

[illegible]

# ETI's Smart System and Heat Programme



## ETI members



**CATERPILLAR**



**Rolls-Royce**



**Department for  
Business, Energy  
& Industrial Strategy**

**EPSRC**  
Engineering and Physical Sciences Research Council

**Innovate UK**  
Innovation, Research and Development

## ETI programme associate

**HITACHI**  
Inspire the Next

“Creating future-proof and economic local heating solutions for the UK”

- Connecting together – the understanding of consumer needs and behaviour with the development and integration of technologies and new business models into...
- Delivering enhanced knowledge amongst industry and public sector
- Resulting in industry and investor confidence to implement from 2020 which enables a UK heat transition

The Energy Systems Catapult will deliver Phase One of the SSH programme as a supplier to the ETI following the transition of the SSH programme team to the Catapult. From 2017 the Catapult will be responsible for delivery of Phase Two of the programme independently of the ETI.

Decarbonising heat is the most cost effective way to tackle climate change in the UK, but

Today fewer than

4%



have low carbon heating

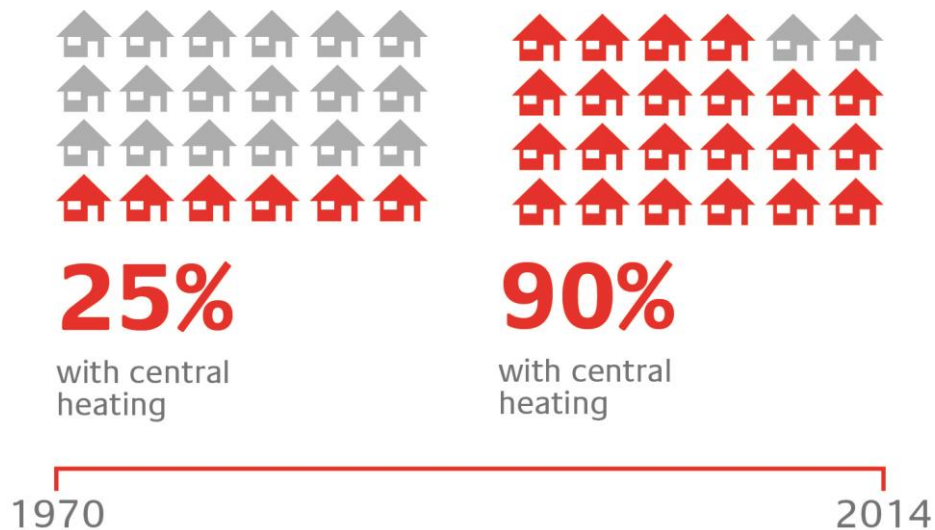
and

90%



prefer gas central heating  
given the choice

# Rapid change is possible



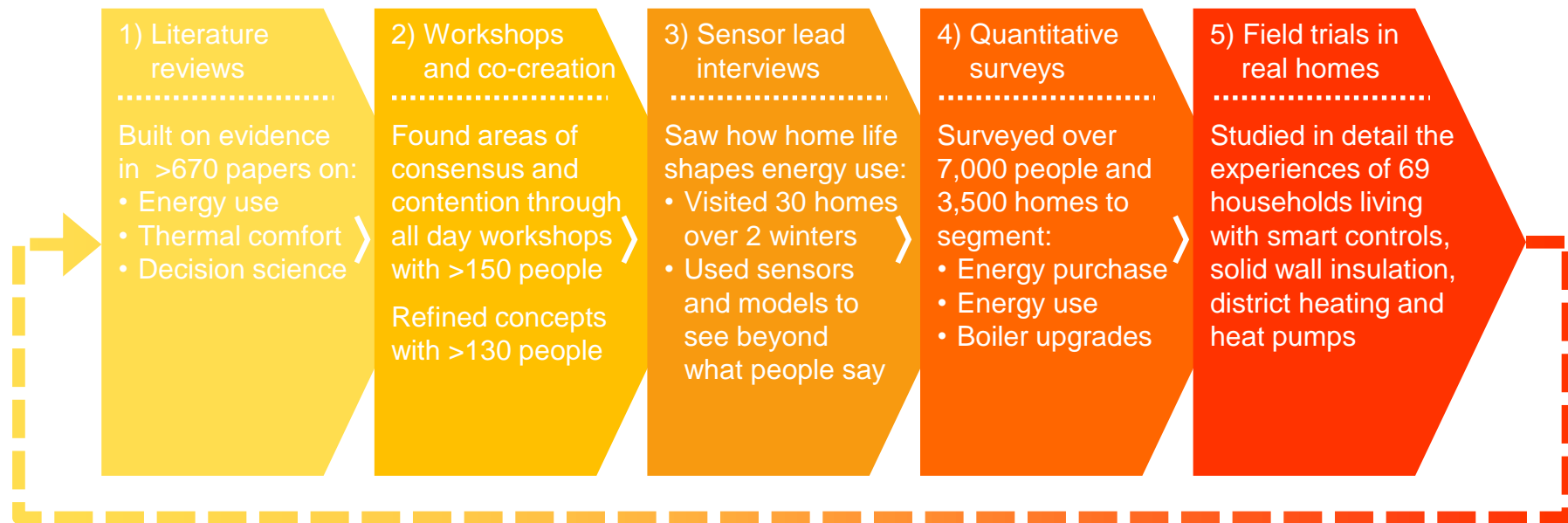
# We must focus on tackling 3 key challenges

