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Drivers of Energy Policy Asymmetry Between Supply and Demand in the United Kingdom

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ABSTRACT

The scale of energy service demands and the efficiency with which they are provided determine the size of energy systems. As most modern energy systems are powered predominantly by fossil fuels, the size of the system determines the scale of the decarbonisation challenge enshrined in net-zero targets. It is commonly acknowledged that energy demand reduction, and the consequent reduction in size of the energy system, represents the lowest-cost, lowest-risk option for lowering emissions. Energy demand reductions arise from increasing the efficiency of providing energy services and avoiding such services in the first place. In the United Kingdom, however, government support for such energy demand reduction has stalled in recent years, especially in the context of housing. Expanding and diversifying energy supply resources, technologies and markets, on the other hand, receive strong political support, and increasingly so following Russia's invasion of the Ukraine and associated energy security challenges. The nature of this increasing policy asymmetry between energy demand and supply in the United Kingdom vis-à-vis the EU27 between February and October 2022 is analysed using comparative secondary data in the context of the quasi-natural experimental conditions imposed by Russia's invasion. Primary data, mainly derived from interviews, is used to identify the drivers of this policy asymmetry in the United Kingdom with a particular focus on ideology and institutions. The results indicate to that extreme free-market ideologies and institutions have been significant drivers of energy policy asymmetry during this period to the detriment of both the efficiency of the residential building stock and energy system decarbonisation.

1 | Introduction

The 50 years between the early 1970s and the early 2020s are bookended by two extraordinary events driving up energy prices to unprecedented levels. In 1973, the oil embargo of the Organization of Arab Petroleum Exporting Countries (OAPEC) saw oil prices increase by around 300% (Mallaburn and Eyre 2014). In 2022, Russia's invasion of the Ukraine had a similar effect on European gas prices. During these 50 years, policymaking support for energy efficiency and reductions in energy demand sometimes increased in response to rising energy prices and at other times decreased as prices alone were deemed sufficient in determining demand. Policymaking support for energy supply, on the other hand, has been more consistent, even though energy efficiency improvement has achieved more in reducing carbon emissions in this period (IPCC 2022; Lees and Eyre 2021; Pearson and Watson 2012).

We refer to this imbalance as a policy asymmetry, a situation where policy choices are not made, even though they can achieve an outcome more cost-effectively compared to policy choices that are made. This asymmetry has been repeatedly criticised by the Climate Change Committee (CCC), the UK's net zero watchdog, as a threat to energy security and efforts

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to reach net-zero emissions (CCC 2021, 2022, 2024), and most evidently in the UK government's response to spiking energy prices:

> The new Energy Security Strategy (ESS)[BEIS 2022] is almost entirely supply-focused and many of its commitments may not be delivered until well after the immediate crisis. There remains an urgent need for equivalent action to reduce demand for fossil fuels to reduce emissions and limit energy bills (CCC 2022, 15)

The Institute for Government, a British independent think tank, went one step further by describing the government's response to the energy crisis as 'hopelessly lopsided' (Sasse 2022). This marks the culmination of trends which saw policymaking attention afforded to energy efficiency decline significantly under conservative or conservative-led governments between 2010 and 2024, especially in the residential buildings sector (Fawcett et al. 2019; CCC 2024). In this paper we argue that this policy asymmetry can be linked to political ideology and the institutional context, as opposed to failures in policy analysis.

Our analysis is twofold: First, we shed light on the UK's residential building stock and make use of the quasi-natural experimental conditions imposed on Europe by Russia's invasion of the Ukraine to analyse energy policymaking responses among European countries between February and October 2022. This event triggered (i) a political decision to gradually phase out fossil fuel imports from Russia; (ii) increasing inflation, especially for energy and (iii) energy policy interventions to improve energy security (EEB 2022; DG IPOL 2022; OECD 2022; Batzella 2024; LaBelle 2024). Second, we analyse interview data gathered in 2020–2021 among energy supply and demand experts to understand the drivers of asymmetrical policy interventions in the UK, with a particular focus on institutions and ideology. We contextualise these findings with the quick succession of prime ministers and chancellors of the exchequer in the UK with increasingly evident ideologies between February and October 2022.

The aim of this paper is to provide evidence of policy asymmetry between energy supply and demand and its link to political ideology and associated institutional trends in the UK. We argue that the government's decision not to support any energy efficiency measures or energy savings campaigns in the immediate aftermath of Russia's invasion of the Ukraine, which was accompanied by a further ideological shift towards the right under Liz Truss' brief tenure as prime minister, solidifies the evidence that ideology and the institutional context are key drivers of energy policy asymmetry. Based on this analysis, we contribute to the debate on institutionalising supportive environments for efficiency of the built environment through mission-orientation, no matter what political party is in power (Hodgkin and Sasse 2022; Jacobs and Mazzucato 2016; Sharpe et al. 2025).

This paper is organised as follows. Section 2 provides background information on ideology and UK energy policymaking. Section 3 provides details on the methodology, which combines the comparison of the UK's energy policy response to rising energy prices between February and October 2022 and those of other European countries in the context of quasi-experimental conditions imposed by Russia's invasion of Ukraine, with primary interview evaluation on the drivers of energy policy asymmetry in the United Kingdom. Section 4 provides results of this comparative analysis. Section 5 provides the analysis of the interviews regarding energy policy asymmetries, with a particular focus on the period February–October 2022. In Section 6, we discuss the drivers of this policy asymmetry, with a particular focus on ideology and institutions. Section 7 concludes.

