ENERGISE

EUROPEAN NETWORK FOR RESEARCH, GOOD PRACTICE AND INNOVATION FOR SUSTAINABLE ENERGY

RESULTS FROM CROSS-COUNTRY ANALYSIS OF ELLS AND WHERE TO GO FROM HERE?
MAPPING A FUTURE RESEARCH AGENDA

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This project has received funding from the European Union's Horizon 2020 Research and Innovation programme under Grant Agreement No 727642.

TWO CONSUMPTION DOMAINS, TWO TARGETS

- Absolute reduction to **18 degrees** for 4 weeks
- Relative reduction to **halve (1/2) laundry cycles** for 4 weeks

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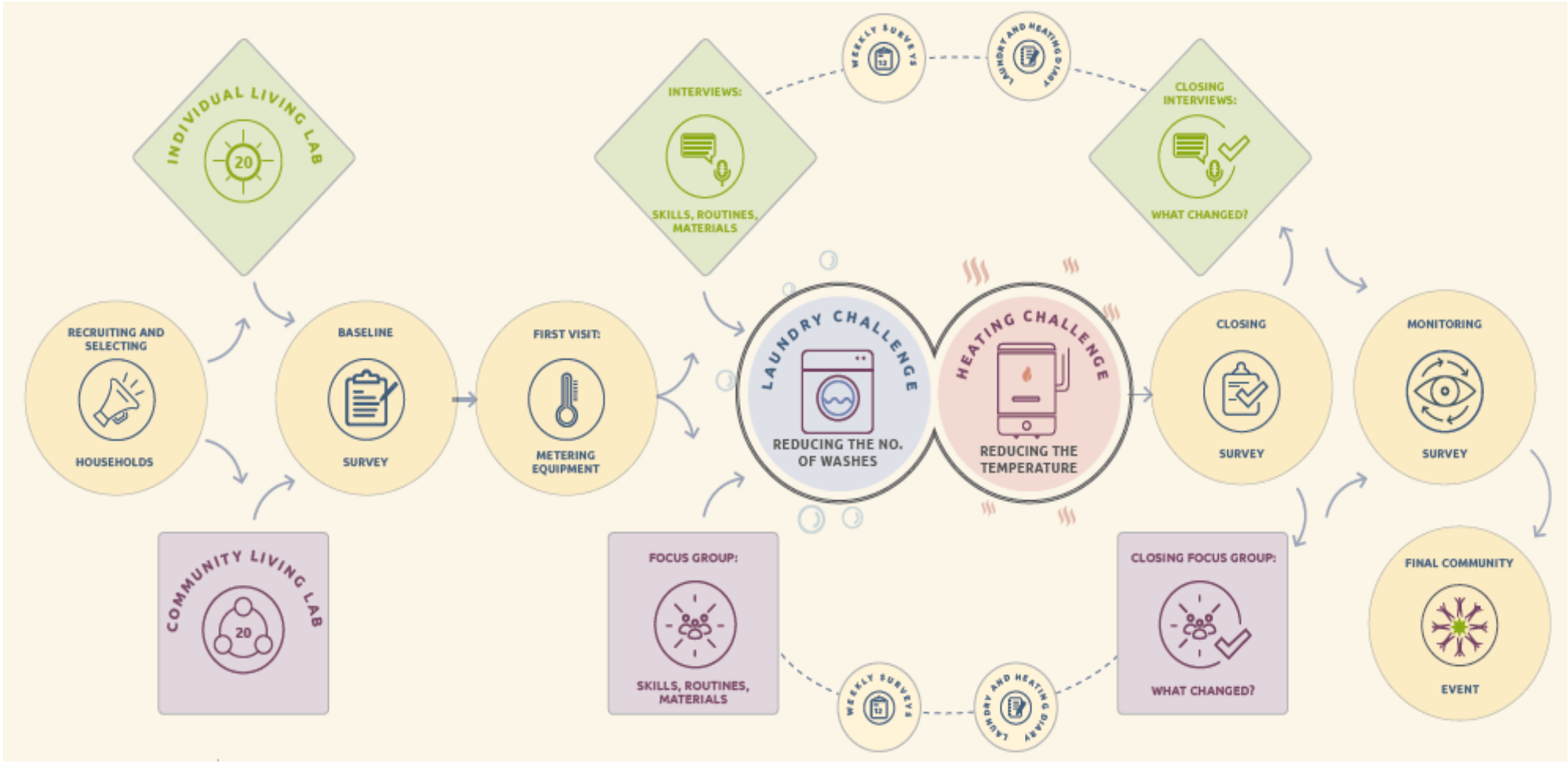
ENERGISE LIVING LAB DESIGN: INDIVIDUAL AND COLLECTIVE



