Human factors / User Centred Design

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End users — Human factors (facilitators) — Engineers and designers

Heat pumps and ancillary equipment

What will people need – ancillary equipment:

- Low temp delivery systems
- Thermal stores
- Heat pump unit
- Etc….

Ascertain potential issues related to these from a human factors perspective through the life cycle stages:

- Choice
- Installation
- Use
- Function
- Performance (Physical and psychological)
- Behaviour
- Maintenance
- Upgrade / replace

Objectives

1. Gain information on current systems – likes , dislikes.

2. Gain information on what people would like in a new system – regardless of technology.

3. Ascertain the potential issues (barriers) relating to each new technology.

4. Prioritise barriers and select barriers to investigate in more detail.

5. Identify / propose solutions.

6. Payoffs

Obtaining information / data …..

Identify and recruit existing cohorts of system users

Set up and use test houses

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Example –
Thermal stores (Domestic use)

Related questions……

- How will the addition of a thermal store affect
  - Performance
  - Use
  - Understanding
  - Complexity
  - Acceptance
  - Installation
- Would people want a store?
- What are the physical barriers for having a store?
- What are the practical barriers to having a store?
- What are the cognitive / psychological barriers to having a store?
- Will people change their behaviour and use – if energy provided more as finite daily / weekly resource compared to infinite source?

Becoming part of the grid…….

- What are the drivers for having distributed thermal stores?
- What would having a store mean to the end user and the 'grid'?
- What could the benefits be and how could they be fed down to the individual?
- How might we sell the need for the two- heat pump and thermal store?

- **The owner will become part of the system (part of the service)**
  - How might we achieve this?
  - What information would people
    - Want?
    - Need?
    - Desire?
    - What information would people have to provide, allow to be monitored?
    - How would they react/ feel about this?
  - How might they want this information presented?
  - What level of input / control?
  - External systems – trust issues etc…