---



1. Improve low carbon heat experiences
2. Simplify installations
3. Enhance control

# What have we done?

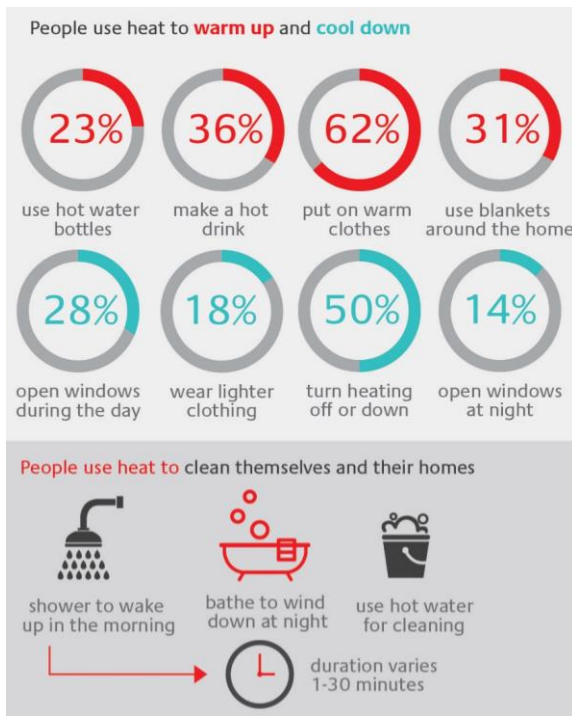


## Partners





# Improve low carbon experiences

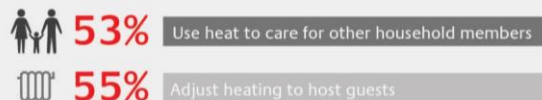


- Systems should allow people to use heat to get clean and comfortable in diverse ways

## People use heat to promote health



## People use heat to enrich relationships



## People use heat to protect property



# Simplify low carbon heating installations

Location limits what solutions will be available in any area

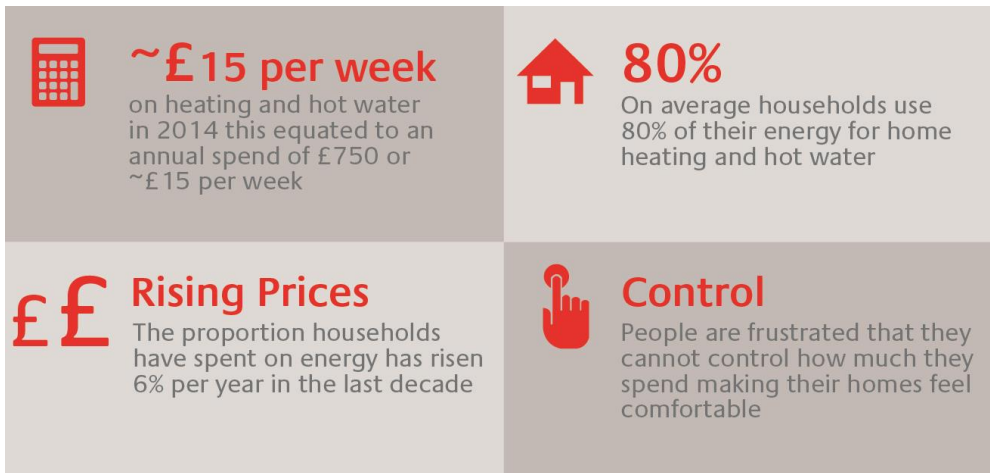


and many homes will need modifying to make sure solutions work well

- Design solutions that can be installed in a similar timeframe to replacing a gas boiler
- Encourage people to prepare their properties during renovations
- Enable people to consider thermal details when making renovation decisions
- Explain what solutions will work in each area