2 | Ideology and (In)consistency in UK Energy Policymaking

The demand side is by no means the only aspect of UK energy policymaking that has been subject to significant fluctuations in political support. In its early years, the 1997–2010 Labour government considered the abandonment of active support for new nuclear power in favour of an energy system with a much-increased share of renewable energy and significantly lower energy demand before announcing a U-turn in 2007 (BERR 2003; PIU 2002). Since then, UK energy policymakers have put forward some of the most ambitious plans for nuclear power development in Europe, with construction of a new nuclear power station at Hinckley Point C commencing in 2012, and more funding announced for Sizewell C in 2025 in a drive to improve energy security (HM Treasury 2025).

Renewable energy has witnessed similar U-turns with regards to political support. While the 1990s and 2000s were marked by a lack of support, the 2010s saw the UK leading on offshore wind deployment in Europe thanks to an effective support system combining price certainty (through Feed-in Tariffs, Renewables Obligations and Contracts for Difference) with effective intermediation (Mitchell 2008; Rentier et al. 2023). In 2015, however, support for renewables, onshore wind in particular, was significantly reduced following a Conservative backlash in England (Johnstone and Stirling 2020). In 2020, the next U-turn followed with increasing support afforded to offshore wind and the then Conservative Prime Minister Boris Johnson announcing his intention for the United Kingdom to become 'the Saudi Arabia of wind' (BBC 2022; BEIS 2020). In 2023, however, a Contracts for Difference auction attracted no bidders for offshore wind, and subsequent auctions saw prices rise for the first time (Watson and Bolton 2024).

Policy support on the supply side does not appear to have changed much as a result of changing political ideology, with 1997–2010 and 2024 onwards dominated by centre-left politics, usually associated with a more favourable view of renewables and a less favourable view of nuclear power, and 2010–2024 dominated by centre-right politics, usually associated with opposing views. While support for nuclear can be at least tentatively linked to 'concealed military interest' (Johnstone and Stirling 2020, 21), it is less clear what has been driving (lack of) support for renewables, although large-scale supply technologies such as offshore wind benefit from centralised planning, lobbying and investment and a commodity view of energy, unlike demand-side solutions (Eyre 1997).

On the demand side, meanwhile, policy and support U-turns appear to be more clearly aligned with ideology (Mallaburn and Eyre 2014). This is evident in the decision to refocus the Energy Company Obligation (ECO) and introduce the Green Deal in 2012, following the ideological shift from centre left towards centre right following the general election in 2010 (Fawcett et al. 2019; Rosenow and Eyre 2016). ECO in its original iteration obliged energy supply companies to fund cavity wall and loft insulations. From 2012 onwards, ECO was targeted at low-income homes, with the Green Deal designed to target the rest. However, the Green Deal was probably the most significant energy policy failure in the last 20 years. As a result, UK home efficiency improvements subsequently plummeted by over 90% (CCC 2021; Rosenow and Eyre 2016; Skidmore 2023).

This trend did not change with the introduction and subsequent withdrawal of the Green Homes Grant scheme in 2020–2021, which briefly provided grants to homeowners and landlords for energy efficiency improvements. The Public Accounts Committee concluded that the scheme's failure 'continues government's troubled record of energy efficiency initiatives and risks damaging the Department [of Business, Energy and Industrial Strategy, now Department for Energy Security and Net Zero]'s future efforts to harness consumer and industry action to deliver Government's net zero commitments' (House of Lords 2021, 3). This troubling track record of government support for energy efficiency and demand reductions in the UK residential building stock during successive Conservative and Conservative-led governments between 2010 and 2024 is now well publicized (CCC 2021, 2022, 2024; Fawcett et al. 2019; Green Alliance 2020; Skidmore 2023).

Yet energy demand reductions are associated with multiple benefits and have been repeatedly identified as by far the quickest and cheapest ways of addressing rising energy costs associated with the energy supply and associated cost-of-living crisis in the UK and beyond (Barrett et al. 2022; CCC 2024; Fawcett and Killip 2019; Hodgkin and Sasse 2022; Skidmore 2023). Reductions in energy demand are also associated with many more positive effects (synergies) than negative effects (trade-offs) in relation to the Sustainable Development Goals (SDGs) compared to energy supply (Grubler et al. 2018; IPCC 2018; Thema et al. 2017; Uerge-Vorsatz et al. 2016). In the transport sector, meanwhile, 'induced demand' has long been recognised as an outcome of supply side policies to the detriment of human and planetary health (Barr et al. 2018; Rinkinen et al. 2020). Unsurprisingly, research among energy policy experts indicates a preference for demand-side solutions over supply-side solutions to achieve a just transition to zero carbon (Winskel and Kattirtzi 2020; Nolden et al. 2022; Nolden et al. 2021).

Academic interest in energy policy asymmetry, however, appears to be nascent despite such mounting evidence of direct and indirect benefits of energy demand reductions. A meta-narrative review of the relevant literature identified policy asymmetries across a range of social systems between productivity and resilience, ranging from healthcare (curing illnesses vs. preventative healthcare) and waste (landfill vs. prevention) to pollution (end-of-pipe treatment vs. upstream solutions; Bobrova et al. 2023). Regarding energy, this review identified hierarchies between demand-side and supply-side solutions, including sufficiency versus carbon sinks (ADEME 2022), avoid versus improve (Creutzig et al. 2018), and changing energy-using activities vs. switching fuels (Eyre and Killip 2019) at opposing ends of the scale, with a tendency among policymakers to favour the latter (Bobrova et al. 2023).