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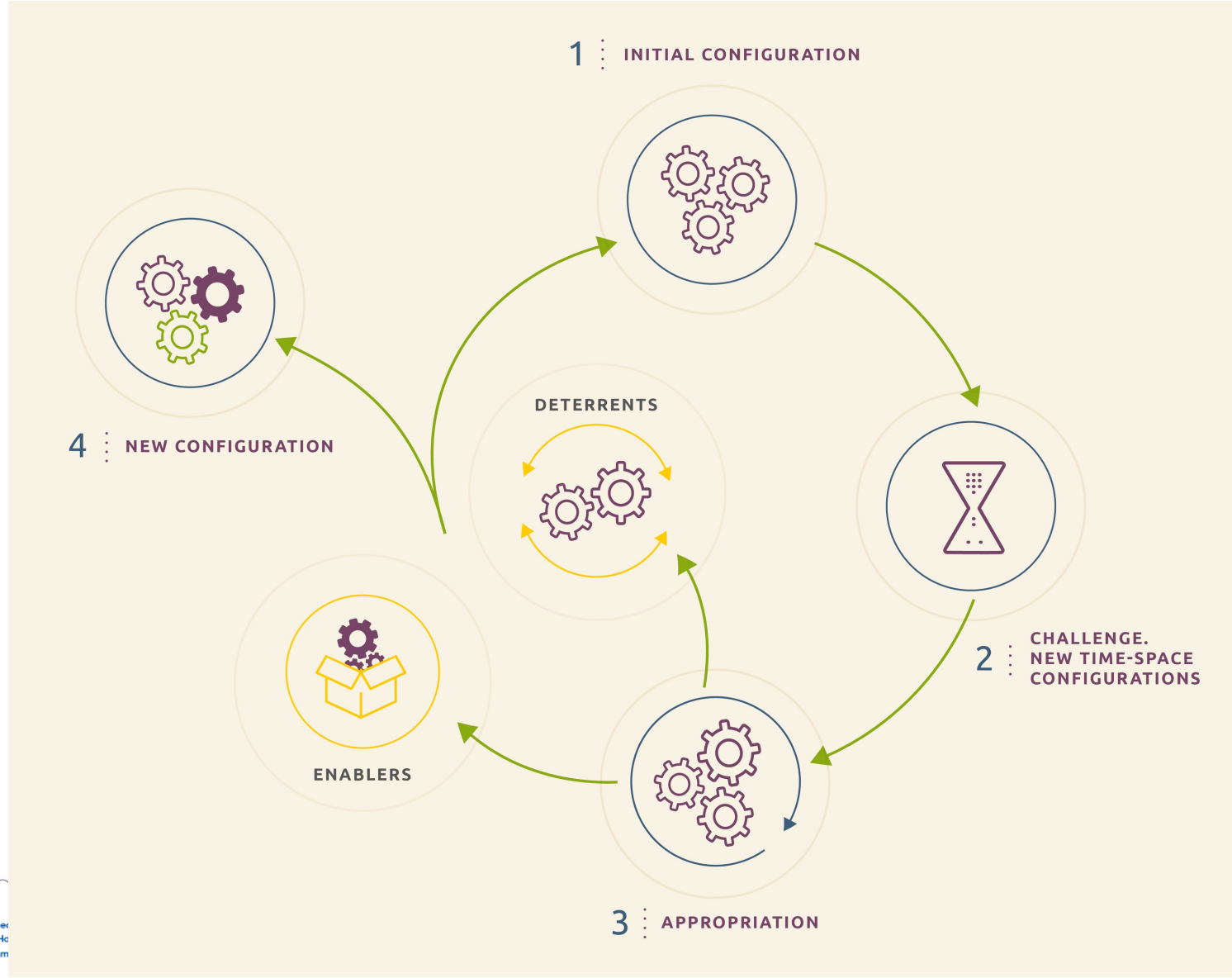
STAGES OF LIVING LAB APPROPRIATION BY HOUSEHOLDS



