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Memo on Energy Affordability and Energy Poverty Research for the National Energy Affordability Taskforce (NEAT)

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1. Introduction

This memo comprises two parts. First, it summarises the evidence pertinent to the work of the National Energy Affordability Taskforce (NEAT). In particular, we summarise evidence that may inform the recommendations outlined in the proposed interim report, presented to taskforce members on 31/7/2025. Second, this memo will summarise any remaining information required to fulfil the specific requests received from DCEE, received by email on 1/8/2025.

2. Evidence pertinent to NEAT Draft Interim report presented to taskforce members on 31/7/2025

2.1. Proposed NEAT recommendations

In a recent taskforce meeting, the following proposed recommendations were presented to taskforce members as part of a draft interim report:

1. Extension of the 9% VAT rate on electricity and gas bills for an additional 12 months, from its current expiry date of 31 October 2025 to 31 October 2026.
2. Expansion of the eligibility for the Fuel Allowance to families in receipt of the Working Family Payment
3. Renewed promotion of the benefits of tariff switching, through an expanded CRU awareness campaign; the CRU to launch an expanded switching promotion campaign in September 2025, with a budget of €1 million.
4. Increased promotion of the Additional Needs Payments Scheme and Heating Supplement administered by the Community Welfare Service, designed to support those on low income and/or ill health to meet energy costs and the eligibility criteria of these schemes.
5. Ensure Household Benefits Package scheme does not disincentivise customer switching through rationalising payment method
6. SEAI to launch renewed promotional campaign for the home and business energy efficiency upgrades
7. DCEE and SEAI to collaborate on the development of a targeted support scheme to install solar PV and/or battery storage for households vulnerable to energy poverty

8. DCEE and SEAI to work to expand eligibility for the Medically Vulnerable Solar PV scheme beyond the November 2022 registration cut off currently in place

This note summarises evidence that may inform these proposed policy recommendations.

2.2. Evidence pertaining to proposals (1), (2): retention of the reduced VAT rate and extension of fuel allowance to those on Working Family Payment

The proposed NEAT policy recommendations cover two broad areas: (1) adjustments to electricity prices (via a reduced 9% VAT rate) and adjustments to social welfare payments (via an expansion of fuel allowance eligibility. (2) Information/awareness campaigns. This section will cover evidence pertaining to such policies. In doing so, we also address request 2 "evaluation of support mechanisms"in the email correspondence dated 1/8/2025 (further addressed in Section 3).

Summary

For a given financial outlay, targeted social transfers more effectively support the vulnerable than reduced VAT rates (see Barrett et al., 2022).

Expanding eligibility to the fuel allowance to recipients of the working family payment will widen the range of support and likely incorporate additional vulnerable households as part of the fuel allowance payment. However, this is one of many vulnerable cohorts. A suite of adjustments would be required to comprehensively capture those most vulnerable. This requires explicit modelling and analysis. Such analysis is routinely carried out as part of budget preparations by government departments such as the Department of Social Protection. The design of targeted energy affordability adjustments, whereby support targeted towards those most vulnerable to account for the increased burden created by elevated energy prices, could form part of this work.

High rates of non-take up relating to the Working family Payment should also be noted (see Doorley and Kakoulidou, 2024). In-work benefits such as the Earned Income Tax Credit in the US, the former Working Tax Credit in the U.K. and the Working Family Payment in Ireland are important anti-poverty tools. They both encourage work and increase the incomes of those at work on low pay. These payments tend to suffer from a high rate of non-take-up which is linked both to their complexity and to their expected value to recipient households (Doorley and Kakoulidou, 2024**;** Bhargava and Manoli 2015; Tempelman and Houkes-Hommes 2016)

These points will now be elaborated upon with explicit reference to evidence.