Research into the role of ideology and institutions in driving this asymmetry appears even scarcer. Our review identified only a few publications that deal explicitly with the role of ideology on energy efficiency and demand policy (Chang and Berdiev 2011; Chang et al. 2015; Potrafke 2010; Varone and Aebischer 2001). Varone and Aebischer's (2001) findings suggest that left-leaning parties are more likely to use regulation to promote energy efficiency compared to right-leaning parties in Canada, Denmark, Sweden and Switzerland. While Potrafke (2010) found that right-leaning and market-oriented parties support deregulation, Chang and Berdiev (2011) and Chang et al. (2015) found that left-leaning parties support regulation. As energy efficiency benefits from strong regulation (Eyre et al. 2022), the former results in diminishing and the latter in improving energy efficiency standards (Chang and Berdiev 2011; Chang et al. 2015; Potrafke 2010). When it comes to policy adoption, governments are most likely to emulate ideologically similar governments, while the ideological preferences of politicians can condition policy diffusion (Gilardi 2010; Meseguer and Gilardi 2009). Chang et al. (2015, 1194) conclude that 'politician's ideology plays a critical role to affect energy efficiency in OECD [Organisation for Economic Cooperation and Development] countries'.

The next section describes the methodology and our approach to data gathering and analysis.

3 | Methodology

We approach this analysis of the nature and drivers of UK energy policy asymmetry between February and October 2022 using a two-pronged approach: First, we shed light on the UK's residential building stock and make use of the quasi-natural experimental conditions imposed on Europe by Russia's invasion of the Ukraine to analyse the nature of asymmetrical energy policymaking. Secondly, we analyse interview data gathered in 2020–2021 among energy supply and demand experts to understand the drivers of asymmetrical energy policymaking with a particular focus on ideology and institutions.

To gain an understanding of the nature and driver of policy asymmetries, we mainly reviewed academic and official sources such as those mentioned above, as well as grey literature and media articles to capture the mood. This bears certain risks. Media outlets are selective in what is published, and editorial policy, errors, distortion, selection bias and audience contexts can be difficult to discern (Gilbert 2008). To mitigate these issues, this paper draws on multiple sources, some associated with left-of-centre politics (such as the Guardian) and some with right-of-centre politics and a free-market economy (such as the Economist).

We use secondary data derived from these and other well-publicised sources to conduct our comparative analysis of EU27

and UK energy policy responses to the quasi-natural experimental conditions imposed by Russia's invasion of the Ukraine (European Parliament 2022; OECD 2023). We contend that changing circumstances in the availability and cost of energy following the invasion and resulting energy policy interventions represent a quasi-natural experiment among European countries. Such experiments 'occur when a particular intervention has been implemented but the circumstances surrounding the implementation are not under the control of researchers' (Leatherdale 2019, 19).

In the case of policy interventions, researchers usually lack the ability to manipulate how, when, or where such interventions occur. Evaluating the impact of such interventions takes the form of a quasi-natural experimental study, which can be experimental or non-experimental in nature. This largely depends on the type of data available to make robust inferences about the relationship between energy policy interventions and outcomes on the demand side. In policy, natural experiments occur on an ongoing basis. However, few are analysed as such, which arguably represents 'lost opportunities for generating timely practice-based evidence in determining what works, for whom, and in what context' (Leatherdale 2019, 20).

In other areas where policy asymmetries have been recognised and are being addressed, such as obesity which is increasingly targeted through both treatment and prevention, (quasi-)natural experiments are increasingly valued as controlled experimental research designs are often either unfeasible or inappropriate (Crane et al. 2020). Conducting research in the context of natural experimental conditions hinges upon the quality and availability of data. Availing of these conditions to conduct a cross-country comparison regarding asymmetry in energy policymaking is pertinent given the UK Climate Change Committee's call for policy gaps on energy efficiency of buildings to be closed; to increase ambition in reducing consumer demand for high-carbon activities; and to broaden the Government's approach to delivering net zero, 'in particular by including demand-side policies' (CCC 2022, 14).

As this comparison amounts to an observational study under quasi-experimental conditions as opposed to a true experiment, however, it is difficult to draw clear causal inferences. The control group, the EU27 countries, is anything but random. However, technologies, institutions and society co-evolve (Foxon et al. 2013). If we consider European countries a cohort on a similar co-evolutionary economic, social and environmental trajectory exposed to an event over time, a quasi-natural experimental case–control comparison enables outcomes (energy policymaking interventions) to be compared with the same exposure (rising energy prices as a result of Russia's invasion of the Ukraine, even in the context of the UK leaving the EU) (Hamilton et al. 2016). To this end, we analyse secondary quantitative data, mainly from official sources such as the OECD (2023) and the European Parliament (2022).

To analyse the drivers of policy asymmetry, we analyse primary interview data as well as existing literature, some of which is grey for the reason stated above. In 2020–2021, ten people, seven of whom are academics and three of whom have strong links to policymakers, were interviewed as part of this research, lasting between 45 and 90 min. The interviews were selected through the authors' professional network based on their experience on different aspects across the spectrum of supply and demand. Table 1 indicates their expertise and code name.

TABLE 1 | Interviewee expertise and code name.

