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Deliverable 5.5:

The gender dimension in European energy efficiency policy support and means to address it

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EXECUTIVE SUMMARY

Studies have found that across Europe, household energy consumption varies according to a number of demographic factors, including gender, yet energy policy at pan-European, national and regional levels continues to be designed for a "gender-neutral" energy consumer (Clancy and Roehr, 2003).

Nevertheless, pervasive gender inequality in society, gendered care responsibilities and household labour, lower incomes and the higher likelihood of being a single parent were identified as key drivers of energy poverty amongst women across Europe (Petrova and Simcock, 2021). Current policy barriers were highlighted as being a dearth of sex-disaggregated multi-scalar data on gender and energy poverty, a lack of awareness of gender disparities, inaccessibility and untargeted current policy, and a general lack of representation in all areas of policy- and decision-making (Feenstra, 2022).

This report brings together the findings of an <u>in-depth narrative literature review</u>, a <u>policy analysis and a scoping survey of relevant stakeholders</u> to generate a number of policy recommendations to address the gender dimension in energy efficiency policy.

The <u>overarching recommendations</u> arising from the report are:

- Policies must address the underlying, structural causes of gender inequality and vulnerability to energy poverty.
- Improved data collection and identification of policy beneficiaries.
- Creating policy that accounts for the needs of women and families.
- Increased accessibility to enhance women's uptake of energy policies.
- Improved representation of women in the energy sector and in policymaking.
- Integration of energy efficiency policy with measures to tackle other gendered environmental injustices.



1 INTRODUCTION

Gender inequality in society can lead to greater exposure to both income and energy poverty, particularly when scrutinised along other axes of social difference, such as ethnicity, age, income and geography (Bîrsănuc, 2023; Robinson, Simcock and Petrova, 2023). For example, there is a strong gendered connection between social groups who are more likely to experience energy poverty and those who are single parents, in caring roles or domestic work (Middlemiss, 2022). In addition, studies have found that across Europe, household energy consumption varies according to a number of demographic factors, including gender, yet energy policy at pan-European, national and regional levels continues to be designed for a gender-neutral energy consumer (Clancy and Roehr, 2003).

Although recently gaining some recognition, gender remains largely absent from academic and policy debates on energy justice and energy poverty, whilst women continue to be excluded from decision-making arenas, as well as being critically underrepresented in the energy sector across Europe. Without consideration of the interactions of gender inequalities and gender identities with vulnerability to energy poverty, it has been argued that a just energy transition cannot be achieved (Clancy and Feenstra, 2019; Groneweg, Habersbrunner and Stock, 2023; Robinson, Simcock and Petrova, 2023).

In response to this knowledge gap, this report combines an in-depth review of academic and grey literature, an analysis of existing energy efficiency policies targeting the Private Rented Sector (PRS) and a primary scoping survey of stakeholders to generate a series of targeted policy recommendations to address the gender dimension in European energy efficiency policy. It should be noted that gender is used interchangeably with sex in the majority of literature, i.e. a male/female binary, which can lead to the erasure of other gender identities (Listo, 2018). This report will follow the definition of gender put forwards by Robinson et al. (2023); gender is not a binary or discrete category, but intersects with and is constructed through "other forms of social difference, such as class, ethnicity, race, disability, sexuality and age", which shapes social relations in unequal ways (Robinson, Simcock and Petrova, 2023).



2 METHODOLOGY

The methodology for this report utilised multiple entry points across academic, grey and policy literature, in order to triangulate across data sources and thus produce policy recommendations that considered a broad range of evidence.

2.1 Literature Review

A scoping literature review of both academic and grey literature was carried out to provide a background understanding of the topic, as well as to identify key themes with regards to where, how and why gender and women are discussed in energy policy, consumption, efficiency and poverty spheres.

The following search terms were utilised:

- Fuel/Energy Poverty OR Energy Deprivation AND Gender
- Energy Polic* AND Gender
- Energy Effici* AND Gender (AND rent*)

It emerged from the literature review that there is a clear Global North/Global South divide regarding the policy scopes and considerations of the gendered impacts of energy consumption. Space heating/cooling are the predominant policy focus in the Global North, whereas in the Global South, energy access,cooking and women-led energy businesses are where policy efforts appear to be most targeted (van der Merwe, de Kock and Musango, 2020; Kooijman, Clancy and Cloke, 2023). Due to the European purview of the ENPOR project, this report's scope is primarily limited to the policy landscapes and understandings of energy poverty and its gendered impacts in the Global North. However, a fruitful area of future research may be to investigate the synergies between gendered energy issues in the Global North and South and the opportunity for knowledge exchange.

2.2 Analysis of Gender Considerations in Energy Policies Targeting the PRS

Building on previous analysis carried out as part of the ENPOR project, and utilising policy data from the ENPOR Energy Poverty Dashboard (see Papantonis et al., 2022; and Burbidge et al., 2023), energy efficiency and energy poverty policies that specifically target the PRS were analysed for gender considerations. The policies contained within the EPD were identified based on publicly available, non-confidential information, and gathered between January 2021 and January 2023. In total, 114 relevant policies and measures from across Europe were selected for this analysis.

The publicly available information for each policy was reviewed for information relevant to the inclusion of a gender dimension within its remit, via a keyword-based search. Search terms included "gender dimension", "women", "gender", "female", "single-parent", "single-parent family", "single-parent household", either separately, or in different keyword combinations. Google Translate was utilised when needed, when the original source of the policy was not available in English.

