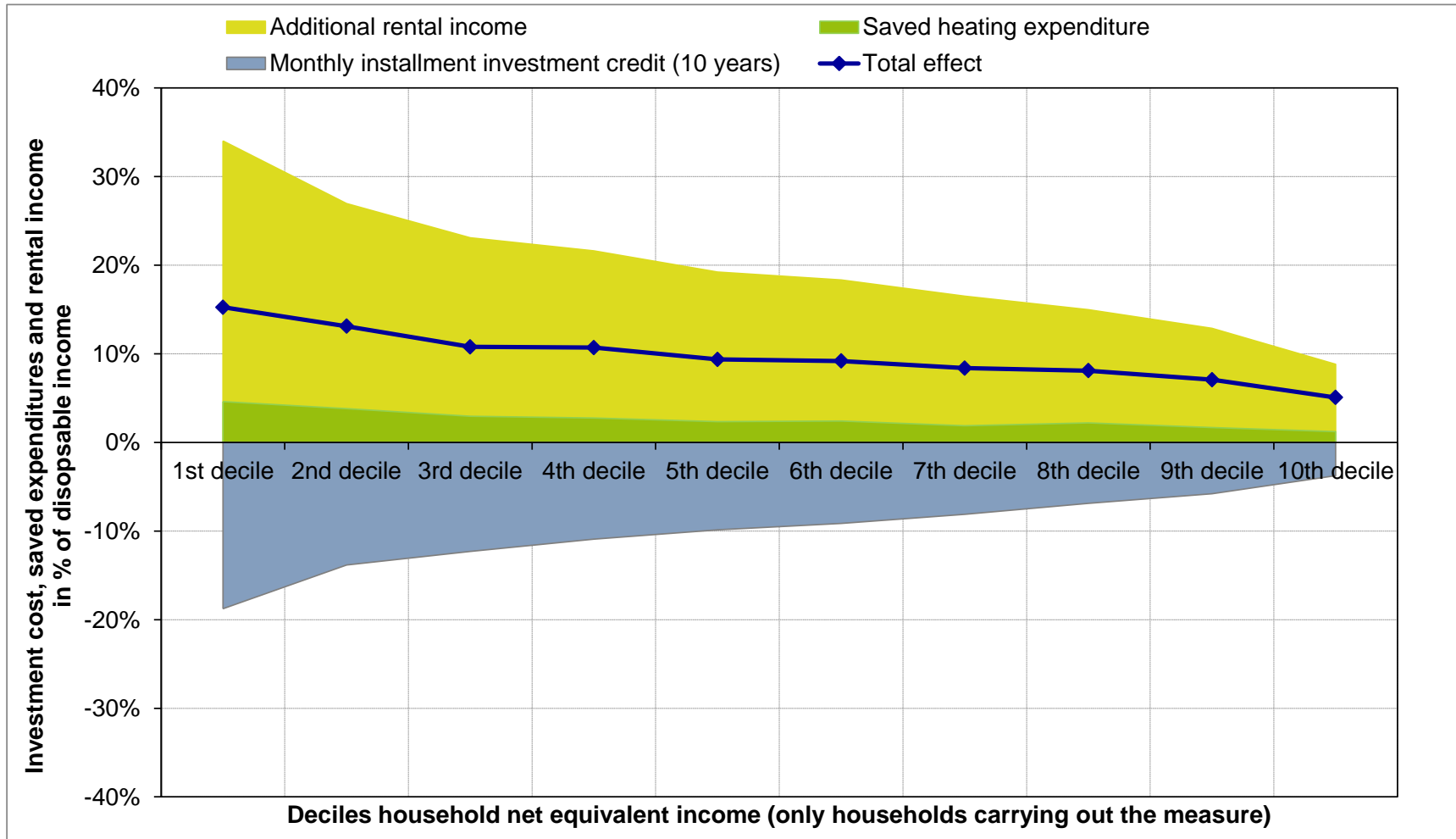


Splitting the owner-occupied house

In which income deciles can we find the target group?