Interviewee expertise (code name)	
1	Energy sociologist
2	Energy efficiency expert
3	Buildings expert
4	Energy economist (demand)
5	Measurement and verification expert
6	Transport expert
7	Regulatory expert
8	Social justice expert
9	Energy economist (flexibility)
10	Nuclear power expert

The interviews were undertaken using an interview guide. After initial complaints regarding leading questions (e.g., 'How do infrastructures implicate people in creating demand?') the approach was changed. The majority found the questions of the finalised guide (Appendix A) interesting and relevant. The interviews were analysed using NVivo 12. Passages were coded following a deductive process linked to previous research which broadly confirmed the hypothesis posed as the first question of the interview guide that *energy demand receives less policymaking attention than energy supply, even where demand side change can secure similar policy objectives* (Nolden et al. 2022; Nolden et al. 2021).

This approach started with the testing of this hypothesis, which nine of the ten interviewees confirmed. Answers to questions 1–4 were mainly coded under headings *demand creation*, *supply-side advantage* and *demand-side advantage*. These resulted from the analysis of key sources (Eyre and Killip 2019; Grubb et al. 2014; Shove and Walker 2014) and were subsequently grouped under *Nature of policy asymmetry*. Answers to questions 5–8 were mainly coded under the headings ideology, institutional context and funding gaps. These also resulted from the analysis of key sources (Rosenow and Eyre 2016; Fawcett et al. 2019; CCC 2021) and were subsequently grouped under *Drivers of policy asymmetry*. Answers to questions 9–12 were mainly coded under the headings *policy and governance solutions* and *fundamental economic change*. These resulted from the key sources mentioned above, as well as more radical sources (Corning 2000; Kallis et al. 2012; Raworth 2017) and were subsequently grouped under *Overcoming policy asymmetry*.

It should be noted that these interviews took place (2020–2021) before the specific window of analysis (February—October 2022) in this paper. Ideology came to the fore as a key driver of policy asymmetry in these interviews, but political events overtook our analysis and provided the quasi-natural

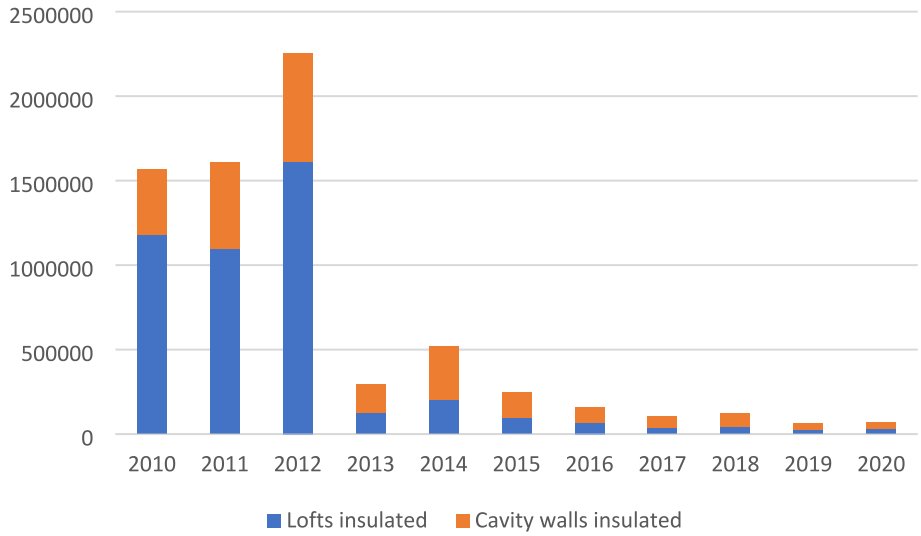

FIGURE 1 | Annual number of loft and cavity wall insulations 2010–2020 in the UK (CCC 2021; Evans 2022).

experimental conditions that reinforced the findings from the interview. Interviewees' generally tentative suggestion of an ideological bias (and one case of explicit exclusion of this link, the same interviewee who did not confirm the hypothesis) shifted into plain view during this period. The circumstances during the window of analysis thus enabled us to test and validate some of the findings from the interviews. Where relevant, direct quotations from the interviews are reported in the results and discussion sections. Elsewhere, they are summarised or paraphrased.

The next section reports the findings of our analysis of policymaking support for energy efficiency targeting the UK residential building sector and our comparative analysis of energy policymaking responses in the EU27 and the UK in the context of quasi-natural experimental conditions imposed by Russia's invasion of the Ukraine.

4 | Energy Policymaking Between February and October 2022

The UK residential building stock is the oldest in Europe. Around 37% of housing was built before 1946 and 62% before 1970 (European Commission 2023). Consequently, the residential building stock accounts for around 15% of UK GHG emissions (CCC 2024). As mentioned above, however, UK energy policy has been focused predominantly on the supply side, especially under Conservative and Conservative governments between 2010 and 2024. The demand side, and buildings in particular, have received little policymaking attention. The result, according to the Climate Change Committee, is that:

> There has been little of the necessary progress in upgrading the building stock. Insulation rates remain well below the peak market delivery achieved up to 2012 before key policies were scrapped, demonstrating clear potential for growth if an effective policy package is put in place. Despite a small improvement in the rates of heat pump installation, these remain far below the levels that are necessary. (CCC 2021, 19)

In peak market delivery year 2012, the highest number of lofts and cavity walls were insulated (see Figure 1). The sharp drop in insulation levels was the result of a change in policy. Carbon Emission Reduction Targets (CERT) and the Warm Front were abandoned and replaced by ECO and Green Deal, despite the government's impact assessment suggesting the change would lead to a collapse of home insulation rates (Rosenow and Eyre 2013).