2.3 Stakeholder Survey

A scoping survey, designed to interrogate stakeholders' views on the gender dimension in



energy efficiency policy, was carried out between July and September 2023 using Qualtrics, primarily consisting of single-choice and free text style questions. The survey population was based on a non-probability sample, targeting potentially interested stakeholders working on gender, energy efficiency, energy policy and housing in Europe. The survey was disseminated across multiple channels, including ENPOR website, newsletter and social media, mailing lists, and partners' social media channels. The questions were designed to elicit information on stakeholders' awareness of policies that address the gender dimension, current barriers to implementing such policies, the extent of the issue and mechanisms to address it. A copy of the survey questions can be found in the report annexe (7.1).

3 LITERATURE REVIEW

3.1 Gendered patterns of energy consumption and the impacts of energy poverty

Studies have found that across Europe, household energy consumption varies by gender, age, ethnicity, income and tenure type, which can in turn impact a household's vulnerability to energy poverty (Mashhoodi and Bouman, 2023). For example, a Dutch study identified four groups of women who may use more energy than average - migrant women, women living in older dwellings, high-income women and women with children under 14 years of age (Mashhoodi and Bouman, 2023). A UK-based study found that women carried out domestic tasks more frequently than men, but performed them using less electricity than men (Grünewald and Diakonova, 2020), whilst households with children tend to consume more gas for domestic hot water heating than households without children.

In addition, in Europe, women are more likely to spend more time at home than men, due to lower-on-average participation in the labour market, and higher-than-average hours spent on domestic work, including household tasks and raising children - 26 hours per week by women vs 16 hours by men in the UK indicatively (Sunikka-Blank, 2020). Washing and cooking, activities more commonly reported as being carried out by women, have high domestic energy footprints, translating into higher energy consumption and energy bills. In studies conducted in the USA, Poland, Portugal, and Denmark, gender has also been found to impact the likelihood of positive attitudes towards, and implementing, energy saving behaviours in the home (Chen, Xu and Day, 2017; Tjørring et al., 2018; Białynicki-Birula, Makieła and Mamica, 2022). This is also echoed by Petrova and Simcock's work in Greece, Poland and Czechia, where women were found to carry out many of the everyday alterations to their routines to reduce domestic energy consumption, such as the rationing of heating (Petrova and Simcock, 2021).

As such, domestic energy saving initiatives tend to impact upon women more than they do men (Clancy, 2016; Sunikka-Blank, Galvin and Behar, 2018), with women described as "key absorbers" of energy policies (Sunikka-Blank, 2020). Despite these gendered variations in both consumption of energy and vulnerability to energy poverty, European and national-level energy policies are often described as 'gender blind', applied across the board as a one-size-fits-all measure suitable for all energy consumers (Clancy and Roehr, 2003; Tsagkari, 2022). Nevertheless, women can face gendered barriers to involvement in energy-related decision making at a household level, have less access to managing household finances, unequal exposure to physical and mental health impacts of cold homes and a lack of social



protection across women's lives as key vulnerability dimensions (Robinson, 2019), exposing women to energy poverty at a higher rate than men (Jessel, Sawyer and Hernández, 2019; Kooijman, Clancy and Cloke, 2023).

Middlemiss (2022) reports that across the Global North, vulnerable or marginalised social groups and people in caring or domestic roles are more likely to experience energy poverty, highlighting the gendered connection of social disadvantage with energy poverty (Middlemiss, 2022). A key driver of energy poverty amongst vulnerable groups in Europe is situated at the intersection of being a single parent and being female; on average across the EU, single parents are more likely to be female than male, with the number of single parent households unable to adequately heat their homes 6.12 percentage points higher than the average across all households (Sunikka-Blank and Galvin, 2021). In Poland, there are four times as many households headed by single women in energy poverty as there are households with a traditional nuclear family structure (Janikowska and Kulczycka, 2021). This is due to a number of broader social factors which hold true across Europe, including women having lower incomes, substantially lower savings, and being nearly four times as likely to work part time, positions which tend to have lower hourly rates and fewer progression opportunities, particularly if they become mothers (Sunikka-Blank and Galvin, 2021). This has been termed the "accumulation of disadvantage" (Sunikka-Blank, 2020). Except for five countries, across the EU, single parents are also more likely to be living in poor-quality or substandard housing than average, with the highest disparities seen in Belgium and Germany (Sunikka-Blank, 2020). In the USA, studies also found that lower-income, socially disadvantaged neighbourhoods have a higher concentration of less energy-efficient, older residential buildings and a higher proportion of female-headed households (Elnakat, Gomez and Booth, 2016; Adua, De Lange and Aboyom, 2022). With regards to the PRS, in the UK, single parents are less likely to own their homes, and are the largest group on prepaid meters, and thus have the least ability to improve the energy efficiency of their homes (Sunikka-Blank, 2020).

