

Table 1. Description of case studies

Leeds (United Kingdom)	
General context	In 2023, an estimated 16% of households in England lived in energy poverty according to the Low Income Low Energy Efficiency metric. This metric defines energy poverty as a household with a disposable income (after housing and energy costs) which is below the poverty line and the property associated with the household has an energy efficiency rating of band D or below. (1) The Leeds pilot was a collaboration between the University of Leeds and Leeds City Council. The case study was centred around three tower blocks in the heart of Leeds, each housing 100 apartments. People involved in the interviews are social renters and leaseholders. They were recruited to the WELLBASED programme via open meetings held at the tower blocks, emails, community Facebook page and telephone calls
Climatic conditions	The UK experiences a temperate, moist and maritime climate characterised by mild winters, warm summers and high total rainfall. The average temperature is 9.2 °C with an average annual precipitation of 1185 mm. (2) In recent years, winters have become warmer and wetter, and summers hotter and drier. (3)
Cultural and social characteristics	The UK's Welfare State, based on the principles of universalism and social equity, aims to provide a comprehensive system of social insurance throughout the entire life course, including education, healthcare and social security. (4) However, since the 2010s, the UK has witnessed a decline in the Welfare State due to a decline in investment in public services. Consequently, the current cost-of-living crisis is having an even more severe impact. (5) The UK is primarily characterized as an individualistic society. It tends to emphasize personal autonomy, self-reliance, and individual rights. (6) However, there is still a strong expectation for families to provide care for the elderly or those in need.
Governance arrangements	The UK Government's Fuel Poverty (UK term for energy poverty) Policy includes several measures providing social support to help people pay their energy bills. Winter Fuel Payment, Warm Homes Discount and Cold Weather payments are available to those who meet eligibility criteria. In October 2022 the Government introduced the Energy Price Guarantee which limited average price rises and the Energy Bill Support scheme where all households were paid £400 over winter 2022/23. The Energy Company Obligation requires energy suppliers to install energy efficient measures in fuel poor, vulnerable or low-income homes. (7)
Valencia (Spain)	

General context	In Spain, 16.4% of the population were found in Energy Poverty in 2021, according to the 2M indicator (share of energy expenditure in income of more than twice the national median). (8) The recruitment process for the WELLBASED pilot site in Valencia targeted 130 households suffering from energy poverty. The participants were recruited mainly through the Municipal Social Services, Healthcare Centers, the Energy Offices (OSS), NGOs and Charity Entities. Recruitment was initially targeted at three selected neighbourhoods but was later extended across the whole city. Participants involved in the interviews live in rented – and unrenovated – flats. Many dwellings are close to the sea - traditional Valencian fishermen's houses - and usually suffer higher rates of humidity, as well as damp and mould problems.
Climatic conditions	The city of Valencia experiences a Mediterranean climate, bordering a semi-desert climate, characterised by mild winters, warm to hot summers and high humidity. The national average temperature lies at 14 °C, with an average annual precipitation of 623 mm. (9) Heat waves and are increasing each year in number and intensity. (10)
Cultural and social characteristics	The Spanish welfare state is characterised by a combination of universal social services and targeted assistance programs, that provide healthcare, education and pensions through a largely publicly funded system. However, the system has faced challenges, including high unemployment rates. (11) Spanish society is labelled as familialistic because of the primacy of the family in the protection of dependants. (12) Mediterranean societies and culture are characterized by larger families, more children in the household, and more exchange of assistance within the household, although greater sense of loneliness has also been detected. (13) Moreover, the city of Valencia is characterized by a strong identity, cultural traditions and an active civil society (around five associations per 1000 inhabitants in Valencia). (14)
Governance arrangements	Spain is currently working under the framework of the National Strategy Against Energy poverty 2019 – 2024 approved by the Government. On the national level, the development of the Social Bonus discount on electricity bills, complemented with social bonus for heating since 2018, have been key to tackle energy poverty. (8) At the local level, Valencia is committed to reduce energy poverty and improve household energy efficiency through different initiatives: - Creation of three Municipal Energy Offices (OSS) plus an itinerant one with different areas of work: right to energy, energy efficiency, bill optimization, house renovation, renewable energy and energy transition. There are also training workshops open for all citizens.

	- Development of a collaboration agreement between Social Services and the OSS to facilitate the exchange of information and case referring. - Creation of the Monitoring Commission of the Energy Poverty Plan through the Local Government Board. - In 2024, Valencia has been elected as Green Capital and the municipality has adopted several climate and efficiency commitments through the signature of the Climate Agreement of the European Cities Mission to achieve climate neutrality by 2030.
Heerlen (the Netherlands)	
General context	In 2023, 4.8% of the Dutch population lived in energy poverty. This concerns households with low incomes combined with high energy bills or a dwelling of low energetic quality. (15) The WELLBASED study took place in the neighbourhood of Heerlen-Noord. Participants were recruited for the wider WELLBASED project through community meetings in Heerlen Noord, social workers and energy coaches, flyers at GP's practices and advertisements on social media and in local newspapers. The interview participants were mostly social renters, some were home owners.
Climatic conditions	The Netherlands experiences a moderate maritime climate, characterised by mild winters and cool summers. (16) The average temperature is 10.5 °C, with an average annual precipitation of 801.8 mm. (17) In recent years, winters have become warmer and wetter and summers hotter and drier, whilst the probability of severe summer downpours has grown. (18)
Social and cultural characteristics	The Dutch welfare state is known for its comprehensive and well-organized social insurance system that spans the entire life course, including education, elder care, universal healthcare and social security. (19) The Netherlands is characterised as an individualistic society. This means the interest of the individual outweighs the interest of the group; people tend to be focused on immediate family only. There is a strong institutional framework that provides services for the elderly and the vulnerable, reducing the burden on families. (20)
Governance arrangements	In the Netherlands, energy poverty is addressed through the general social protection system, there are no national energy poverty policies in place. Subsidies for building insulation are available at the national level and residents are protected from disconnection. Local municipalities (can) fund organizations that inform residents on energy saving behaviours and support them by installing small energy-saving measures. Since the start of the energy crisis, several acute measures to support households were put in place. In 2022 and 2023, low-income households (i.e.,

	income below 130% of the social minimum) received an energy allowance of 1300 euros in total (depending on the household composition and income). (21) Also, in Heerlen the so-called 'E-knip' was made available for residents with an income between 130%-175% of the social minimum. (22) The E-knip included an energy coach who informed residents about energy-saving behaviours and measures. In addition, the energy coach could assess whether residents were entitled to use a white goods scheme (i.e., arrangement in which one can switch their old dishwasher, washing machine, fridge or freezer for a new, energy efficient appliance).
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