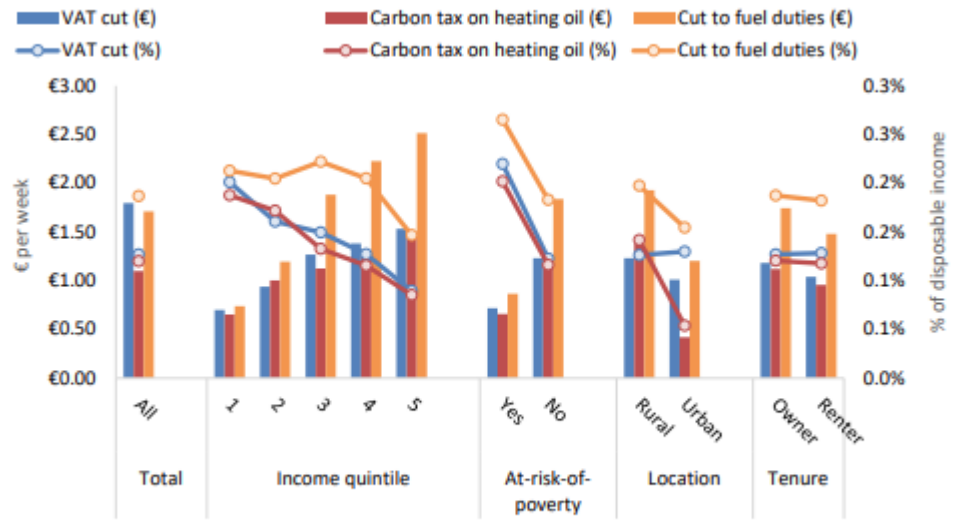
Targeted social transfers are more effective at aiding the vulnerable than reduced VAT rates.

Barrett et al. (2022) compare the distributional effects of targeted social transfers, uniform transfers (e.g. energy credits), and changes to energy prices (e.g. VAT rate changes). Social transfers are most progressive, uniform transfers (e.g. energy credits) are second most progressive, and changes to energy prices (e.g. VAT rate changes) are least progressive of the options considered. For each euro spent, social transfers give a greater benefit to vulnerable households than the other mentioned policies. Figure 4.1 from Barrett et al. (2022) is displayed below, where we can see that a VAT cut gives greater proportional benefit to lower income households than higher income households. However, high income households benefit by a greater financial transfer, dampening the progressive effect. In Figure 4.2, we see that a targeted social transfer achieves a more progressive distribution of incidence; vulnerable households receive both a greater financial transfer and greater proportional benefit.

Changes to price are least effective for two reasons. First, they do not target those who are vulnerable – all households benefit. While this is also true of a flat rate energy credit, energy price changes give a greater financial transfer to high income households, as they consume more energy, on average. For the same financial outlay, well-off households receive a greater share of the public outlay than those who are less well-off. Second, changes to energy prices dampen the incentive to reduce consumption, affecting the ability to meet energy security and climate objectives.

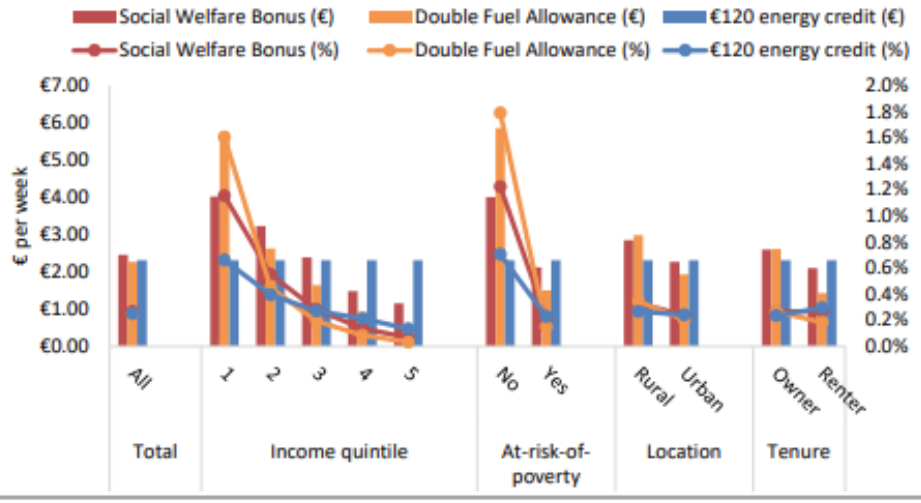
This evidence demonstrates that for each euro spent, targeted social transfers alleviate the financial burden for vulnerable households to a greater extent than changes to prices or VAT rate changes.