If a female-headed or a single-parent household is more likely to face energy poverty, this means that children in those households are disproportionately likely to suffer the impacts of energy deprivation. Children under 15 years of age in energy poverty are more likely to suffer from poor health - asthma, respiratory conditions, obesity and low self-esteem - as well as lower educational attainment levels than children not in energy poverty (Sovacool, 2012; Oliveras et al., 2021; González Pijuan, 2022). Furthermore, parents in energy poverty have been found to deprioritise their own needs over their children's, such as only heating adequately when the children are at home, or skipping meals or missing out on leisure activities to ensure that their children eat, leading to feelings of shame, failure and inadequacy at being unable to provide for their families (Heredia et al., 2022). Petrova and Simcock describe this as the "emotional labour" of living with energy poverty, a burden that is disproportionately borne by women, but is also experienced by men (Petrova and Simcock, 2021) — in this sense, energy poverty can also affect feelings of fulfilment and ontological security (Bartiaux et al., 2018).

Women over the age of 65 are also disproportionately exposed to vulnerability to energy poverty. Research conducted in both France and Ireland found that female pensioners were more likely to suffer from energy poverty than their male counterparts, in addition to studies finding that elderly women are more likely to feel cold in the home than men (Petrova and Simcock, 2021). Women on average live longer than men, and are more likely to live alone as a result of becoming widowed. Gendered patterns of being in unpaid work, for example, for raising children or in a caring role, means that women can be limited in their ability to



accumulate private pensions. For older women, many are from a generation that did not work outside the home, and thus never had a private pension at all, and do not qualify for a state pension, so are reliant on welfare benefits and extremely limited income, which can lead to an inability to pay for adequate heat in the home (O'neill, Jinks and Squire, 2006). A UK-based study of female pensioners found that women prioritised an adequately warm home at the same level, and occasionally over, enough food to eat (O'neill, Jinks and Squire, 2006).

Environmental injustices can also be linked with gender and energy poverty, including air pollution, both indoor and outdoor, and the urban heat island effect (Strambo and Segnestam, 2021; Bouzarovski *et al.*, 2023). The World Health Organisation found that energy poverty is one of the largest environmental injustices present in Eastern Europe (Strambo and Segnestam, 2021), driven by air pollution from the burning of highly-polluting, dirty solid fuels in socially deprived areas. Over 2 million people globally die each year due to the effects of indoor air pollution, of which 85% are approximated to be women and children (Robinson, Simcock and Petrova, 2023). With regards to urban heat islands (UHI), a study in Madrid found that single mothers and women aged 65+ were the demographic most likely to experience summer energy poverty, who were concentrated in poor housing, and with risk particularly exacerbated by UHI intensity (Núñez Peiró *et al.*, 2021).

3.2 Barriers to addressing the gender dimension in energy efficiency policies

A considerable barrier identified across the literature across Europe, at the national and subnational level is the lack of data that is either collected in the first instance, or gender-disaggregated if it is collected (Ortiz *et al.*, 2021; Kooijman, Clancy and Cloke, 2023). Academics also note a lack of appropriate indicators to capture the complexity of gender-energy poverty relationships and the detection of hidden intra-household vulnerabilities (Feenstra and Özerol, 2021; Bolton *et al.*, 2023; Bouzarovski *et al.*, 2023).

Another key highlighted issue is androcentrism, whereby a man is seen as the default consumer, the objective, neutral norm (Habersbrunner *et al.*, 2022), and women as vulnerable or without agency, exacerbated by the underrepresentation of women across the energy sector, policy and decision-making (Feenstra, 2022). There have also been critiques of energy poverty literature for reinforcing problematic gender stereotypes and generalisations around women, which are then fed into policy and practice (Listo, 2018; Robinson, Simcock and Petrova, 2023). If 'simple' language and colourful imagery, whilst helpful in communicating technical information to a broad audience in many circumstances, is not used thoughtfully, can perpetuate the stereotype that women are less educated or less technically-minded. There is also a dearth of research which considers the intersection of energy poverty with queer and transgender people; in the majority of literature, gender is synonymous with women, which leads to the erasure of other gender identities (Listo, 2018).

With regards to energy renovations, and household renovations in general, these have often been culturally placed within the male sphere of interest, however, this can conceal gendered negotiations of comfort versus technological innovation (Abreu, De Oliveira and Lopes, 2022). A UK study on retrofit behaviour similarly found that men dominated discussions with project co-ordinators and contractors, engaging with new technology systems and technical details, whereas women tended to be concerned with aesthetics, comfort and indoor temperatures (Sunikka-Blank, Galvin and Behar, 2018). Furthermore, current energy consumption reduction and energy efficiency policies are predominantly grounded in technological fix and financial incentive narratives, with smart technologies, home automation, and data at the core (Tjørring, 2016; Sunikka-Blank, Galvin and Behar, 2018). Some academics have termed



these types of policies as catering to "Resource Man" - a rational, efficient and techno-savvy energy consumer, effectively a "projection of the utility industry's bias onto energy consumers" (Strengers, 2014; Sunikka-Blank, Galvin and Behar, 2018). In reality, these policies do not account for social diversity, and the ways in which gender, class, socioeconomic background and tenure can impact how people interact with technologies. Skjølsvold et al. comment that calls for domestic smart energy technologies to be more gender inclusive have generally been ignored, with such technology continuing to place an engineering-grounded emphasis on data related to money spent and Kwh used, rather than thermal comfort (Skjølsvold, Jørgensen and Ryghaug, 2017).