Following Russia's invasion of the Ukraine, which commenced on 24 February 2022, inflation in relation to energy increased across Europe (Figure 2). This was triggered by a Europe-wide political decision to phase out fossil fuel imports from Russia (Batzella 2024; LaBelle 2024). A notable exception is Hungary, which struck a new deal with Russia to import more gas. In the UK, inflation in relation to energy was particularly pronounced. Between April and October 2022, it stood at over 50%, more than 10 percentage points above the EU27 average (OECD 2023; Figure 2).

While rising energy costs, increasing energy insecurity, and the desire to reduce dependence on Russian gas imports encouraged all EU27 countries to voluntarily commit to reducing gas demand by 15% between 1 August 2022 and 31 March 2023 compared to their average consumption in the previous 5 years, the UK refused a similar commitment (European Commission 2022). Energy savings campaigns were subsequently launched in all EU countries, in many cases accompanied by energy policymaking interventions to save energy. The UK is a notable exception. In the absence of government action, the UK's National Grid, which oversees the UK electricity network, launched a voluntary scheme on 6 October to reduce energy demand during peak hours (17.00–21.00; Askey 2022). Only following a change

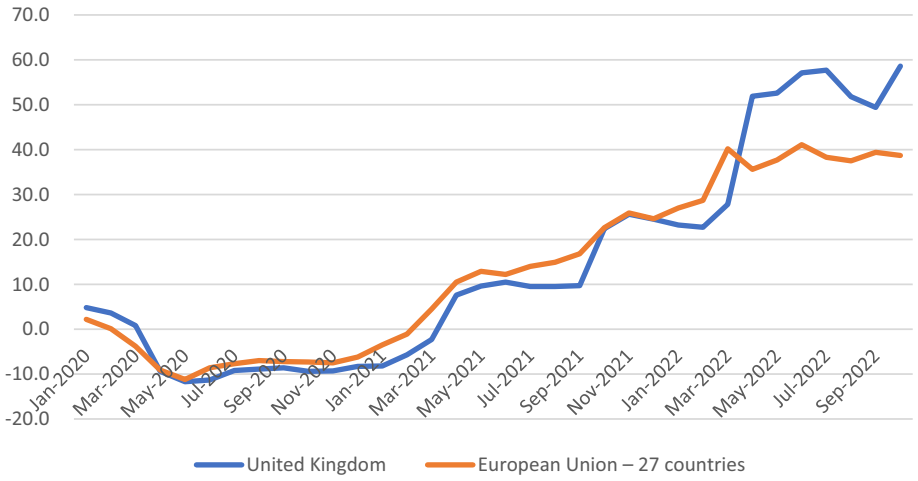

FIGURE 2 | Inflation (Consumer Price Index) of energy in the UK and EU27 countries (OECD 2023).

in Prime Minister was an official energy-saving campaign launched in November 2022.

The overall track record of successive Conservative governments on energy efficiency, however, has been identified by the Climate Change Committee as a threat to reaching the UK's binding net zero target:

> The previous [conservative] Government gave inconsistent messages on its commitment to the actions needed to reach Net Zero, with cancellations of, and delays and exemptions to, important policies. It claimed to be acting in the long-term interests of the country, but there was no evidence backing the claim that dialling back ambition would reduce costs to citizens. Of particular concern to the Committee were changes to buildings policy, including exempting 20% of households from the phase-out of fossil-fuel boilers by 2035. These could seriously undermine the UK's ability to reach its targets (CCC 2024, 8–9)

The following section analyses the role of ideology in energy policymaking on the UK with a particular focus on the quick succession of prime ministers and chancellors of the exchequers with increasingly evident ideologies between February and October 2022.

5 | Ideology and Energy Policy in the UK

In principle, the interviewees agree that energy efficiency is supported across the political spectrum:

> [in the 1980s] there was a speech by [Conservative climate change denier] Nigel Lawson actually, interestingly, the Chancellor, where he made that point [about economic rationalism], and he frames energy efficiency in that way. So, I am not sure really [ideology] is a big barrier. [Energy efficiency expert]

> Improved economic efficiency is central to... Well, it's central to economics, it's central to capitalism. [...] Everyone's comfortable, right and left, through the spectrum, are fairly comfortable with efficiency. Why could you object to efficiency? Why would you want to be inefficient? [Energy economist 2]

Many people, including policymakers, however, struggle with the concept of associated reductions in energy demand. This is the result of opposition to such reductions as they falsely assume that they are inconsistent with economic growth, which has been proven wrong (Lees and Eyre 2021), or because of ideological opposition to the means which can deliver this end (Chang and Berdiev 2011; Chang et al. 2015; Potrafke 2010; Varone and Aebischer 2001).

Consequently, reducing demand appears to be low on the political agenda. In the UK this is evident in the withdrawal of a document titled 'Net Zero: principles for successful behaviour change initiatives' initially published alongside the UK's 'Net Zero Strategy' in 2021 (BEIS 2021). The document included references to the potential impact of levies on high energy demanding and carbon emitting practices such as frequent flying. According to the Department of Business, Energy and Industrial Strategy (BEIS), it 'was an academic research paper, not government policy... we have no plans whatsoever to dictate consumer behaviour in this way' (House of Lords 2022, 94). In the 'Net Zero Strategy' itself, the then Prime Minister Boris Johnson pledged that Britain could meet its ambitious net zero targets 'without so much as a hair shirt in sight' (BEIS 2021, 9).