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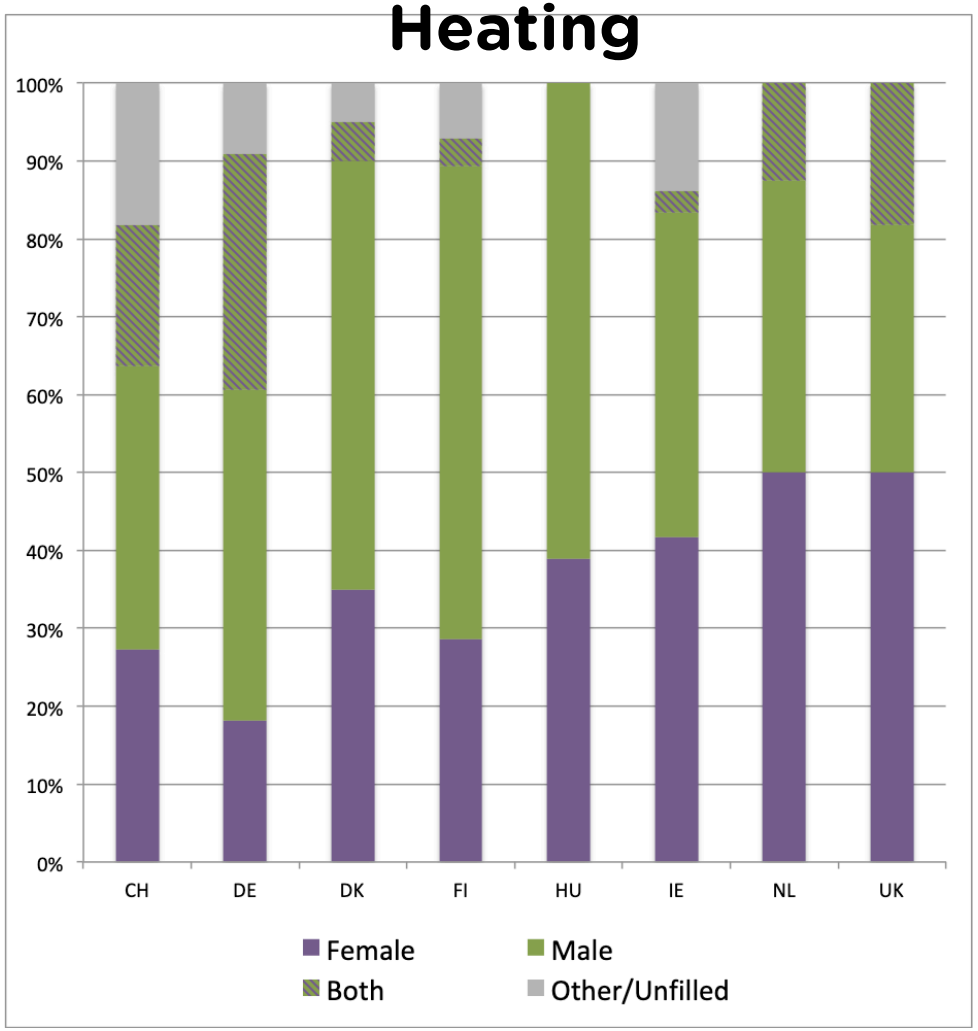
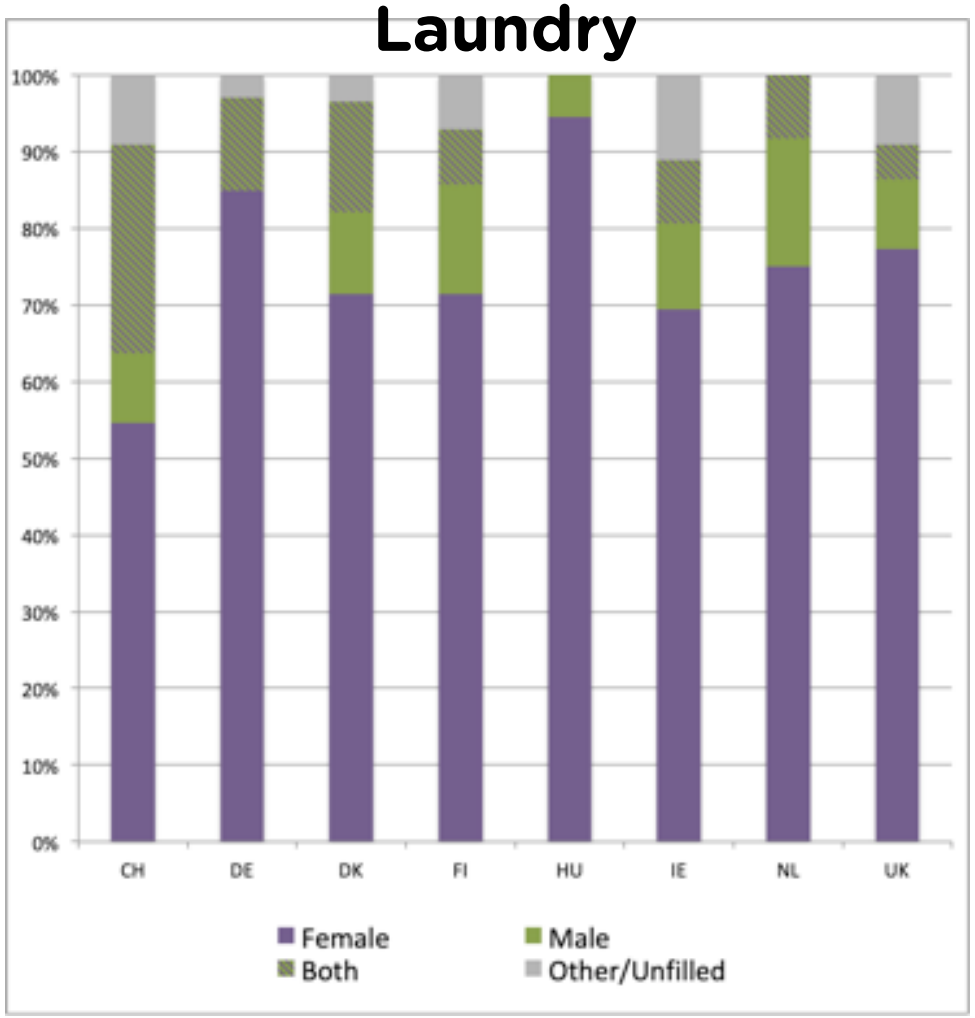
GENDER CARE FOR HEATING AND LAUNDRY





