

TRANSITIONS IN EVERYDAY LIFE

Gas and electricity were advertised as magic modern helpers but in real life their progress was slow and uneven. As late as 1949, 99% of British households still used solid fuel in addition to gas and electricity. Heating use varied and depended not only on personal income, preference or family size but on public infrastructure and equipment provided by the local authority or private landlord. Tenants had mixed reactions to new systems such as underfloor heating. Bathing and showering habits, too, continued to vary after the installation of electric hot-water boilers. Into the 1960s there was a lively debate about whether all classes should enjoy the same levels of comfort. Consumers were not passive in this story. In the 1940s-60s in Britain and elsewhere, they organised rent strikes to protest against electricity tariffs and inadequate heating.



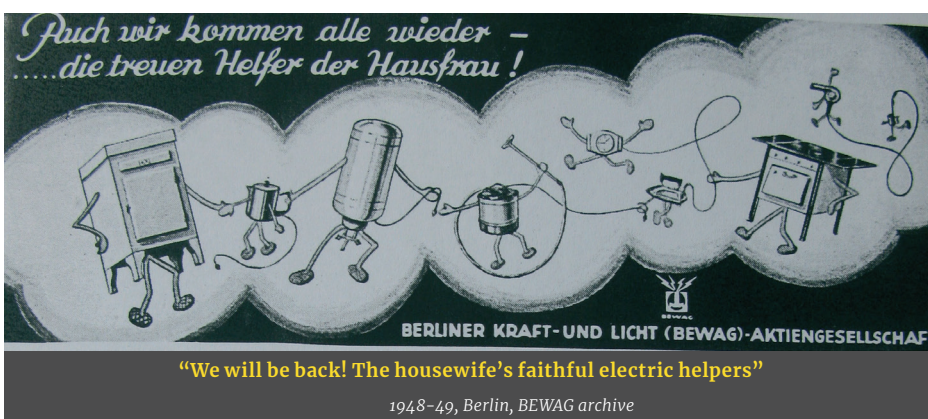
KEY FINDINGS

- The advance of new fuels was not smooth and linear. New fuels were integrated into an existing fuel mix and had to respond to existing habits.
- Energy use has varied considerably – a result not only of price but of habits and housing provision.
- Norms of heat and comfort are products of history and debate. They are not “normal” or given.
- At important moments, consumers have been vocal protagonists in transitions

Across the twentieth century, new fuels were advertised as the fairies and magic helpers of the housewife. “King Coke”, electricity goblins and gas-appliances promised to liberate the “grate slave” chained to the coal fire. In real life, however, their progress was remarkably slow, piecemeal and uneven.

In Britain in the 1930s-40s – more than two generations after the first power stations started to operate –, coal remained the dominant fuel in working-class homes. Technological changes in the inter-war years lowered the cost of gas and electricity. Nonetheless, by 1938 cooking and heating with coal was still half as cheap as using gas. In the 1930s, gas companies tried to promote gas cookers, wash boilers and central heating with the help of a three-step tariff that favoured heavy users, but had hugely exaggerated ideas of how much gas people

actually used. The London County Council found very little demand for greater gas consumption on their housing estates. Working class households would have had to use twice as much gas before they would have benefitted from the new three-tier tariff proposed by the Southern Metropolitan Gas Company.



In mid-twentieth century Britain, as elsewhere, energy transition often meant the addition of one fuel to an existing mix rather than a shift from one fuel to another. In 1948-49, a social survey of 2,600 homes found that 66% of households were using both gas and electricity in the home. 99% of households used solid fuel in addition to gas or electricity – mostly in the form of an open fire in the living room. Such **parallel provision** resulted in the varying seasonal use of energy. In the summer of 1948, 42% Britons used coal and 43% gas to heat their water for their laundry, but in winter, the numbers using coal rose to 53%. Meanwhile the numbers using gas and electricity fell accordingly, as more people turned to the coal fire to heat water as well as space. For washing their dishes, the proportion relying on coal shot up from 38% in the summer to 63% in the winter, and the use of gas dropped from 50% to 32%.



“Hybrid coal and electricity stove, 1925 Germany”

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A lot of energy use involved **“consumption by proxy”** and depended on what infrastructure and equipment was provided by the local authorities. On some council estates, homes were equipped with electricity, cookers and radiators, on others they were not. Energy lives varied considerably between different regions, neighbourhoods, and even on the same housing estates. In London in 1959, many flats on public housing estates still relied on open fires. Some were also equipped with a backboiler that heated water as the fire burnt. Of those who had a backboiler, 85% lit their fire daily compared to 49% of those without a backboiler. Heating habits recorded not only personal preferences, income or

family size but responded to the housing design and installations put in place by local authorities and urban planners.