FIGURE 4.1 SIMULATED IMPACT OF INDIRECT TAX MEASURES, BY HOUSEHOLD TYPE



Sources: Authors' calculations using eSWITCH version 4.6 run on 2019 SILC data uprated to 2022 terms.
Note: Deciles constructed equivalising income using modified OECD equivalence scale. Spending imputed using approach detailed in Appendix.

FIGURE 4.2 SIMULATED IMPACT OF WELFARE MEASURES, BY HOUSEHOLD TYPE



Sources: Authors' calculations using eSWITCH version 4.6 run on 2019 SILC data uprated to 2022 terms.
Note: Deciles constructed equivalising income using modified OECD equivalence scale. Spending imputed using approach detailed in Appendix.

Source: Barrett et al., 2022

Expanding fuel allowance eligibility to incorporate those on the Working Family Payment may help a vulnerable cohort. However, there may be other vulnerable cohorts who do not receive assistance.

Proposal 2 reflects a change to a social transfer. It is proposed that the fuel allowance eligibility be extended to incorporate households in receipt of the working family payment. Expansion of the fuel allowance to this cohort does widen the reach of this benefit. However, this adjustment will target a single specific cohort. There are many cohorts who may be classified as vulnerable yet will be less likely to receive fuel allowance and are ineligible for the Working Family Payment.

A suite of adjustments would be required to comprehensively capture those most vulnerable. This requires explicit modelling and analysis. Such analysis is routinely carried out as part of budget preparations by government departments such as the Department of Social Protection. The design of targeted energy affordability adjustments, whereby support targeted towards those most vulnerable to account for the increased burden created by elevated energy prices, could form part of this work.

2.3. Evidence pertaining to proposals 3,4,5,6: increasing awareness of policy and support availability.

Summary

These proposals fall under the category of promotional and awareness campaigns.

To be effective, a policy solution must target an identified problem. If a lack of information is driving an outcome that is undesirable for consumers, then an information campaign may be an effective solution. There is much evidence to suggest that a lack of information is not necessarily the primary barrier. In addition, previous Irish public information campaigns designed to improve energy efficient behaviour have been examined. No significant relationship between the information campaign and reduced energy consumption was found.

In many cases, it is not a lack of information but rather a behavioural or administrative hurdle that limits adoption. To be effective, the barrier limiting adoption must be identified and specifically targeted in the design of the information campaign. Alternatively, information tied to an incentive can be effective in enabling change.

The evidence will now be reviewed.

Untargeted information campaigns that are not tied to incentives are often ineffective in enacting change: Evidence from Ireland's 'Power of One' campaign.

- Energy efficiency information campaigns are effective in increasing awareness of potential savings, but this does not necessarily translate into persistent changes in behaviour. Diffney et al (2013) find that the 'Power of One' campaign in 2008 increased consumers' awareness of the potential savings associated with lowering the thermostat. This, however, did not translate into persistent changes in behaviour.

Information campaigns tied to incentives have been found to be effective in enacting change

- A more effective approach is a campaign tied to a particular incentive. Campaigns that were most effective in decreasing consumption were associated with specific monetary incentives such as subsidies (Gillingham et al., 2006). Some studies identified changes in behaviour even in the absence of monetary incentives, usually in the presence of peer effects or strong non-monetary incentives (Nolan et al. 2008; Ayers et al. 2013; Reiss and White 2008).
- Ofgem in the UK have trialled a number of approaches to promote tariff switching. The 'Cheaper Market Offers Letter' trial, (see Bonus, 2019) demonstrated that a single letter, signposting customers to three cheaper tariffs on the market had a positive, if modest, impact on engagement. This linked a clear action with a clear monetary incentive.
- In an Irish context, Lunn and Lyons (2018) studied telecoms switching in Ireland. Non-switchers are resistant to switching. 'Bill shock', an unexpectedly high bill, and expected savings of 20% or greater are associated with a greater likelihood to switch.