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HEATING CHALLENGE: RESULTS FROM ENERGISE LIVING LABS

- The ideal temperature doesn't exist and depends on the room (and associated activity), life stage of people (children, elderly), and social relations (guests)
- People's bodies are excellent 'sensors' and are also adaptable
- Reducing the temperature results in an intensification of existing practices, rather than new ones (wear warmer clothes indoors)
- The ability to adapt the temperature and understand how the heating system works is a critical first step.
- Appropriation of the challenge is facilitated when temperature decreases progressively
- Lower heating in bedrooms is desirable!

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HEATING CHALLENGE: RESULTS FROM ENERGISE LIVING LABS

"**We had guests**, yes, and we put the heating and it was the kids' party, which was early October. I was a bit, kind of, I thought, what if these children's parents come and they have to sit in a house that's really cold so **I was embarrassed** and I knew that I wouldn't be able to manage tending to the wood burner in the middle of a kids' party so we put the heating on but that's the only time" (UK13).

"Last weekend we visited friends, they said to turn on the heating, we had a look on the thermometer, **it was 19, we said it wasn't cold for us.** We have lived here for 10 years, it was impossible to heat it up, so we got used to it, being at 19-20 degrees is our comfort zone." (HU32).

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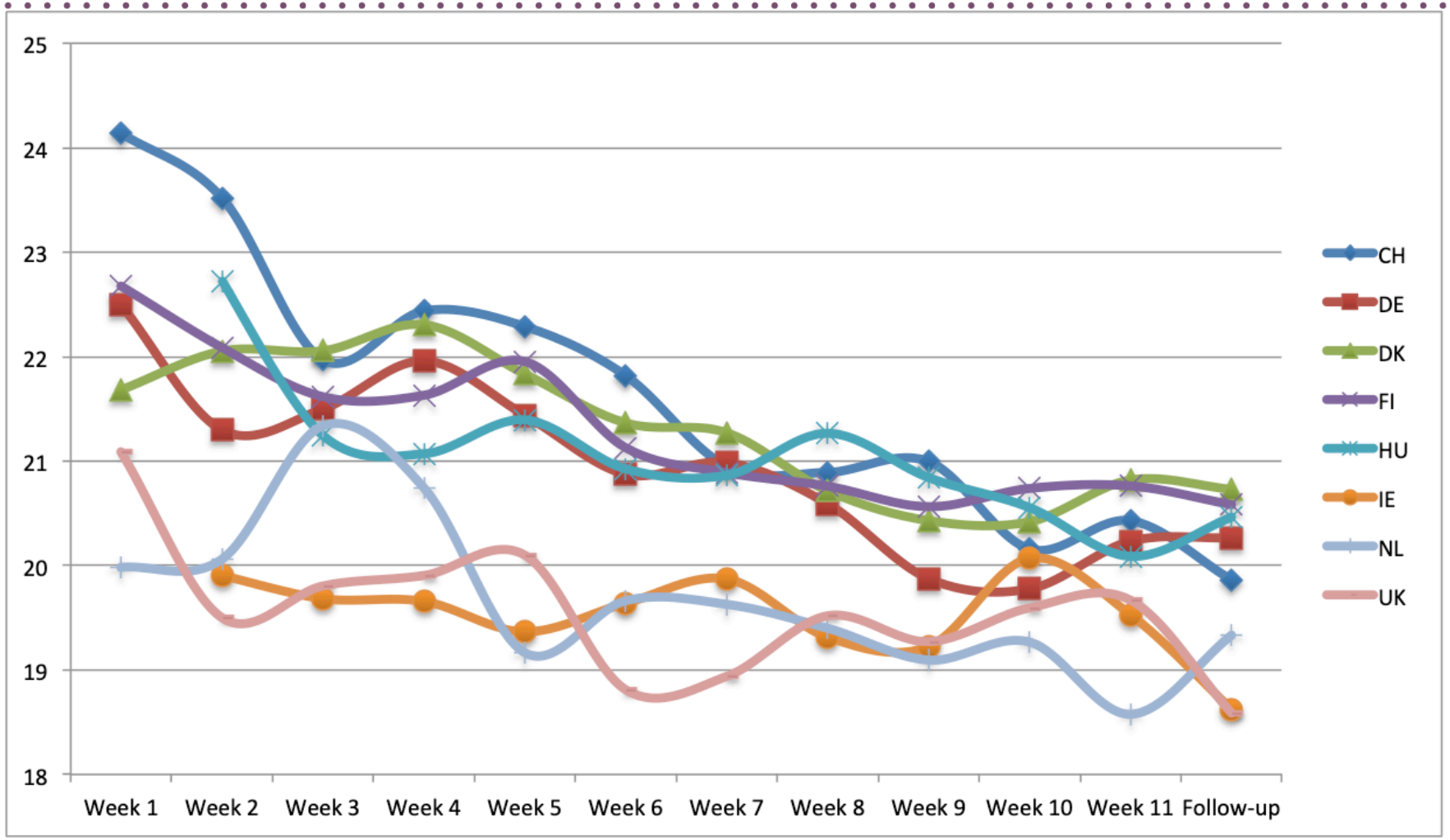
REPORTED LIVING ROOM TEMPERATURES BY COUNTRY BEFORE AND DURING CHALLENGE