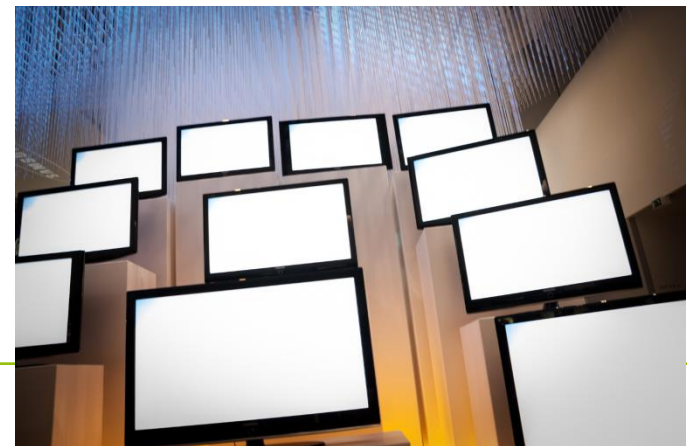


Distribution of financial impact: Household splitting their owner-occupied home



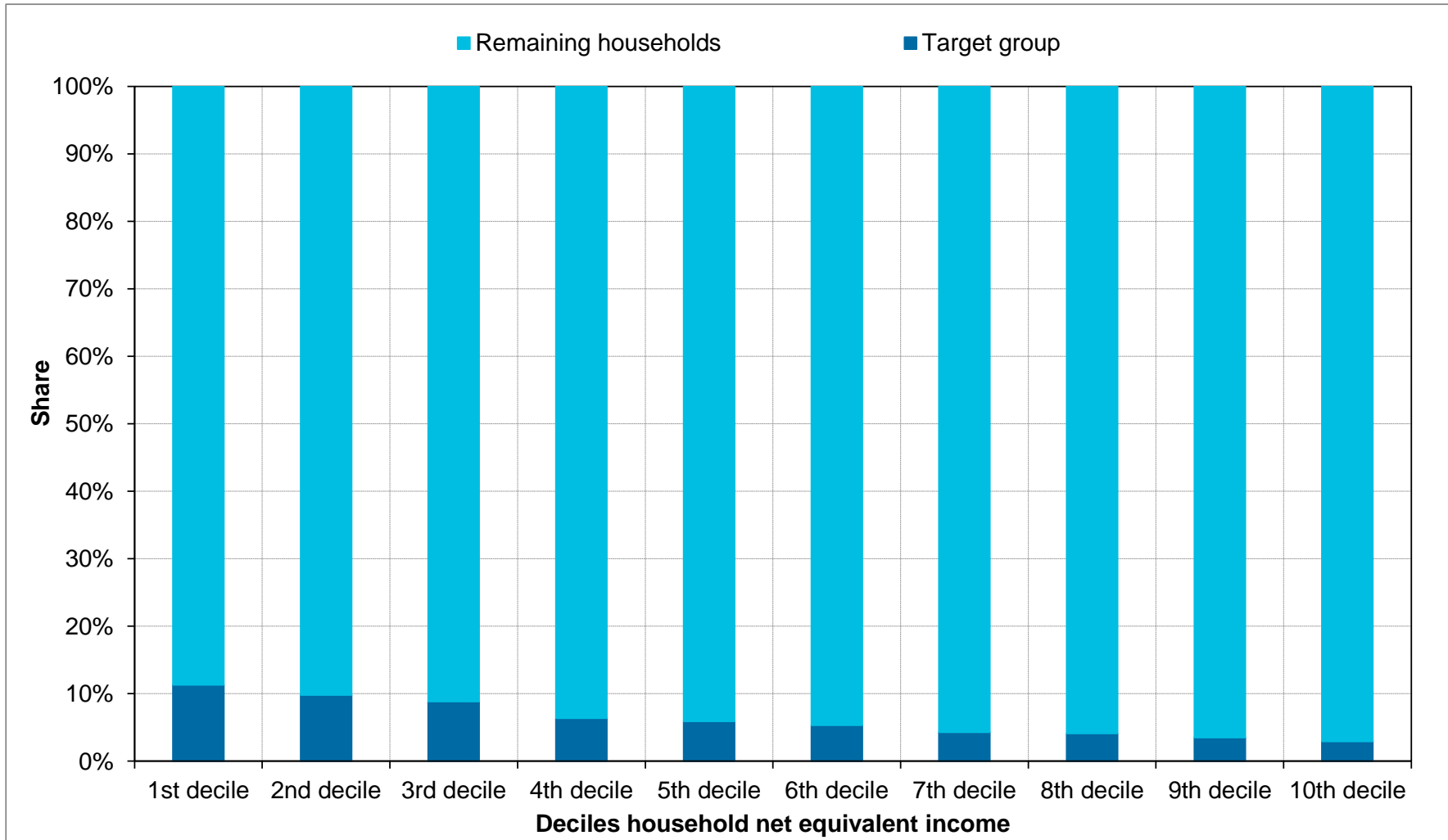
Reduction of household electricity consumption