Awareness/information campaigns targeting identified barriers are often effective.

Ofgem found a targeted approach to be more effective than an incentive driven approach to encourage tariff switching.

- Subsequent to the 'cheaper market offer' letter, Ofgem launched a 'Collective Switch' intervention (see Bonus, 2019). This targeted an identified barrier – the hassle of switching. Whilst other trials in the programme reduced the hassle of searching the market by signposting to cheaper offers, the Collective Switch intervention went further to reduce the hassle, or perceived hassle, of the switching process itself. While they tackle the same key barriers to switching (customer inertia and the perception of hassle)

the Collective Switch goes further in applying behavioural science to remove as many steps from the switching process as possible.

It does this by signposting customers to an independent price comparison service, 'energyhelpline', and provides their contact details if customers want advice and help with the process of switching. The letters offer customers the chance to access a tariff not available on the open market as part of a Collective Switch. This tariff is only available for a limited amount of time meaning there is a clear deadline when customers have to take action by. The customer's consumption and current tariff data are shared with 'energyhelpline', so all the information the customer needs to supply is their name and postcode.

The results of these trials showed that customers who receive the Collective Switch letters are far more likely to switch energy tariff than those in a control group who do not receive the letters.

- There are numerous other papers that utilise behavioural science insights to identify the barrier limiting uptake and targeting that by means of an intervention to encourage adoption. He and Reiner (2017) is a further example of such an intervention in the context of energy switching. Factors considered include: the complexity of household energy tariffs, consumers' lack of attention to issue of energy prices, expectation on the costs of switching process and lack of switching experience discourage switching.

In summary, it appears that interventions are effective if they are targeting a specific barrier and/or incentive. Untargeted interventions that are not targeting an identified barrier or are not tied to an incentive have limited to no effect.

Lack of practical information and administrative complexity can be a barrier to retrofitting.

- Tovar et al. (2023) outline barriers, including a lack of information or insufficient time to research retrofit options. Tovar et al. (2024) find that older household heads are more likely to cite administrative complexity as a barrier to accessing retrofit grants

Other barriers, such as administrative burdens, can form a barrier to the uptake of certain benefits. These barriers should be considered.

Certain benefits require administrative tasks to be carried out in the home before they can be received. Ó Ceallaigh et al. (2025) review the evidence related to this, finding that informational barriers can play a role. Indeed, in the survey conducted, they find that knowledge barriers seem

especially prevalent for energy-related benefits such as the Energy Hardship Fund and the Warmer Homes Scheme.

Some benefits incur greater administrative burdens than others, potentially limiting uptake. The Additional Needs Payment and Energy Hardship Fund (which may carry additional stigma due to the discretion involved in assessing claims), as well as Carer's Benefit or Allowance, have among the highest learning, compliance, and psychological costs overall (although the number of observations in their study is limited so confidence intervals are large).

Table 1 of O'Ceallaigh et al. (2025), and rows 5 and 6 in particular, gives insight into policy interventions that can help encourage uptake of policy supports when administrative burdens or lack of information are the limiting factors. This is reproduced below. Note that there are potential barriers in addition to informational barriers, such as administrative burdens. For informational barriers, they cite a number of interventions to alleviate this barrier to aid take-up. Rather than information campaigns, they find the following as being potential solutions to aid take-up: automatic enrolment, signposting supports (e.g. benefits calculators) and implementing a single point of application.