4 RESULTS

4.1 Gender Considerations Within Existing PRS Policies:

From an analysis of the 114 policies collected from the ENPOR Energy Poverty Dashboard which target energy-related issues either specifically within, or encompassing the PRS in Europe, only **three** referenced gendered considerations as part of their remit. In each of these cases, the policies were not targeted specifically at women, but at households who are one-parent families, in receipt of carers' benefits or certain child benefits, whereby these households are more likely to be headed by women.

The three policies are the <u>Ireland Fuel Allowance</u>, <u>Hungarian Energy Discounts for consumers in social need</u>, and the <u>Maltese Energy Benefit</u>.

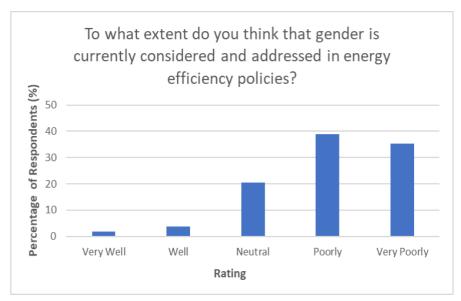
4.2 Scoping Survey Results: Demographic Data

In total, the scoping survey received 54 responses from 25 countries. Respondents were primarily from European countries (88%), but the survey also included responses from the USA, Georgia, South Korea, New Zealand, Mexico and Brazil. 68% of respondents were female, 28% were male and 4% preferred not to say. Half of responses were from individuals representing universities/research organisations, 24% were from civil society organisations/NGOs, and 11% worked in government. Respondents from the media and private companies were also represented.

4.3 Scoping Survey Results: Quantitative Survey Results

74% of respondents considered gender to be an important factor to consider when formulating energy efficiency policies to address energy poverty. Men and women were roughly equally as likely to rate gender as important to consider (73% of male and 76% of female respondents). When asked the extent that they believed gender is currently considered and addressed in energy efficiency policies in general, 39% rated current policies as 'poorly', and 35% as 'very poorly'. Only 2% and 4% rated gender in current policies as 'very well' or 'well' addressed. When asked the same question, but with regards to gender within energy efficiency policies that target the PRS, 26% and 52% rated current policies as 'poorly' or 'very poorly' respectively (see Figure 1). Interestingly, when disaggregated for the gender of respondents for both of these questions, no female respondents rated gender as well or very well addressed for either general or PRS-specific energy efficiency policies. Women were also more likely to rate policies 'poorly' or 'very poorly' than men for both policy types.





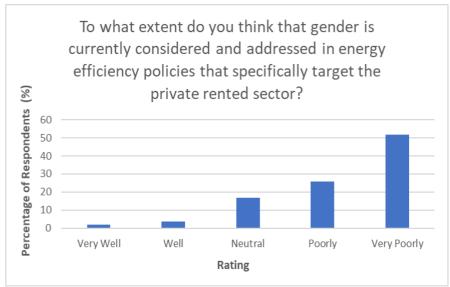


Figure 1: Graphs showing how survey respondents perceive gender to be addressed in energy efficiency policy

With regards to respondents' awareness of PRS energy efficiency policies that targeted gender in their remit, **only three said that they were aware of such policies**. However, when researching the examples given by these respondents, one of the policies did not explicitly mention or address gender, and the other did not target the PRS. This lack of awareness correlates with wider findings from the ENPOR project, that demonstrate the sidelining of the PRS within energy efficiency policy, is also consistent with the policy analysis carried out in Section 5.1, whereby only 3 PRS-relevant policies in Europe were shown to include a gender element.



4.4 Scoping Survey Results: Qualitative Survey Results

<u>Gendered drivers of energy poverty:</u> Survey respondents were asked to identify the main drivers of energy poverty among women, which many connected with broader systemic and societal gender inequality issues, including income disparities, pension gaps and the uneven distribution of care responsibilities between men and women (see UN Women, 2022 for more resources on this topic). Others cited women being more likely to "live in inefficient homes", pay "expensive rents" and "higher energy costs", and face "stigma" as significant drivers of energy poverty.

Another common response received was the intersection of women affected by energy poverty with other axes of vulnerability – such as being overrepresented among elderly pensioners and single parents. This was summarised in the following quotes from respondents identifying as researchers:

"The still **high income differences** and also the distribution of roles between men and women, which mean that women usually have to take on more responsibility in the household and in **caring for the family**. Most single parents are women and poverty in old age also mainly affects women. Precarious income conditions increasingly lead to living in lower quality housing units that consume more energy."

"Despite the fact that many women-headed households have a better budget management than men's, women remain economically disadvantaged in terms of remuneration, earnings, and access to secure jobs. These factors impinge on the ability to avoid pollutionand contamination-related vulnerability drivers. Another major driver is the unequal division of labour within households with women largely still in charge of the reproductive chores outside the minority segment"

Some respondents attributed more individualised factors to the drivers of energy poverty amongst women, quoting lack of time, lower motivation or interest in energy efficiency, and poorer knowledge about undertaking energy efficiency actions in their dwellings. One respondent did not perceive there to be gendered drivers of energy poverty. Other respondents saw gendered energy poverty as a policy failure, stating that a lack of targeted measures promoting energy efficiency for women and female-headed households were key drivers.

<u>Gendered Policy Barriers:</u> Survey respondents were also asked to identify common barriers that currently prevent gender from being addressed within existing energy efficiency policies. Analysis of these responses identified that common barriers include social, regulatory, political, financial, and technical dimensions (Papantonis *et al.*, 2022), and broadly echoed the policy barriers that were identified in the literature review.

