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What role can households play in the energy transition?

by University of Geneva



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What role can households play in the energy transition? Can changes to everyday practices make a difference? The European ENERGISE project, led by the University of Geneva (UNIGE), in Switzerland, carried out an experiment to reduce energy consumption in 300 households in eight countries. The goal was to lower room temperatures to 18°C and to halve the amount of washing cycles over a four-week period, and for each challenge. The results indicated that the changes did reduce energy consumption by up to 6 percent, as well as



saving 13 million cubic meters of water, along with an hour a week saved from household chores—without any significant impacts on comfort levels.

Given the climate crisis, energy transitions could play a pivotal role, which is why initiatives that aim at more sustainable energy usage in the home have become more common in recent years.

However, 75 percent of such EU initiatives are aimed at encouraging people to make technical changes such as replacing incandescent light bulbs with LEDs, or individual, behavioral changes like switching off lights, for example. "But that's not enough," says Marlyne Sahakian, a professor in UNIGE's Faculty of Social Sciences (G3S). "For there to be real change, we have to tackle energy

consumption in relation to everyday life in all its complexity, meaning we need to factor in social norms in relation to comfort levels and hygiene."

Two major preoccupations: heating and laundry

ENERGISE operated in eight European countries and tracked 300 households, including 36 in Switzerland, using a "living labs" approach. Professor Sahakian says, "The idea wasn't to impose a certain type of behavior on people, but to join them in thinking about how they could best cut back on their energy consumption." Two important areas were targeted by the project: heating and laundry.

ENERGISE subsequently set two challenges: to lower room temperatures in the homes to 18°C and to halve the laundry cycles, each for four weeks. "To support the households, we gave them challenge kits containing items to help them make energy savings (such as socks, hot chocolate, etc.) and laundry-support items (a clothes brush, apron, natural stain remover, etc.)," continues professor Sahakian.

Energy consumption cut by a minimum of 6 percent and 13 million m³ of water saved over one year

The Swiss households managed to make significant changes to their everyday practices over these weeks. The researchers found that the 1°C drop in room temperature had no impact on the normal comfort levels of the inhabitants while resulting in an energy saving of 6 percent, almost twice the energy needed for all their laundry and drying requirements. Although few households succeeded in meeting the 18°C target, given the unusually warm winter climate and other factors, householders who lowered the temperature by one to 3°C did have to wear warmer clothes at home instead of wearing T-shirts and going barefoot—but they also felt a positive impact on their health, especially in their bedrooms.

One less laundry washing per week per Swiss household for a year represents a saving of around 13 million cubic meters 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. "And that's not counting the time spent sorting, ironing and storing laundry—a saving of about an hour of domestic work a week, plus less of a mental load of daily chores," says professor Sahakian.

Changing social practices

Many everyday activities result from the way we represent social norms, such as putting on new clothes every day and washing them when they're still clean. "Sometimes, it's just a matter of airing them out or getting rid of a small stain without actually doing a laundry cycle," says the researcher. The room temperature in our houses has jumped from 15°C to 22°C over the course of a century thanks to advances in technology, which have shifted comfort levels to higher temperatures. But not everyone feels comfortable at 22°C, with some people preferring cooler temperatures, others hotter. So standards of comfort indoors are still quite varied. People with reduced mobility require more heating, for example. In any case, being aware of the relative nature of our standards and expectations means we can challenge the norms and representations that underpin our practices.

The majority of the ENERGISE households incorporated new ways of living in their homes, during and after the challenges, but the aim would be to understand how changes in everyday practices could take place across society as a whole. "The concept of energy saving is abstract, which is why we need to link it to comfort. Our results show that households that are not experiencing energy poverty but living around 20 or more degrees in their home can reduce the thermostat by just 1°C, without changing their levels of comfort. But the energy savings are well and truly there," says Professor Sahakian. A reduction of one degree alone saves 6 percent of the energy used for heating, while the objectives of the 2050 Energy Strategy, agreed by parliament in 2017, are built on a 13 percent reduction in energy consumption per person in 2035 compared to the year 2000.

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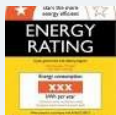
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