Source: Sahakian et al (2019) Report on the analysis of ENERGISE Living Labs data across all eight participating countries, D5.2.

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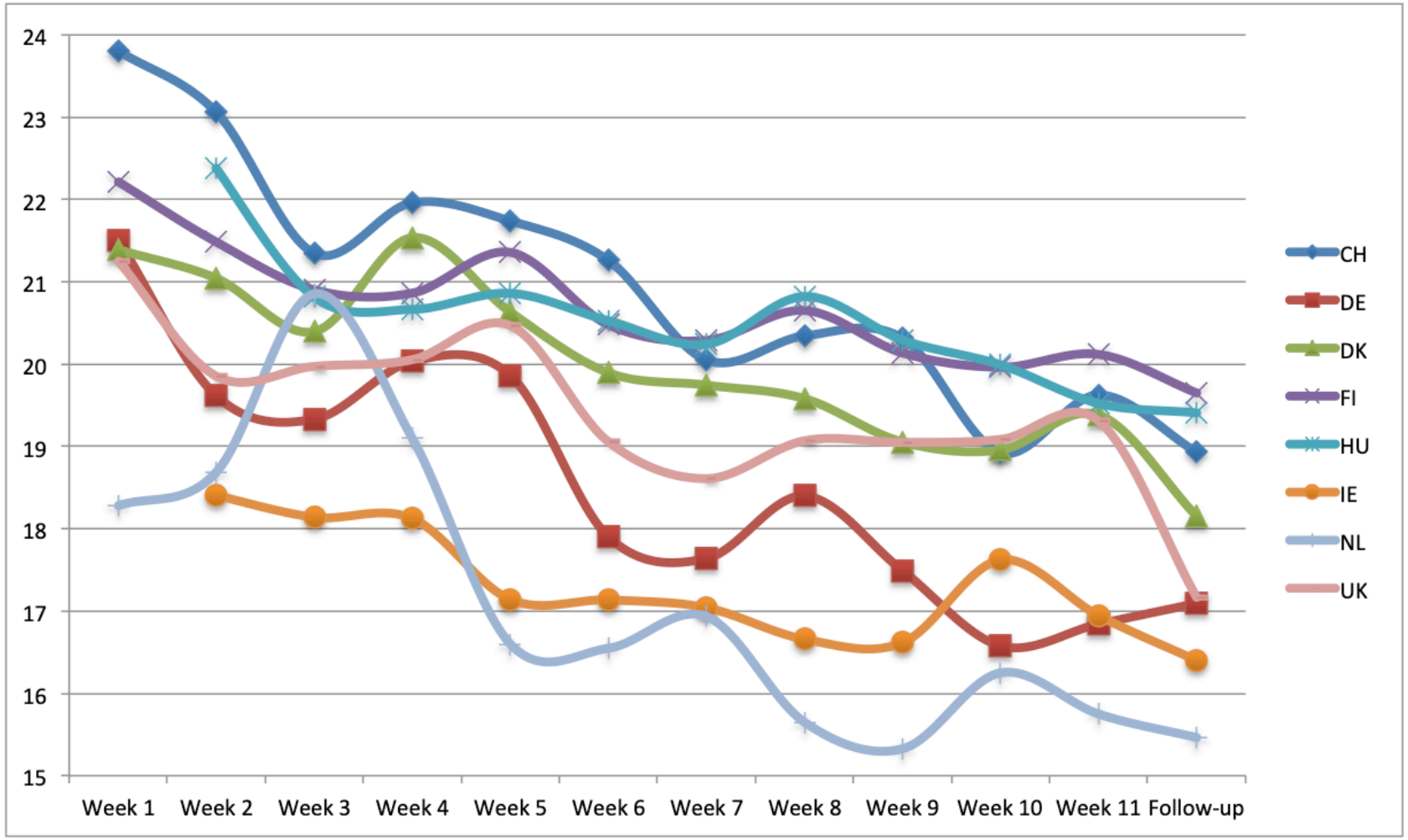
REPORTED BEDROOM TEMPERATURES BY COUNTRY BEFORE AND DURING CHALLENGE



Source: Sahakian et al (2019) Report on the analysis of ENERGISE Living Labs data across all eight participating countries, D5.2.