TABLE 1 SUMMARY OF FINDINGS AND POLICY IMPLICATIONS

Topic	Finding	Implication
1. Protecting access to basic needs during crises	Responses with a risk of adverse effects, such as cutting day-to-day necessities and increasing debt, were common and stressful.	Interventions focusing on these areas could help protect households' financial security and access to basic necessities in times of crisis.
2. Minimising legacy effects of the cost-of-living crisis	Many households had to undertake responses with potential long-term negative effects (e.g. increased debt, reduced health and education spending).	Increased supports in important areas such as education, health and debt may be needed over the next decade to minimise the scarring effects of the cost-of-living crisis, particularly among low income households with children.
3. Targeting supports towards the most vulnerable households	Deprivation is a stronger indicator of vulnerability in a cost-of-living crisis than income.	Targeting based on deprivation would be highly beneficial but presents a practical challenge – more research is needed on how to overcome this challenge.
4. Addressing structural issues	Situational factors (e.g. pre-existing financial stress, experienced inflation), rather than individual psychological characteristics and biases, were associated with response behaviour during the cost-of-living crisis.	Interventions targeting structural issues affecting low-income households (e.g. administrative burdens) are more likely to be effective than individual-level interventions (e.g. financial education).
5. Tackling the under-utilisation of supports	Several benefits were under-utilised, with informational barriers playing a major role.	Automatic enrolment, signposting supports (e.g. benefits calculators) and implementing a single point of application could help increase take-up.
6. Identifying and removing administrative burdens	Many households experienced administrative burdens (learning, compliance, and psychological costs) when accessing supports.	Tracking administrative burdens by systematically reviewing the process people go through to access a specific benefit could help identify and remove burdens.
7. Addressing the most problematic policy areas	Housing, health, and energy were particularly problematic.	Interventions and supports prioritising these areas could be particularly impactful. Reducing administrative burdens associated with supports in these areas is likely to be fruitful (e.g. through signposting and sludge audits).
8. Future-proofing the welfare system	Households who needed supports during the cost-of-living crisis faced a complex benefits system that impeded access.	A simplified and more resilient welfare system may help tackle the long-run effects of the latest crisis and help to reduce damage in the event of future crises.

Source: O'Ceallaigh et al., 2025

Finally, salience is an important issue (Klenert et al., 2018)

An additional concern, important for the design of interventions in relation to energy affordability, is the salience of a given transfer.

Summarised by Klenert et al. (2018), international evidence has shown that there is greater acceptability of a policy when the benefits are concentrated and the costs are diffuse. High energy costs and social transfer adjustments may not meet these criteria – the costs are concentrated on an individual's energy bill and the benefits are diffused across multiple social transfers. A concentrated social transfer where it is clearly labelled as being related to high electricity costs can overcome the issue of diffuse benefits whilst maintaining comprehensive and targeted coverage. VAT adjustments are arguably salient, as are fuel allowance-related transfers. However, as discussed above, VAT adjustments are less well-targeted towards vulnerable households than alternative support measures and the working family payment captures one of many cohorts that may warrant support.

Should policy wish to target vulnerable households in both a comprehensive and salient manner, the households to be targeted must first be identified – perhaps through the annual budget preparations and associated modelling carried out by government departments on the distributional impact of taxes and social transfers – and the transfer must then be designed in a salient way. This could take many forms, including a targeted energy credit for eligible households, via a 'cheque in the post' or an electricity bill adjustment (see Klenert et al., 2018 for further discussion of political acceptability of policies such as this).

3. Summary of ESRI evidence as requested by NEAT

We will now provide a summary of work and evidence carried out by the ESRI on topics specifically requested in the email dated 1/8/2025. The following points were mentioned in this email, which will now be summarised to the greatest extent possible. Point 1 will be summarised in Section 3.1, with points 2-4 summarised in Section 3.2. Point 2 has also been addressed in Section 2.

1. Comparative analysis of energy prices
2. Evaluation of support mechanisms
3. Poverty and deprivation indicators and
4. The work being carried out by Andrés Estévez and Miguel Tovar Reaños on energy poverty including the most at-risk groups and potential mechanisms by which to target these groups

3.1. Comparative analysis of energy prices

Forthcoming work by ESRI researchers (Wade et al., forthcoming) will compare domestic electricity price trends during the 2018-2024 period, with a particular focus on Ireland.