# Enhance control



- Public concern over heating bills conceals private confusion over what heat costs
- People hold very different views on how they think heat should be used
- Controls should help people get the heat experiences they want
- Improved controls could prove key to unlocking deeper decarbonisation

# We need to tackle three consumer challenges to decarbonising heating



Improve low carbon heating experiences



Make low carbon heat systems simple to install



Make low carbon heating easy to control

# What is an energy service?

*Last year I spent*

- £1,380 on
- 14,983kWh of gas and
- 4,125kWh of electricity.

*Next year, I've no idea*

- How much fuel I need
- What it will cost, or
- What experience I will get.



*I want to warm*

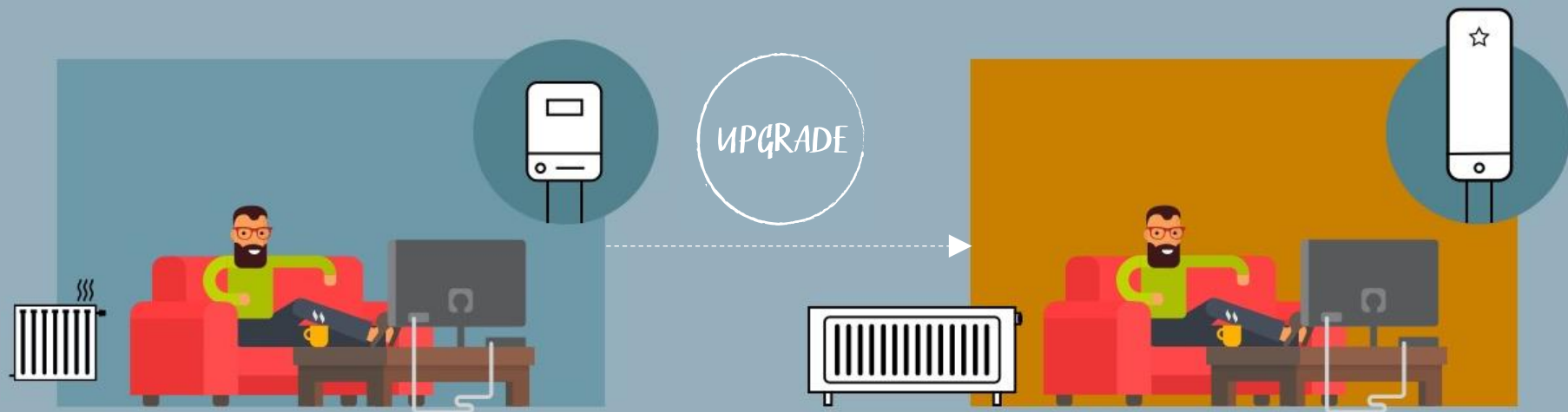
*the rooms I choose...*

*...to the temperatures I like...*