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DETTERRENTS AND ENABLERS OF PRACTICE CHANGE: HEATING

DETTERENTS	ENABLERS
• No handle on the heating system • Heated by others • Start with a low baseline • Health issues • Considerations for guests, elderly, children • Immobile activities • Difficulties to negotiate temperature with others • Resistance towards layers • Social representation around being dressed down at home • Difficulties in controlling drafts and humidity levels • …	• Being able to monitor and regulate indoor temperatures • Having a fireplace or other source of heat • Start from a high baseline. • Use of layers • Feelings of being part of a common challenge • Enjoy experimentation • Ability to negotiate/compromise with other family members • Associating lower temperatures with sleeping better at night • …

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LAUNDRY CHALLENGE: RESULTS FROM ENERGISE LIVING LABS

- Norms are sticky but standards less so: people could lower their standards (e.g. wear the same clothes more than once) while still respecting norms (e.g., no negative judgments)
- Loosening standards, even at a level at which they first felt uncomfortable, did not have an impact at work (or school)
- People became more flexible: during the challenge, they acquired new sensorial skills for determining what is clean or dirty, as opposed to a more mechanical approach (worn once, put to wash)
- On a daily basis, the ‘mental load’ was reduced and in families, laundry became less gendered (younger generations became involved).

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LAUNDRY CHALLENGE: RESULTS FROM ENERGISE LIVING LABS

Finland (FI25):

“Personally, I had an **emotional reaction** and I had to go through, but these days I understand that I had to get through it and I understood that I have a **phobia of dirty laundry**, it was hard for me to deal with unwashed laundry, I mean the piles of it. What I did here was that I got more hampers, to collect the dirty laundry for different loads, so that at least they wouldn’t be in piles, which I had the biggest problem with. **It was little less stressful** when they were in different places and through that, I didn’t do as much laundry because I waited for them to fill up and I didn’t wash half-empty loads trying to find other laundry to fill it up with.”

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LAUNDRY CHALLENGE: RESULTS ALL ELLS

Three months after the challenge, on average one cycle less per week

Wash cycles	Total (n=242)
Prior to the challenge	4,20
During the challenge	3,12
Directly after the challenge	3,06
Three months after the challenge	2,87

Before	After
Mechanical approach: length of wear, fullness of laundry basket, etc.	**Sensorial approach based on smell, visible stains**
Length of wear, most important in 54% of households	**Reduced to 37% of households**
Smell, most important for 24% of households	**Increased to 37% of households**

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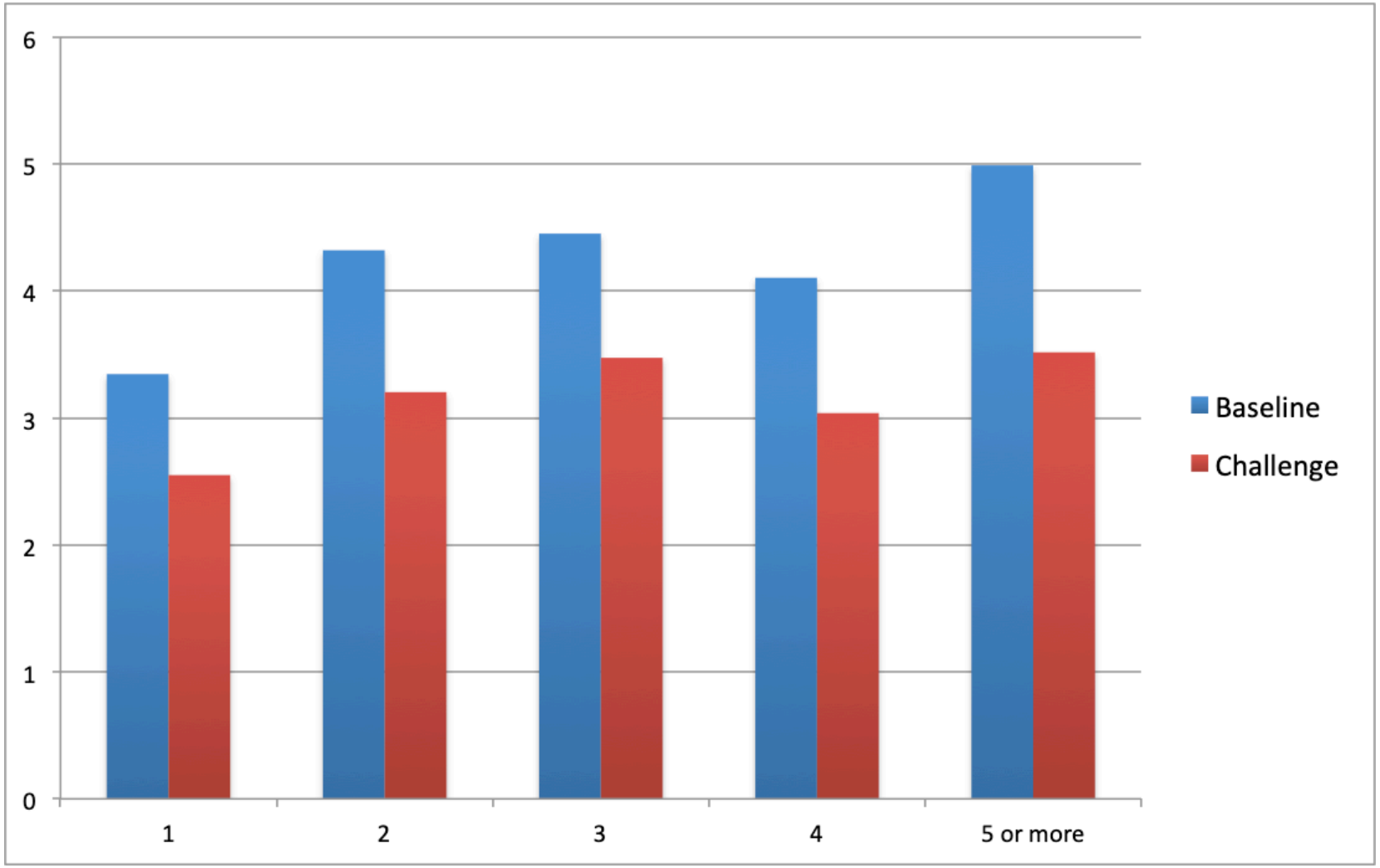
NUMBER OF LAUNDRY CYCLES BY MEMBER HOUSEHOLD MEMBERS