A key issue that was identified is that policymakers recognise energy efficiency policy as a primarily technical issue rather than a social one, with respondents also highlighting the lack of representation of women in energy efficiency policy design, in decision-making roles, and across the energy sector generally. As a respondent from the field of research/academia indicatively states:

"There is **a lack of representation of women** in decision-making in the energy sector. The sector is **classically very male-dominated**. Measures are therefore more likely to be tailored for men. The fact that women often have to manage energy consumption in the



household sector is also not taken into account".

The complexity, both technically and administratively, of existing programmes, the time-consuming application process to access subsidies, and lack of knowledge of available energy efficiency policies were also highlighted by respondents:

"Lack of time of underprivileged women to get information and make use of existing support mechanisms"; "Certain households, due to their characteristics, may lack financial means, competencies or needed practices to navigate the state subsidy programs"

Other financial barriers mentioned were most commonly the lack of targeted funding to female-headed households by policies and lower-on-average incomes, however, a lower ability to access credit and fewer assets were also recognised by respondents. Respondents also reported a general lack of awareness regarding gender inequality within energy policy and poor gender-mainstreaming processes. Moreover, an ignorance of the intersections of gender with cross-cutting vulnerabilities (i.e., the network of connections between social categories such as race, class, and age, especially when this may result in additional disadvantage or discrimination) is also mentioned as a significant barrier. Respondents mentioned the need to deepen policymakers' understanding of the broader systemic causes, conditions and impacts of gender inequality in order to address gender effectively within energy efficiency policies. Lastly, a recurring barrier mentioned was the lack of data and indicators that are collected on gender and energy, particularly data that is sex-disaggregated, and poor regulatory frameworks.

Mechanisms to address the issue: Finally, respondents were asked what they thought were the most effective mechanisms to address gender inequalities in the private rented sector. A common recommendation was the need to raise awareness of gendered impacts, and gender mainstreaming processes, in policy design, both in energy efficiency policy and more general social policy. A key component of this, according to respondents, was collecting sufficient data to address identification, monitoring and measurement gaps, as well as detailed research into local/regional contexts. Specific subsidies and loans, or special tariffs aimed at vulnerable women and single mothers with children were suggested as a policy option. With regards to improving representation in policymaking, one respondent suggested quotas, such as a mandatory 1:3 female to male ratio in meetings.

Improving the accessibility of energy renovation and financing support was a key mechanism recommended by respondents. Ideas put forwards to achieve this included: scheduling advice sessions after working hours and online, explaining financing mechanisms using simple terminology, cooperating with (female) intermediaries on the ground to identify and reach out to women, tailored communication strategies to raise awareness of targeted support, and the provision of a 'buddy' to help people through financing applications. Another respondent suggested a community-based approach, such as hosting DIY and energy education workshops for women, to improve education around low-cost measure installations, and how to use solar PV and smart meters.

Finally, respondents put forwards the **need to tackle gender inequality more broadly in order to tackle the root causes of gendered energy poverty**. This included access to good quality employment and stable incomes, improved access to good quality, affordable social housing, rent controls and rent subsidies, and more equitable division of domestic labour.



5 RECOMMENDATIONS FOR GENDER-JUST ENERGY EFFICIENCY POLICIES

Drawing together the findings from the literature review and stakeholder survey, a number of recommendations for designing more gender just energy efficiency policies, as well as tackling the gendered impacts of energy poverty, are put forwards:

Policies must address underlying, structural causes of gender inequality and vulnerability to energy poverty:

- Policies should offer long-term solutions to address energy poverty, in addition to crisis/emergency measures and short-term fixes.
- There must be a recognition that **there is no one-size-fits-all policy. Instead, there must be a palette of policies** that address energy poverty, its causes and effects, and the complex underlying vulnerabilities of the condition.
- Create policy that does not conflate gender with women, and that is inclusive of diverse gender identities.
- Avoid policies that replicate or reinforce gender-based stereotypes around energy use/reduction in the home.
- More targeted support around key "vulnerability" points when people may fall into energy poverty, such as when becoming a mother, or following a relationship breakdown.

Improved data collection and identification of beneficiaries:

- There is a need to systematically collect gender-disaggregated data at regular intervals, at an EU, national and regional level for key energy poverty indicators, including household expenditure, tenure status, and the ability to keep the home adequately warm and cool.
- There must be an awareness however, that quantitative datasets alone can not
 adequately portray the human face of energy poverty and individuals' needs.
 Statistical data needs to be completed by qualitative research and participatory
 processes to account for the lived experiences of women and privately renting
 tenants.
- An intersectional approach is required which does not assume a universal energy
 'consumer', and instead considers differences in energy needs across genders, ages
 and ethnicities, understanding that energy inequality differs across space and time.
- Understanding that a home, or household, is not a homogenous entity, and that there are intra-household conflicts, needs and levels of consumption.
- Co-operating with (female) intermediaries, such as women's charities and social workers in local contexts to identify and reach out to women in need.

Creating energy policies that account for gender differentiated and families' needs:

- Prohibiting energy disconnections and banning pre-payment meter installation in households with children.
- Ensuring that care activities, such as medical needs and childcare-related activities, are incorporated and understood when carrying out household energy needs assessments
- Accounting for the costs of childcare provision when determining income thresholds for subsidies, so that families with children are not excluded as policy



beneficiaries.