With the danger of blackouts looming as a result of the energy security crisis following Russia's invasion of the Ukraine, the UK launched an Energy Security Strategy (BEIS 2022) which, as mentioned above, was criticised by the CCC (2022, 15) for being 'almost entirely supply-focused'. Liz Truss, during her short stint as Prime Minister, took this one step further by vetoing a public campaign to save energy to maintain grid stability, and ultimately national security. Both Truss and Kwasi Kwarteng, her Chancellor of the Exchequer during her brief stint in office,

are authors of 'Britannia Unchained' (Kwarteng et al. 2012), a book written by a group of Conservative Members of Parliament (MPs—all of whom became government ministers under Boris Johnson) which argued that the UK suffers from a 'bloated state, high taxes and excessive regulation'. Truss is associated with an extreme free-market ideology, as the following excerpts from The Economist and the Financial Times, two newspapers in support of free-market policies, indicate:

> She sees consumption as the cure [of our ills]. It is such a fundamental aspect of her ideology that, even with the possibility of blackouts this winter, the government dares not ask people to turn down their thermostats and throw on jumpers. 'Ever since I can remember, the environment has been presented as something worthy', complained Ms Truss in a speech she made while environment secretary in 2014. 'Feel guilty about buying more stuff. Take fewer flights. It's all been about having less but it can—and should—be about having more'. (The Economist 2022)

Similarly, Stephen Bush from the Financial Times stated the following:

> [Liz Truss] is, and was, a libertarian ideologue. Hence this story by the Times political editor Steven Swinford: No. 10 has rejected plans signed off by Jacob Rees-Mogg, the business secretary, for a £15mn information campaign to encourage people to save energy. (Bush 2022)

A free-market ideology wedded to growth, consumption and consumer choice, however, stands in opposition to the policy interventions necessary to reduce energy demand and accelerate the transition to zero carbon (Chang and Berdiev 2011; Chang et al. 2015; Potrafke 2010; Varone and Aebischer 2001). This is confirmed in the following interviewee quotes:

> For the past 30 years I've had the Conservative party tell me that the market is akin to some kind of spiritual being. A sort of god that must regulate our entire lives. [Nuclear power expert]

> I've had plenty of conversations with government, and it does feel like they've got a very market driven approach at the moment. [...] It's very much the Tories' approach, which is like get up and do your own stuff—we're not going to do anything for you. [...] What did David Cameron call it—the Big Society, didn't he? We'll do F-all, and you get on and change the country. [Measurement and verification expert]

> Reducing fossil fuel consumption, reducing emissions means the end of capitalism as we know it. And it's socialism and communism or what have you. [Regulatory expert]

> You know, [politicians] are in a policy world where somebody has got to say how much do we need, therefore they have to make judgments and assumptions about demand. They do it all the time. And then take those judgments for granted. Otherwise you'd have somebody saying it's the government trying to tell us how to live. [Energy sociologist]

The U-turns which laid the foundation of this increasingly ideological approach to energy policymaking and growing policy asymmetry, as mentioned in the introduction, can be traced back to the beginnings of the free-market conservative rule starting with a Conservative-Liberal Democrat coalition in 2010. According to an energy efficiency expert,

> [ECO] was coming along nicely in 2010 because of the amount of money the [previous Labour] government [committed energy companies to put] into this and then of course the coalition government yanked the rug away from the able-to-pay market and has completely destroyed the industry. Ninety five percent less capacity now than it had. [Energy Efficiency Expert]

At the same time, the Green Deal, launched in 2012, was supposed to create a market-based system to incentivise the able-to-pay segment to invest in energy efficiency measures. However, the Green Deal ranks among the most significant policy failures on the demand side. Critics contend that its subsidy-free nature, with all investment to be covered by savings through the 'golden rule' which ensured that the value of estimated energy savings were equal or greater than the loan repayments, was bound to fail as it ignored the significant transaction costs that such performance contracts entail. In fact, the government's own impact assessment suggested it would deliver nowhere near the number of efficiency improvements compared to ECO among the able-to-pay segment (Rosenow and Eyre 2013). In 2015, the new Conservative government scrapped the Green Deal alongside support measures for renewable energy technologies.

> The point I always come back to is that 2015 moment where you had the Bonfire of the Policies. It was very interesting what policies were retained and what policies were dropped. Many things were dropped, including the solar feed in tariff was substantially reduced. At the same time, you had onshore wind ban. Also, [...] there were certain things to do with energy efficiency in homes that were dropped and not necessarily replaced in good time. [Nuclear power expert]

Ever since, the UK has been subject to a particularly pronounced energy policy asymmetry, especially with regards to the residential building stock (CCC 2021, 2022, 2024; Fawcett et al. 2019). While support for renewable energy was significantly reduced in 2015, support for other supply side sources, especially nuclear power and fracking, were significantly increased:

> At the same time, we saw loan guarantees announced for Hinkley C that was on top of the already very generous strike price that power station was receiving. At the time, we saw support for fracking as well. [Nuclear power expert]

In 2020, the Ten point plan (BEIS 2020) reinstated support for renewables while support for energy efficiency, especially targeting the housing stock, was notable by its absence, with the exception of the Green Homes Grant. Launched in 2020 as part of the commendable Conservative Party's 2019 election manifesto pledge to invest £8.2bn in energy efficiency, the Green Homes Grant targeted 600,000 households by providing grants to homeowners and landlords for energy efficiency improvements with a total target spend of £1.5bn. It marked a shift away from market-based energy efficiency schemes epitomised by the Green Deal (Rosenow and Eyre 2016). However, the Green Homes Grant was withdrawn after less than a year and after only 47,500 households had energy efficiency measures installed at more than £1000 per household at a total cost of £314 m to the government, of which £50 m was administrative costs. Arguably, it was set up to fail as the:

> 12-week timescale to implement the Scheme was unrealistic and imposed constraints on its design and implementation. The Department proceeded with the Scheme despite its own Projects and Investment Committee rejecting its full business case. The Department should have considered halting or delaying the Scheme given evidence that preparations were not sufficiently progressed.... The Department appointed a contractor without properly understanding whether they could delivery... This was despite a specialist Cabinet Office review of the low-cost bid recommending the Department obtain a more detailed understanding of the proposed solution, which the department did not do (House of Lords 2021, 3–7)

Both the Green Deal and the Green Homes Grant Scheme had very poor business cases but were nevertheless implemented by government (House of Lords 2021; Rosenow and Eyre 2013, 2016). This raises the suspicion that they were set up to fail. After the failure of the Green Homes Grant Scheme, there was no policy support to reduce the energy demand of buildings except for ECO which targeted low income and vulnerable households with energy performance certificate (EPC) ratings of D or below until the change of government in 2024 (CCC 2024). The lack of policy support for the remainder of the residential housing stock, especially the able-to-pay segment, was highlighted the Climate Change Committee on several occasion with increasingly stark wording (CCC 2021, 2022, 2024). While the evidence above provides an ideological explanation for the asymmetry in energy policymaking between February and October 2022, however, the interviewees suggest that the underlying issues are also institutional:

> There is a tendency I observe with governments of pretty much any colour [...] to focus at the very high level on targets and what the right targets should be in the long-term. And then, there is a tendency to also talk about technologies at a very high level, should we do more nuclear or more solar or what about wind farms? And should we ban them? And onshore? It's that kind of really high-level discussion that takes a lot of the attention I think of key decision makers. And then, I think at a lower level in policymaking, sure there will be experts who deal with all the other aspects of this, but my sense is that if you ask what keeps policymakers busy and gets their attention the most, I think it's those [supply] technologies and high-level targets. Which is unfortunate, because I think neither of those necessarily deliver really meaningful change. [Regulatory expert]

> One of the challenges I think for policymaking is perhaps almost training that many policymakers, certainly in central government, have received. Which is a fairly traditional... many politicians if not civil servants have done a politics, philosophy, economics degree, which does tend to enculture them into a fairly traditional economics view of the world. [...] So, there's certainly an intellectual problem [and] there is a political problem which is that you have to be seen to be acting and acting is about building things or spending large amounts of capital. [Transport expert]

With such institutional biases among policymakers running deep, the UK appears to be particularly susceptible to ideologically driven policy asymmetries which is amplified by the winner-takes-it-all majoritarian democratic model which concentrates executive power in a single party (Hall and Soskice 2001; Johnstone and Stirling 2020).

6 | Discussion

The 2022 autumn statement by the Chancellor of the Exchequer Jeremy Hunt on 17 November, following Liz Truss standing down as Prime Minister on 25 October 2022, saw a shift in both ideology and energy policymaking. Unlike Truss and Kwarteng, he is not associated with extreme free-market ideology. The autumn statement pledged £6.6bn in that parliament and an additional £6bn in 2025–2028 for energy efficiency in housing. While this appeared to realign the UK with its EU counterparts and suggested a slightly less ideologically driven approach to energy policymaking, it was nevertheless still far removed from creating a level playing field among energy demand and supply solutions. In fact, policy asymmetry was perpetuated in Powering Up Britain policy documents (DESNZ 2023a, 2023b, 2023c) where individual energy supply technologies received significantly more support (up to £20bn for carbon capture, utilisation, and storage (CCUS) alone) than demand-side solutions (up to £12.6bn for energy efficiency), as well as the strategic priorities of the UK Infrastructure Bank (UKIB 2023), which again points towards the institutional drivers of policy asymmetry.

Our findings thus suggest that the lack of political support for campaigns to encourage energy demand reductions during the specific window of analysis (February—October 2022) and more generally for reducing energy demand in the residential housing sector (BEIS 2022; CCC 2021, 2022, 2024), upon closer inspection, was a culmination of growing policy asymmetry, rather than a one-off. As policymaking shifted towards free-market ideologies between 2010 and 2022, the country witnessed, as one interviewee succinctly put it, 'a bonfire of policies,' especially among those that lowered demand and posed a threat to ever-increasing consumption. The interests such policymaking serves are thus not those that support a reduction in size of the energy system, which represents the lowest-cost, lowest-risk option for early emissions reduction (Barrett et al. 2022; IPCC 2022).

Contradicting their own policy principles of guiding choice through the invisible hand of price, however, successive Conservative governments' support for the supply side was particularly pronounced for nuclear power (HM Treasury 2025; Johnstone and Stirling 2020; Pearson and Watson 2012). In 2015, as mentioned by one of the interviewees above, the government announced loan guarantees for the nuclear power station under construction at Hinckley Point on top of the strike price which in 2018 stood at over twice the wholesale price (Johnstone and Stirling 2020). Interestingly, such investments in infrastructure, which were neglected by all political parties in power over the last 40 years, now garner cross-party support (Kemp 2021). This is evident in the Labour government which came to power in 2024 agreeing to support a new nuclear power station (Sizewell C) in 2025 in a drive to improve energy security, as mentioned above (HM Treasury 2025).