Variations of Habits and Norms

Accounts of domestic demand tend to refer to big national aggregates or average use – in 2016, the domestic sector in the United Kingdom consumed 41,295 ktoe (kilotonnes of oil equivalent), making up 29% of total final energy consumption in the country. Such aggregates, however, are composed of **radically different energy cultures** in the population. New fuels and new technologies are used unevenly by people. In 1963, for example, the London County Council was investigating the poor heating performance of new blocks of flats equipped with under-floor heating systems. They found that some liked it and regularly used it, yet others disliked the system’s “lack of warmth” and never used it again after the first few weeks. Many people relied on fitted electric fires, some also on additional oil heaters. Several tenants were found to have their thermostats always set at 24° C (75 Fahrenheit).

Energy habits and use patterns also continued to vary by day and hour. Understanding the evolution of diverse but simultaneous patterns is particularly relevant in networked infrastructures which have to be able to handle both aggregate demand and

YOUR FUEL TARGET: A DAY IN THE LIFE OF AN AVERAGE HOUSEHOLD.
DRAWN BY OUR SPECIAL ARTIST G. H. DAVIS, WITH THE CO-OPERATION OF THE MINISTRY OF FUEL AND POWER.

Middle class ideal: “A day in the life of an average household”. Illustrated London News, 3 Oct. 1942.

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A family with three children cooks over the fire because the electric wiring is faulty. Liverpool, 1970.

Photographer: Nick Hedges, © Science & Society Picture Library

spikes in demand during “peak” use. In the wake of the first oil crisis in 1973, the German energy giant RWE (Rheinisch-Westfälisches Elektrizitätswerk) undertook a detailed investigation and asked its customers not only how much energy they used but about their personal habits. All households in the survey were equipped with electric hot-water boilers that made running a bath easy and convenient compared to the time-consuming and dirty work involved in the age of the coal fire. Still, only 23% bathed or showered at least once a day. 59% did so several times a week. But 17% bathed or showered only once a week. In spite of the convenience afforded by the electric hot-water boiler, by far the most popular bath day remained Saturday, carrying on the habits of the coal age.

How much energy was desirable and realistic remained a topic of often heated debate in the decades after the Second World War. Government, experts, industry and consumers were internally divided as well as between each other. In Britain in 1945, the public commission inquiring into the future of domestic heating – the Egerton Committee – was split between proponents who advocated district heating as the most efficient and cost-effective technology creating warmth for all, and those who questioned whether public authorities had the right to force the poorer section of the population to heat more and spend more than they might otherwise choose. It was not until the 1960s that universal norms of space, heat and comfort won official approval.

By that time, many **consumers** were becoming more **demanding**. In the 1940s, 50s and 60s, British consumers led protests and rent strikes demanding better heating, electric lighting and new appliances. In post-war Japan, too, housewives were becoming increasingly vocal energy consumers. In 1952, the Housewives’ Association (shufu-ren) organised a mass boycott against electricity bills in protest against frequent blackouts and voltage reduction.

Two years later, in 1954, it campaigned against an increase in the electricity tariff. Japanese users were active in shaping modern energy life in other ways, too. They fiddled with home wiring to increase the number of electrical outlets and installed additional appliances in defiance of supply contracts or safety warnings. In the 1950s, the use of solar water heaters became increasingly widespread and was an ingenious attempt to save energy in rural households.



Japanese housewives protest against an electricity tariff increase in 1954.

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More demanding users were not always successful, though. In Germany, housewives complained about the small size of new-built kitchens and the shortage of sockets; as late as 1964, four out of ten West German flats had only a single socket in the kitchen. Still, those complaints came to nothing. In 1966, after pressure from the building industry, the officially prescribed norm for a kitchen stayed where it had been: at 5.8 m².



Miss Turner, Camden, one of the private tenants in rent strikes in 1940. The heat was so poor that she “sat with a water bottle on her knee”

Evening News, 14 Feb. 1940

FURTHER DISCUSSION

F. Trentmann, and A. Carlsson-Hyslop, 'The Evolution of Energy Demand in Britain: Politics, Daily Life and Public Housing, 1920s–70s', *Historical Journal* (2017, open access).

F. Trentmann, *Materielle Kultur und Energiekonsum: Verbraucher und ihre Rolle für nachhaltige Entwicklung*. Carl-Von-Carlowitz series, Rat für nachhaltige Entwicklung (Munich: oekom, 2016), German Council for Sustainable Development.

H. Shin, 'Preparing a Solar Take-Off: Solar Energy Demonstration and Exhibitions in Japan, 1945–1993', in Alain Beltran, Leonard Laborie, Pierre Lanthier, Stephanie Le Gallic (eds.), *Electrical Worlds: Creations, Circulations, Tensions, and Transitions, from the 19th to the 21st Centuries* (Brussels: Peter Lang, 2016), pp. 517–534.

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