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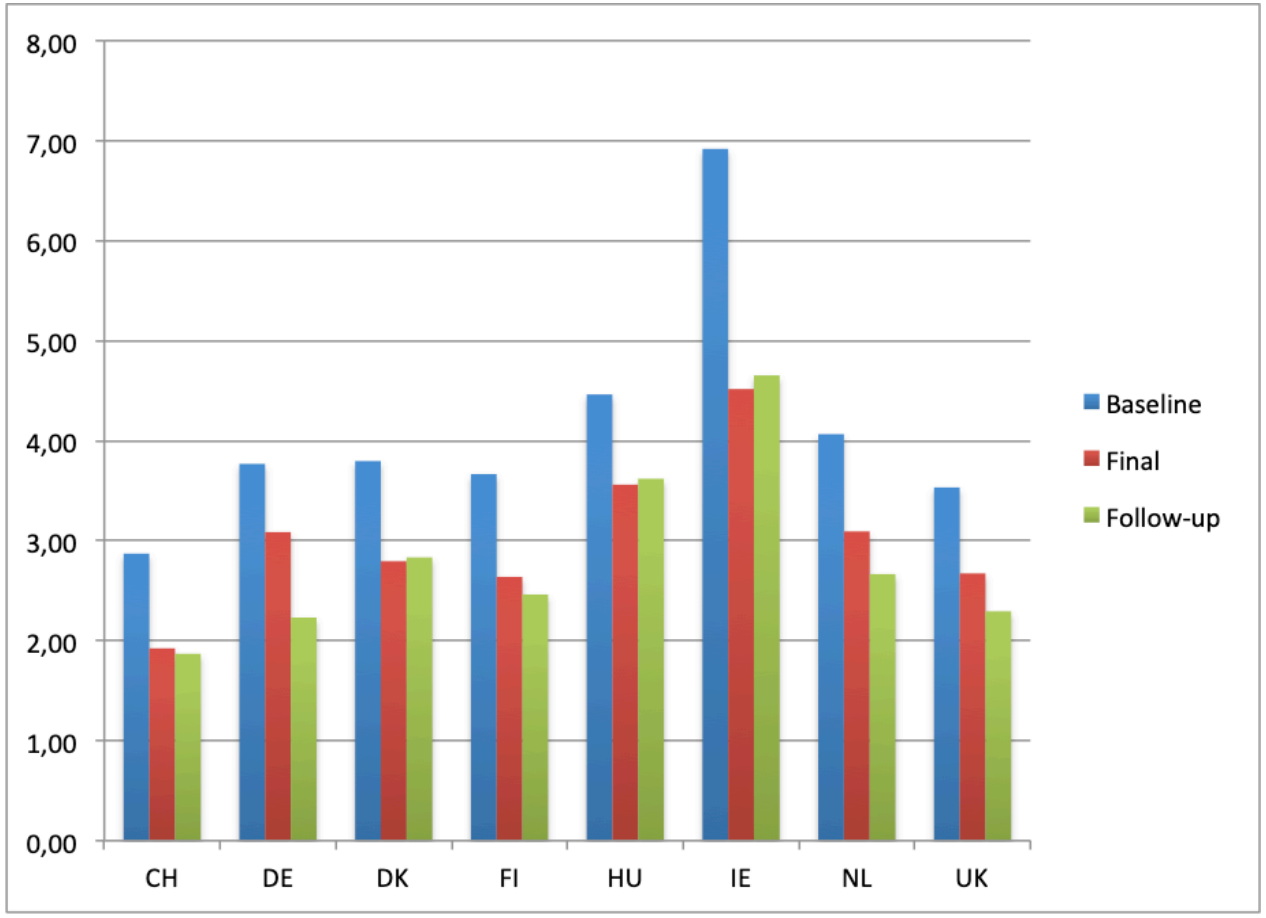
LAUNDRY: RESULTS FROM ENERGISE LIVING LABS