- Creating **special energy tariffs** targeted at vulnerable women and families.
- Creating special loans and subsidies for energy renovations targeted at vulnerable women and families.

Increased accessibility to enhance equal uptake of energy efficiency policies:

- Ensuring that workshops, drop-in/advice centres, one-stop-shops etc. have spaces for children to attend, such as being a child-friendly space, or having a dedicated creche.
- Ensuring that **venues** are accessible for people with disabilities or additional needs, such as wheelchair accessible spaces and the provision of interpreters.
- Providing advice services after the traditional working day and/or providing online advice meetings.
- The provision of women's only services and the creation of safe spaces, such as
 educational and practical workshops to improve access to and awareness of energy
 saving in the home and trainings on how to understand smart, time and labour-saving
 technologies, without fear of judgement.

Improved and equal representation across the energy sector and in policymaking:

- Increasing the proportion of women working in the energy sector, for example by improving the accessibility of STEM subjects and jobs for women and girls across education pathways.
- Targeted and specific reskilling and education programmes in retrofitting, the energy transition and gender mainstreaming in policies, for example in just-transition areas and underserved communities.

Energy efficiency policies that are integrated within more holistic environmental measures that have unequal gender impacts:

- Particularly in cities, in order to alleviate summer energy poverty, retrofitting should be carried out in conjunction with measures to reduce the urban heat island effect in public spaces. Areas where there are high numbers of both women-headed households and privately renting tenants should be prioritised.
- In relevant regions, **prioritising the reduction of air pollution** by replacing heaters and cookers that utilise solid-fuels with more efficient, lower carbon and cleaner energy appliances.

In summary, increasing the visibility of the issue through systematic qualitative and quantitative data collection on gender and tenure type, is of primary importance, which will feed into improved recognition of gender within policies due to a widened evidence base. Mainstreaming gender into energy efficiency policies should also be grounded in tenets of energy justice – distributional, recognitional, procedural and spatial.



6 REFERENCES

Abreu, M.I., De Oliveira, R.A.F. and Lopes, J. (2022) 'Housing energy-related renovations from a lifestyle and social standards perspective:insights from Portuguese homeowners', *E3S Web of Conferences*. Edited by Y.F. Huang et al., 347, p. 02011. Available at: https://doi.org/10.1051/e3sconf/202234702011.

Adua, L., De Lange, R. and Aboyom, A.I. (2022) 'Differentiated disadvantage: class, race, gender, and residential energy efficiency inequality in the United States', *Energy Efficiency*, 15(7), pp. 1–18. Available at: https://doi.org/10.1007/s12053-022-10056-7.

Bartiaux, F. *et al.* (2018) 'Energy justice, unequal access to affordable warmth, and capability deprivation: A quantitative analysis for Belgium', *Applied Energy*, 225, pp. 1219–1233. Available at: https://doi.org/10.1016/j.apenergy.2018.04.113.

Białynicki-Birula, P., Makieła, K. and Mamica, Ł. (2022) 'Energy Literacy and Its Determinants among Students within the Context of Public Intervention in Poland', *Energies*, 15(15), p. 5368. Available at: https://doi.org/10.3390/en15155368.

Bîrsănuc, E.-M. (2023) 'Correction to: Mapping Gendered Vulnerability to Energy Poverty in Romania', *Applied Spatial Analysis and Policy*, 16(1), pp. 509–509. Available at: https://doi.org/10.1007/s12061-023-09503-4.

Bolton, E. *et al.* (2023) 'The relational dimensions of renovation: Implications for retrofit policy', *Energy Research & Social Science*, 96, p. 102916. Available at: https://doi.org/10.1016/j.erss.2022.102916.

Bouzarovski, S. *et al.* (2023) 'Energy poverty in the Energy Community region: Interrogating policy formulation and coverage', *European Urban and Regional Studies*, p. 09697764231162229. Available at: https://doi.org/10.1177/09697764231162229.

Burbidge, M. et al. (2023) Analysis of Private Rented Sector Policies and Measures. ENPOR Project Deliverable Deliverable 2.7. University of Manchester. Available at: https://www.enpor.eu/wp-content/uploads/2023/04/ENPOR-Deliverable-2.7-Final.pdf.

Chen, C., Xu, X. and Day, J.K. (2017) 'Thermal comfort or money saving? Exploring intentions to conserve energy among low-income households in the United States', *Energy Research & Social Science*, 26, pp. 61–71. Available at: https://doi.org/10.1016/j.erss.2017.01.009.

Clancy, D.J. (2016) 'IN THE LIGHT OF WHAT WE KNOW: GENDER AND ENERGY TRANSFORMATIONS'. *Inaugural Lecture*, University of Twente. Available at: https://ris.utwente.nl/ws/portalfiles/portal/5136068/oratie J Clancy.pdf.

Clancy, J. and Feenstra, M. (2019) *Women, Gender Equality and the Energy Transition in the EU*. Publications Office of the European Union. Available at: https://doi.org/10.2861/750279.