*...when I am home.*

*For a fixed monthly price!*

# Services that can be decarbonised



# Services could make interests compatible

*Policy  
makers*



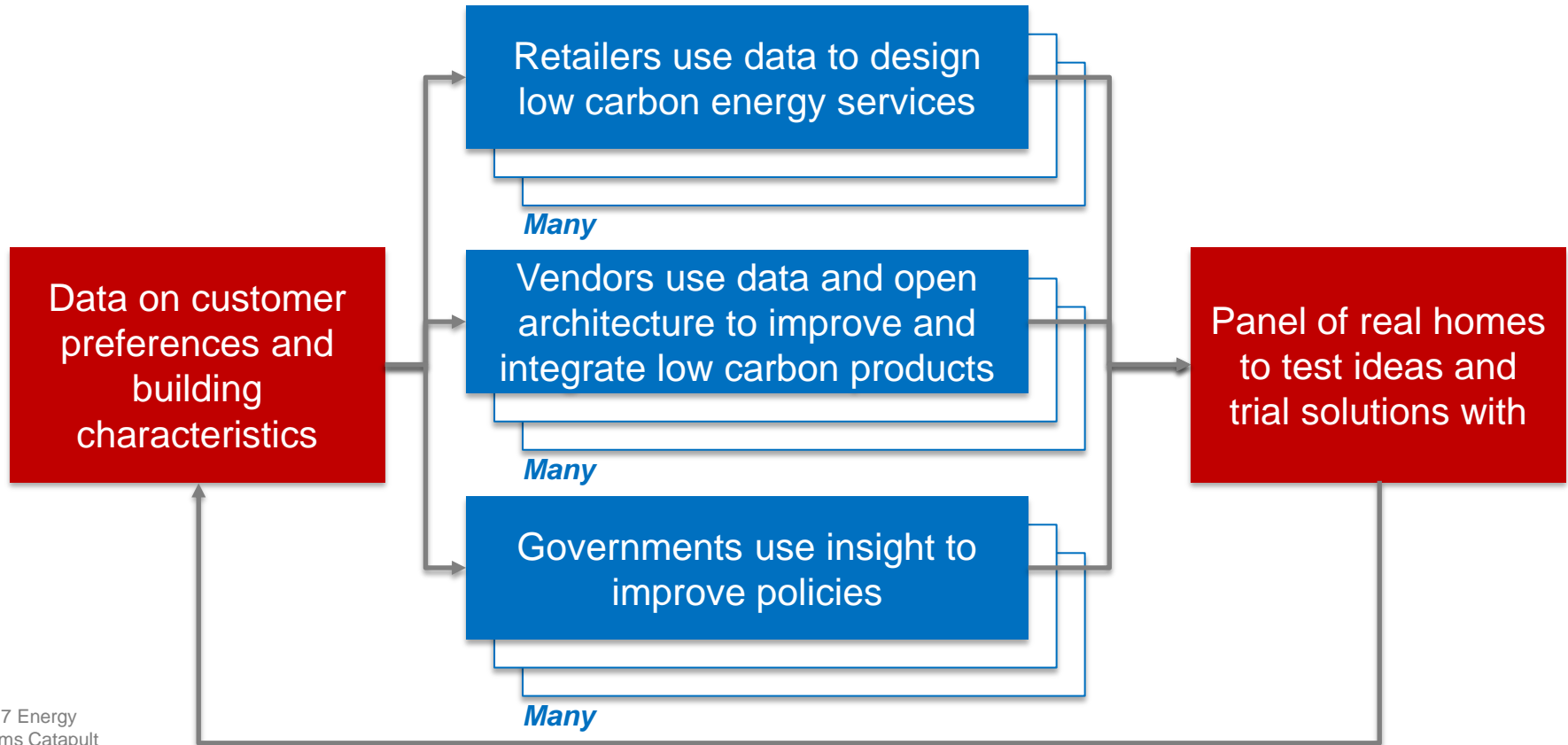
*Businesses*



*Consumers  
Citizens*



# A 'living lab' to help others create solutions



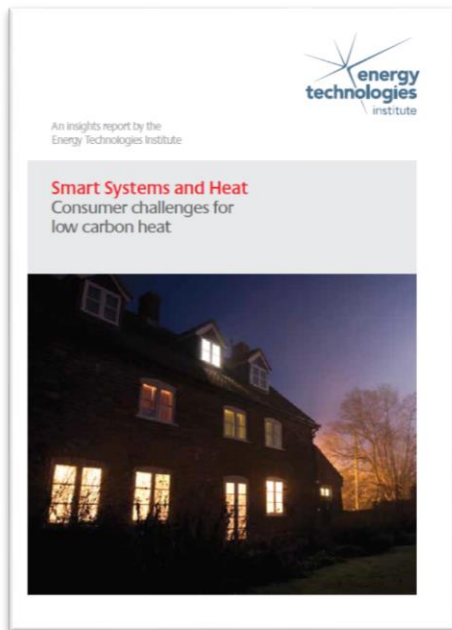
# Could energy services put consumers at the heart of the energy system?

---

- Could energy services reveal what consumers need from the energy system?
- Can policy-makers design energy service markets to decarbonise at least cost?
- Could energy services help providers delight their customers?
- Could consumers' choices help vendors improve and sell low carbon products?
- Living Labs offer a unique route to find out



# Thank you



Matthew.Lipson@es.catapult.org.uk  
@matthewlipson

**CATAPULT**  
Energy Systems