Stated weekly average laundry cycles by country, before, at the end of and 3 months after the challenge. Source: Sahakian et al (2019) Report on the analysis of ENERGISE Living Labs data across all eight participating countries, D5.2.

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DETTERRENTS AND ENABLERS OF PRACTICE CHANGE: LAUNDRY

• DETTERENTS	• ENABLERS
• Limited space for drying laundry • Young children • Small-format washing machines • Start from a low baseline • Not having sufficient f underwear and other clothes (single households) • Allergies or sickness • Not wanting dirty clothes to pile up • Beliefs around hygiene • Concern over social norms (e.g. at work) • Not wanting to smell, or to appear un-clean or smelly to others. • …	• Ability (and space) for airing out clothes at home. • Ability to have fuller loads • Start from a high baseline • Mix different clothing colours and types together • Distinguishing home clothes from out of home clothes • Ability and willingness to try other ways of keeping clothes clean • Sense of freeing up time or mental load • …

AVERAGE CHANGES AS REPORTED DURING ELLS

Change in temperatures		Change in weekly wash cycles		
Living room	Bedroom	Family of 2	Family of 4	All
From 21.12°C to 20.16°C	From 19.97°C to 18.58°C	From 4.3 to 3,2	From 4.1 to 3.0	From 4.2 to 3.1
1 degree (0.96°C less)	1 and a half degrees (1.39°C less)	1.1 cycle less (26% reduction)	1.1 cycle less (26% reduction)	1.1 cycle less (26% reduction)

Source: Sahakian et al (2019) Report on the analysis of ENERGISE Living Labs data across all eight participating countries, D5.2.

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WHERE DO WE GO FROM HERE?

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DID WE ACHIEVE SUFFICIENCY?

- We can achieve reductions in household energy usage, with **sufficiency** understood as reductions + changes in habits (which involves contesting social norms)

- At a minimum, we can state that:
  - **Reducing indoor temperatures by 1°C** in the winter months is possible and not *un-comfortable*. A higher reduction of temperature is desirable in bedrooms.
  - **Reducing by 1 laundry cycle per week** is possible and not *in-convenient.*

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WHAT DOES THIS TRANSLATE TO, FOR SWITZERLAND?

All sectors have a role to play in energy transitions. If we are to involve households in Switzerland:

- 1 degree temperature change = **6% savings of energy** dedicated to heating Swiss homes

- 1 wash cycle less per week for a year = **1 hour domestic work** saved; 13 million m3 of water (more than 5,000 Olympic-size swimming pools); 10 million litres of laundry products; and the **equivalent annual electricity consumption of 90,000 households.**

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BUT, OUR RESULTS ARE MORE QUALITATIVE THAN QUANTITATIVE….

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KEY RESULTS: BUILD A RESEARCH-ACTION AGENDA AROUND

- **Changing practices, not people, nor technologies:**
  - Engaging and empowering people in new ways of doing is impactful in terms of reducing energy consumption.

- **Giving people the space and means for experimentation:**
  - Creating spaces for reflexivity involving different actors is effective for discussing and debating tacitly accepted norms and assumptions around consumption practices.
  - Validating the living lab approach!

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KEY RESULTS: BUILD A RESEARCH-ACTION AGENDA AROUND

- **Heating bodies, rather than solely heating spaces:**
  - It is possible to engage in public discourse around the need to heat bodies, rather than solely spaces, during colder periods.

- **Placing people and everyday practices at the center of 'smart technology' approaches:**
  - It must be ensured that people can continue to have an influence on their thermal comfort, rather than counting on smart buildings or invisible heating systems that allow only limited human interventions.

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KEY RESULTS: BUILD A RESEARCH-ACTION AGENDA AROUND

- **Engaging sensory feeling and emotions in experiential learning**
  - Heating: progressive adaptation of bodies to temperature
  - Laundry: more sensorial approach to smells and stains

- **Making energy visible through devices (e.g. energy meters, thermometers)**
  - Relevant and effective **only if** they are tied to a goal and as a way to reflect on one's routines

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