Clancy, J. and Roehr, U. (2003) 'Gender and energy: is there a Northern perspective?1 1This paper is based on two pieces of work by the authors: a study by Clancy et al. (2001) entitled Gender and Energy – Women's Concerns in Energy: Background and State of the Art prepared



for the European Commission Research Directorate, and a background paper by Roehr (2001), "Gender and Energy in the North" prepared for an expert workshop "Gender Perspectives for Earth Summit 2002: Energy, Transport, Information for Decision Making" held in Berlin, Germany, 10-12 January 2001.', *Energy for Sustainable Development*, 7(3), pp. 44–49. Available at: https://doi.org/10.1016/S0973-0826(08)60364-6.

Elnakat, A., Gomez, J.D. and Booth, N. (2016) 'A zip code study of socioeconomic, demographic, and household gendered influence on the residential energy sector', *Energy Reports*, 2, pp. 21–27. Available at: https://doi.org/10.1016/j.egyr.2016.01.003.

Feenstra, M. (2022) 'Women Engendering the Just Energy Transition', in K. Iwińska and X. Bukowska (eds) *Gender and Energy Transition: Case Studies from the Upper Silesia Coalmining Region*. Cham: Springer International Publishing, pp. 57–72. Available at: https://doi.org/10.1007/978-3-030-78416-4_4.

Feenstra, M. and Özerol, G. (2021) 'Energy justice as a search light for gender-energy nexus: Towards a conceptual framework', *Renewable and Sustainable Energy Reviews*, 138, p. 110668. Available at: https://doi.org/10.1016/j.rser.2020.110668.

González Pijuan, I. (2022) 'Fuel poverty is rocketing but where are the children in UK energy policy? - FPRN'. Available at: https://www.fuelpovertyresearch.net/comment/children-in-uk-energy-policy/ (Accessed: 10 July 2023).

Groneweg, K., Habersbrunner, K. and Stock, A. (2023) *Policy recommendations for gender-just policies to reduce energy poverty*. EMPOWERMED Project. Available at: https://www.empowermed.eu/wp-content/uploads/2023/03/Gender-just-policy-recommendations-EmpowerMed-FINAL.pdf.

Grünewald, P. and Diakonova, M. (2020) 'Societal differences, activities, and performance: Examining the role of gender in electricity demand in the United Kingdom', *Energy Research & Social Science*, 69, p. 101719. Available at: https://doi.org/10.1016/j.erss.2020.101719.

Habersbrunner, K. et al. (2022) Capacity Building Program for Women Empowerment in RHC Sector. W4RES Project. Available at: https://w4resobservatory.eu/wp-content/uploads/2023/03/D4.2_ReportCapacityBuildingFirst_v.1.pdf.

Heredia, M.G. *et al.* (2022) 'Mainstreaming a gender perspective into the study of energy poverty in the city of Madrid', *Energy for Sustainable Development*, 70, pp. 290–300. Available at: https://doi.org/10.1016/j.esd.2022.08.007.

Janikowska, O. and Kulczycka, J. (2021) 'Just Transition as a Tool for Preventing Energy Poverty among Women in Mining Areas—A Case Study of the Silesia Region, Poland', *Energies*, 14(12), p. 3372. Available at: https://doi.org/10.3390/en14123372.

Jessel, S., Sawyer, S. and Hernández, D. (2019) 'Energy, Poverty, and Health in Climate Change: A Comprehensive Review of an Emerging Literature', *Frontiers in Public Health*, 7. Available at: https://www.frontiersin.org/articles/10.3389/fpubh.2019.00357 (Accessed: 28 June 2023).

Kooijman, A., Clancy, J. and Cloke, J. (2023) 'Extending energy access assessment: The added value of taking a gender perspective', *Energy Research & Social Science*, 96, p. 102923.



Available at: https://doi.org/10.1016/j.erss.2022.102923.

Listo, R. (2018) 'Gender myths in energy poverty literature: A Critical Discourse Analysis', Energy Research & Social Science, 38, pp. 9–18. Available at: https://doi.org/10.1016/j.erss.2018.01.010.

Mashhoodi, B. and Bouman, T. (2023) 'Gendered geography of energy consumption in the Netherlands', *Applied Geography*, 154, p. 102936. Available at: https://doi.org/10.1016/j.apgeog.2023.102936.

van der Merwe, S., de Kock, I. and Musango, J.K. (2020) 'The state of the art of gendered energy innovations: a structured literature review', *South African Journal of Industrial Engineering*, 31(3), pp. 144–155. Available at: https://doi.org/10.7166/31-3-2427.

Middlemiss, L. (2022) 'Who is vulnerable to energy poverty in the Global North, and what is their experience?', *WIREs Energy and Environment*, 11(6), p. e455. Available at: https://doi.org/10.1002/wene.455.

Núñez Peiró, M. *et al.* (2021) 'Exposure and Vulnerability towards Summer Energy Poverty in the City of Madrid: A Gender Perspective', in, pp. 481–495. Available at: https://doi.org/10.1007/978-3-030-57332-4_34.

Oliveras, L. *et al.* (2021) 'The Association of Energy Poverty with Health and Wellbeing in Children in a Mediterranean City', *International Journal of Environmental Research and Public Health*, 18(11), p. 5961. Available at: https://doi.org/10.3390/ijerph18115961.

O'neill, T., Jinks, C. and Squire, A. (2006) '"Heating Is More Important Than Food"', *Journal of Housing For the Elderly*, 20(3), pp. 95–108. Available at: https://doi.org/10.1300/J081v20n03_07.