- Measures
 - Scrapping a freezer that is no longer used
 - Buying adequately sized appliances
 - Reducing electricity consumption for showering
 - Reducing TV time
- Instruments: Mix of information campaigns, free appliances, Ecodesign changes, scrappage bonus

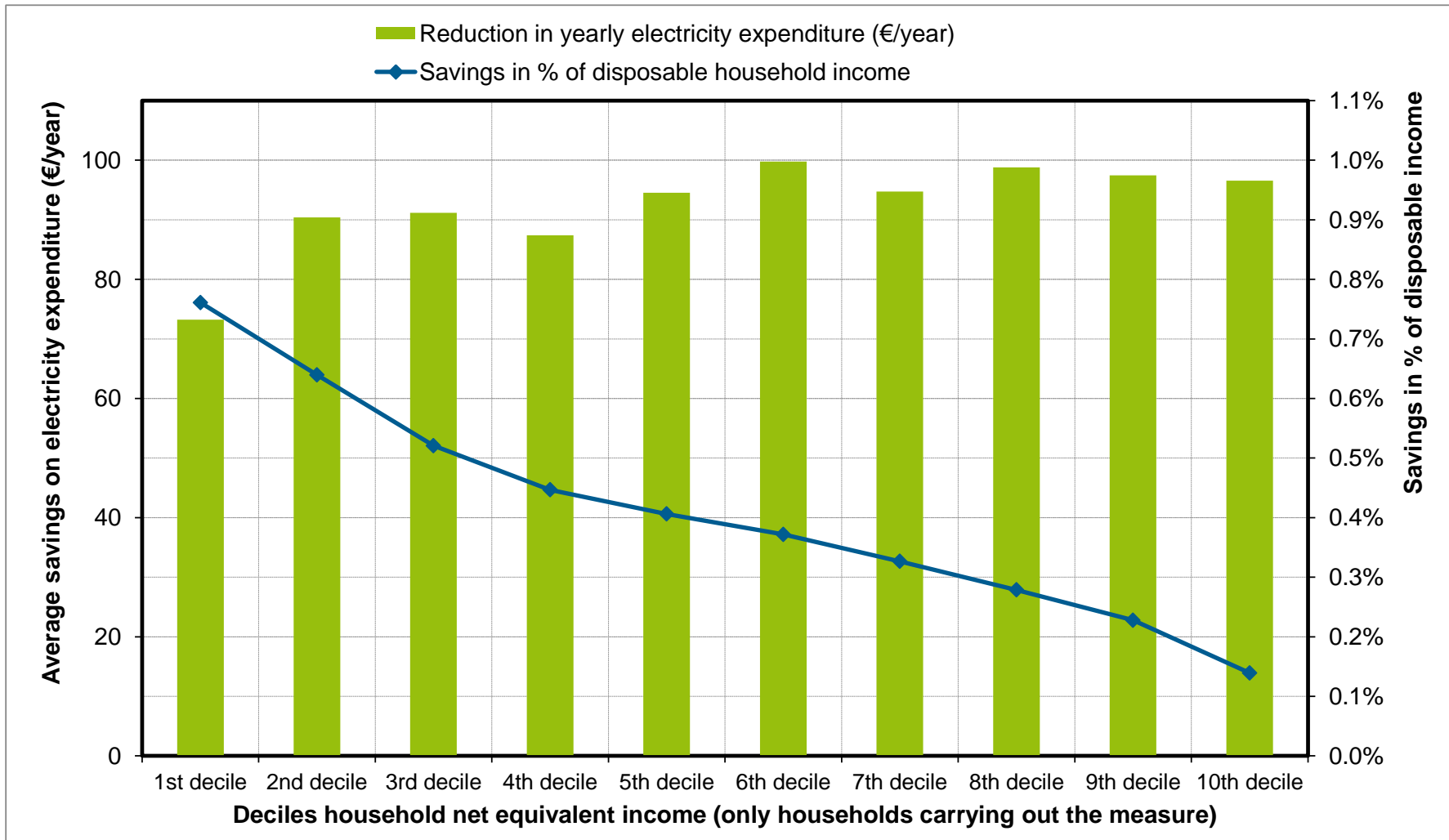


Reducing electricity consumption for showering

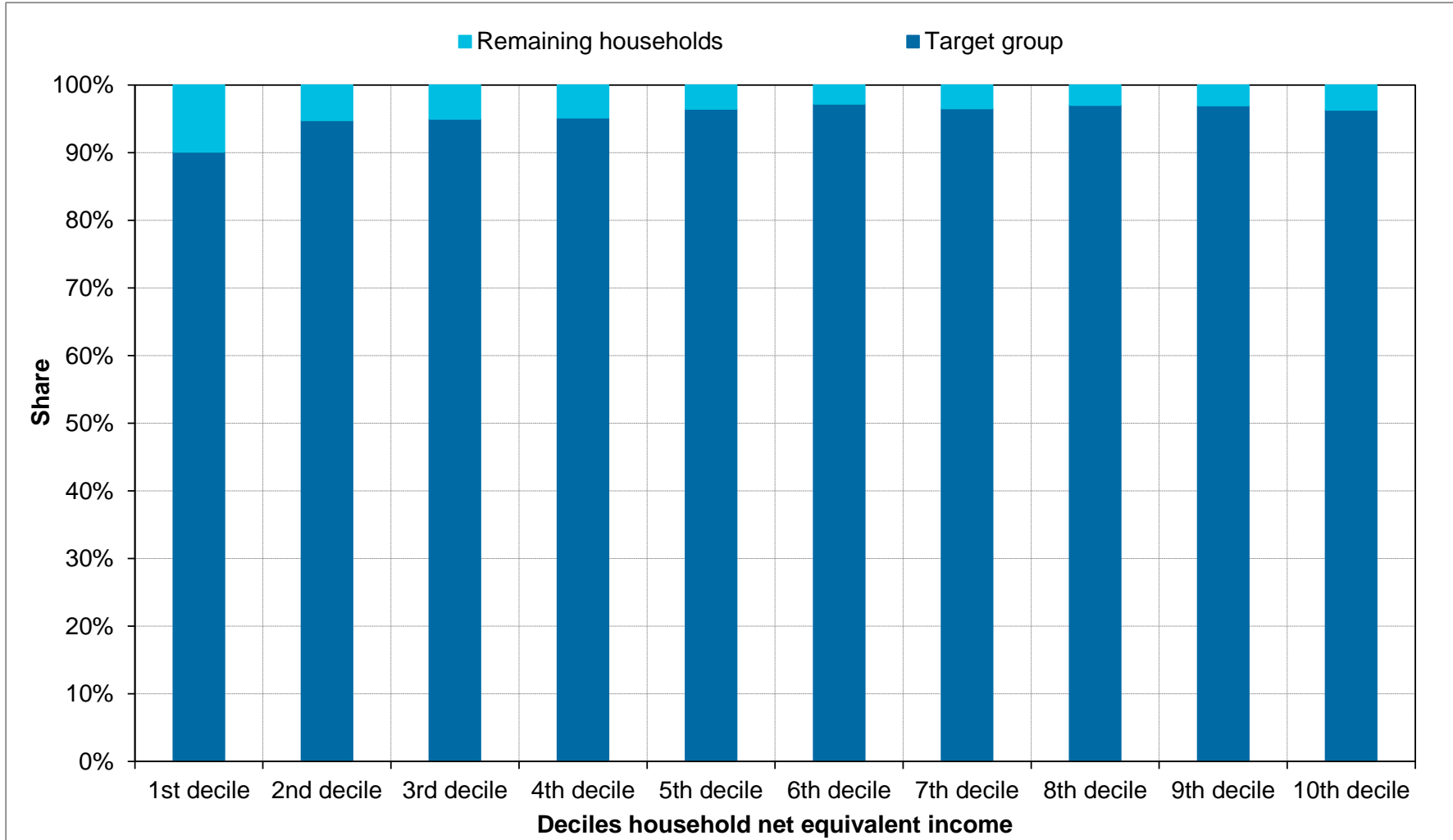
In which income deciles can we find the target group?



Distribution of financial impact: Showering one less time a week



Target group for reducing TV time



To sum up

- Analysis of socio-economic effects given a household has decided to carry out the measure
- Measures are economically advantageous for households carrying them out and are socially compatible in providing relatively higher benefits to low-income households.
- In addition to highlighting non-financial benefits, information on financial impacts can be used in communication to overcome barriers.
- This applies not only to saving on energy expenditure, but also, f.e. additional rental income

Thank you for your kind attention



Any questions?

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Backup

Distribution of financial impact: Household splitting their owner-occupied home 5 year payback time