Such investments are increasingly framed in the context of 'missions' and 'mission-led government' (HM Government 2024; Jacobs and Mazzucato 2016). The Labour government's doubling of energy efficiency investments to £13.2bn through the Warm Homes Plan suggests a changing institutional commitment and 'mission-orientation' on the demand side (DESNZ 2025). This provides further evidence of the role of ideology in creating asymmetrical energy policy environments, with more left-leaning ideologies in support of energy efficiency and energy demand reduction, and more right-leaning ideologies in opposition thereof.

The main challenge to overcome energy policy asymmetry is thus the institutional embedding of energy efficiency and demand reductions, the most effective approach to lowering carbon emissions (Barrett et al. 2022; Lees and Eyre 2021), beyond the vagaries of ideological energy policymaking. One approach is to shift housing from an issue of energy policy to an issue of infrastructure provision through bundling and aggregation. This is increasingly pursued at a local authority level, with Bristol City Leap, an innovative public-private partnership pioneered by Bristol City Council, aggregating housing retrofits and low-carbon heating supply to leverage around £1bn of private finance and thereby elevating housing into an infrastructure consideration. This creates a different visibility in capital markets and allows capital budgeting to be undertaken on a much larger scale compared to more conventional finance and investment approaches for such non-core activities (Nolden et al. 2023).

Yet such approaches by individual local authorities bear significant risks, including private sector partners cherry-picking more profitable projects to the detriment of housing retrofits. If local authorities had more access to 'patient' institutional capital through a government-backed bank such as the UK Infrastructure Bank (UKIB), they would have less incentive to take such risks and seek investment on capital markets with higher expected returns. UKIB has earmarked £22bn for investment in climate change and regional and local economic growth, although none is currently allocated to energy efficiency investments (UKIB 2023). This suggests that 'mission-orientation' has yet to permeate from policymaking into institutions. This is a necessary step to create a virtuous cycle of innovation in demand reduction solutions that drive long-term cost reductions as a result of scalar economies, learning effects, and the development of supportive institutional ecosystems (Hodgkin and Sasse 2022; Jacobs and Mazzucato 2016; Sharpe et al. 2025).

7 | Conclusion

In the UK, energy policy asymmetry between supply and demand grew significantly between 2010 and October 2022. This has been particularly pronounced in the housing sector where the number of loft, cavity wall and solid wall insulations collapsed in 2012 with significant weakening of energy supplier obligation (ECO) schemes and the introduction of the Green Deal. Its failure and the failure of the 2020 Green Homes Grant Scheme were the result of poor design, which harmed trust among consumers, installers and policymakers. At the same time, mounting evidence suggests that reducing energy demand in homes is among the cheapest and quickest approaches to lowering carbon emissions, improving energy security and addressing the cost-of-living crisis, which has also been recognised by both the UK's Climate Change Committee and its Public Accounts Committee.

Our comparative analysis of the EU27's and the UK's energy policy responses during quasi-natural conditions imposed by Russia's invasion of the Ukraine in February 2022 and Liz Truss stepping down as Prime Minister in October 2022 revealed a particularly pronounced asymmetry. During this period, all EU27 countries launched campaigns to reduce energy demand while the UK, despite experiencing higher inflation of energy prices compared to its economic and demographic counterparts France, Germany and Italy, focused entirely on supply-side solutions. We traced this asymmetry to a free-market ideology associated with the right wing of the then governing Conservative Party. This ideology stands in opposition to reducing consumption, even if such reductions are associated with rapid and cost-effective carbon emissions reductions and energy security improvements.

To ringfence such energy demand reduction from the vagaries of ideology, we recommend the elevation of housing improvements into an infrastructure consideration. Shifting the debate from subsidies to investment would allow actors to co-develop long-term programmes and supply chains involving grants, loans, expert advice and skill development, thereby creating a favourable institutional ecosystem supporting economies of scale, specialisation and learning. This approach has been famously pioneered in Germany with its Kreditanstalt für

Wiederaufbau (the KfW Bank). Alongside, step-by-step tightening of building regulation can provide the guardrails to drive progress and innovation.

With the Labour party doubling investment in energy efficiency and demand reductions in 2024, a more 'level playing field' among energy policies and solutions has appeared. Yet with even more investment committed each to CCUS and nuclear power, an institutional preference for supply-side solutions is still evident, which continues to threaten the most cost-effective and timely solutions to achieve net-zero: reductions in end-use energy demand. Further efforts are therefore required to elevate energy efficiency and demand reductions to the same status as energy supply options to achieve a significant reduction in the size of the energy system, which represents the most timely, equitable, cost-effective and lowest-risk option to decarbonise and simultaneously deliver SDGs.

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Conflicts of Interest

The authors declare no conflicts of interest.

Data Availability Statement

The data that support the findings of this study are available on request from the corresponding author. The data are not publicly available due to privacy or ethical restrictions.

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Appendix A

Interview guide:

1. Do you agree with the statement 'the goals of reducing demand receive less attention in policymaking than energy supply, even where demand side change could secure similar policy objectives more cost effectively'?
2. Do infrastructures implicate people in creating demand?
3. Is demand inscribed in supply policies?
4. How can the playing field be levelled between energy demand and supply policies?
5. How can we value the multiple benefits of energy demand reduction?
6. Does energy demand reduction fit into a growth narrative?
7. Do current economic models require modification to value reduction in demand (by factoring in externalities), or do we need a new approach?
8. What scale of policymaking is most suitable for addressing energy demand?
9. What scale of policymaking is capable of valuing the reduction of energy demand?
10. Are there other sectors where the goals of reducing demand receive more policymaking attention than supply?
11. What weighting is energy demand reduction receiving in the net zero narrative?
12. What weighting should energy demand receive in a policy mix for net zero?