Ortiz, J. et al. (2021) 'Tackling Energy Poverty through Collective Advisory Assemblies and Electricity and Comfort Monitoring Campaigns', *Sustainability*, 13(17), p. 9671. Available at: https://doi.org/10.3390/su13179671.

Papantonis, D. *et al.* (2022) 'How to improve energy efficiency policies to address energy poverty? Literature and stakeholder insights for private rented housing in Europe', *Energy Research & Social Science*, 93, p. 102832. Available at: https://doi.org/10.1016/j.erss.2022.102832.

Petrova, S. and Simcock, N. (2021) 'Gender and energy: domestic inequities reconsidered', *Social & Cultural Geography*, 22(6), pp. 849–867. Available at: https://doi.org/10.1080/14649365.2019.1645200.

Robinson, C. (2019) 'Energy poverty and gender in England: A spatial perspective', *Geoforum*, 104, pp. 222–233. Available at: https://doi.org/10.1016/j.geoforum.2019.05.001.

Robinson, C., Simcock, N. and Petrova, S. (2023) 'Energy justice and gender', in *Handbook on Energy Justice*. Edward Elgar Publishing, pp. 188–200. Available at: https://www.elgaronline.com/edcollchap/book/9781839102967/book-part-9781839102967-20.xml (Accessed: 28 September 2023).



Skjølsvold, T.M., Jørgensen, S. and Ryghaug, M. (2017) 'Users, design and the role of feedback technologies in the Norwegian energy transition: An empirical study and some radical challenges', *Energy Research & Social Science*, 25, pp. 1–8. Available at: https://doi.org/10.1016/j.erss.2016.11.005.

Sovacool, B.K. (2012) 'The political economy of energy poverty: A review of key challenges', Energy for Sustainable Development, 16(3), pp. 272–282. Available at: https://doi.org/10.1016/j.esd.2012.05.006.

Strambo, C. and Segnestam, L. (2021) 'Air pollution in Bosnia and Herzegovina: a gender equality, social equity and poverty reduction lens'. Available at: https://www.sei.org/publications/air-pollution-in-bosnia-and-herzegovina-a-gesep-lens/ (Accessed: 27 June 2023).

Strengers, Y. (2014) 'Smart energy in everyday life: are you designing for resource man?', *Interactions*, 21(4), pp. 24–31. Available at: https://doi.org/10.1145/2621931.

Sunikka-Blank, M. (2020) 'Chapter 8 - Why are women always cold? Gendered realities of energy injustice', in R. Galvin (ed.) *Inequality and Energy*. Academic Press, pp. 173–188. Available at: https://doi.org/10.1016/B978-0-12-817674-0.00008-4.

Sunikka-Blank, M. and Galvin, R. (2021) 'Single parents in cold homes in Europe: How intersecting personal and national characteristics drive up the numbers of these vulnerable households', *Energy Policy*, 150, p. 112134. Available at: https://doi.org/10.1016/j.enpol.2021.112134.

Sunikka-Blank, M., Galvin, R. and Behar, C. (2018) 'Harnessing social class, taste and gender for more effective policies', *Building Research & Information*, 46(1), pp. 114–126. Available at: https://doi.org/10.1080/09613218.2017.1356129.

Tjørring, L. (2016) 'We forgot half of the population! The significance of gender in Danish energy renovation projects', *Energy Research & Social Science*, 22, pp. 115–124. Available at: https://doi.org/10.1016/j.erss.2016.08.008.

Tjørring, L. *et al.* (2018) 'Increasing the flexibility of electricity consumption in private households: Does gender matter?', *Energy Policy*, 118, pp. 9–18. Available at: https://doi.org/10.1016/j.enpol.2018.03.006.

Tsagkari, M. (2022) 'The need for gender-based approach in the assessment of local energy projects', *Energy for Sustainable Development*, 68, pp. 40–49. Available at: https://doi.org/10.1016/j.esd.2022.03.001.

UN Women (2022) *TOOLKIT: A TOOLKIT ON PAID AND UNPAID CARE WORK: FROM 3Rs TO 5Rs.* New York: UN Women. Available at: https://www.unwomen.org/sites/default/files/2022-06/A-toolkit-on-paid-and-unpaid-carework-en.pdf.



7 ANNEXE

	- Scoping Survey Questions does your organisation work in? (tick all that apply)
	University or other research organisation
	University of other research organisation
	Media
	Private company
	Civil society organisation
	Government
	Trade union
	Other
Q2 Which cou	ntry are you based in?
▼ Afghanistan	Zimbabwe
Q3 Which gen	der do you identify as?
O Male	
Female	
Other	
Prefer not to	o say



Q1 To what extent do you think that gender is currently considered and addressed in energy efficiency policies?
O Very Well
O well
O Neutral
Poorly
O Very Poorly
Q2 To what extent do you think that gender is currently considered and addressed in energy efficiency policies that specifically target the private rented sector?
O Very Well
○ Well
O Neutral
Poorly
O Very Poorly
Q3 Do you think gender is an important factor to consider when formulating energy efficiency policies?
○ Yes
○ No
O Unsure/Don't Know



Q4 What are the current barriers to addressing gender inequality in energy effici policy?	iency
Q5 In your opinion, what are the most important drivers of energy poverty amowemen?	ongst
Q6 What are the most effective mechanisms to address gender inequalities the pr rented sector?	ivate
Q7 Are you aware of any energy efficiency policies that address gender inequalities in private rented sector? Please give examples.	n the