This period incorporated considerable electricity price growth on foot of the Russian invasion of Ukraine. In nominal terms, Irish electricity prices are among the highest in 2024, relative to a number of European counterparts.

In H2 2024, Irish prices fall from being the most expensive of the EU-27 to the third most expensive, once energy taxes and levies/transfers are taken into account. Inclusive of the energy credits, Irish domestic electricity costs were still among the most expensive in the EU-27.

General cost of living may be a contributory factor towards high electricity prices in Ireland, but does not entirely explain the relative magnitude of Irish prices. Once general cost of living is taken into account, Irish electricity prices fall from being 3rd highest to 8th highest. Irish electricity price track wholesale natural gas prices. We observe that Irish electricity generation has a lesser propensity to diversify from gas relative to European counterparts in 2023-2024. This may contribute towards the persistent high electricity prices in Ireland relative to other European countries. The underlying cost of energy, particularly gas, has been the primary factor driving changes in Irish energy prices during the 2018-2024 period.

Looking forward, changes to network costs may have a greater influence on total costs than in previous years as noted in the PR6 draft determination document (CRU, 2025). Efficient network tariff design will be important to guide sustainable grid development. In the context of energy affordability, offsetting any regressive impacts of tariff changes may be a required task. As outlined by this note, the evidence supports the use of salient and targeted measures.

3.2. Research Program on Energy Poverty: Key takeaways for Ireland

Author: Andrés Estévez

This section summarises the work of the Research Program on Energy Poverty carried out by Andrés Estévez and Miguel Tovar Reaños. In addition, we refer to Section 1.2 for an additional evaluation of support mechanisms.

Highlights

- Over one-third of Irish households face some form of energy poverty.
- Focus on low-income households — the main determinant of energy poverty. Additionally, high risk groups include renters, single parents, households with women as main income earners, people out of work, those living in older buildings, rural households, and individuals with health issues.
- Targeted energy poverty policies can reach over 80% of income-poor households while avoiding unnecessary support to 70% of the population covered by broad interventions.
- Targeting high-risk groups delivers more impact per euro than broad interventions—efficiency and equity go hand in hand.
- Prioritize means-tested and existing welfare schemes over untargeted supports like electricity credits or VAT reductions for more efficient and equitable outcomes. Avoid the high fiscal costs, regressivity, and inefficiency of these broad-based interventions. Use broad policies for crisis response only, ensuring they remain transitory.
- Self-reported and expenditure-based indicators of energy poverty identify different households—using both is the best way to design effective policy.
- Establish a continuous monitoring system— a yearly report for informed policy decisions and assessment of emergency plans.

This section presents key findings from the ESRI's Research Program on Energy Poverty (RPEP), structured as a Q&A to address core policy questions. It outlines the scale of energy poverty in

Ireland, how it should be measured and monitored, what drives it, who is most affected, and which policy tools are most effective. The aim is to support better decision-making by providing clear evidence on how to target resources, design interventions, and evaluate outcomes.

- **What is the magnitude of the issue? Economic relevance**

  In Ireland, in 2015, more than 35% of households face at least one type of energy affordability issue, that is approximately 770,000 out of 2.2 million.

- **Who is most at risk of energy poverty? Who to target?**

  A common high-risk of energy poverty profile emerges from the analysis of six established energy poverty indicators — low-income households; people living in rented accommodation; households with women as main income earners; households with people out of work; those living in pre-1970s constructions, especially in detached and semi-detached dwellings; single adults with and without children; and rural households (off-gas areas especially).

  Assuming the policy objective is to support the most in need, emergency measures to address energy poverty should target these groups. The marginal benefits —in terms of the severity and risk of energy poverty— of policy interventions among these groups are the highest.

  Note that if the goal was to reduce the number of households under a specific definition of energy poverty, policies could target those at the margin since smaller supports lift them out of the energy poverty definition.

- **Alternatively, which conditions mitigate the risk of experiencing energy poverty? Short-run versus long-run considerations.**

  Higher income and associated conditions like higher education, house ownership, or living in newer buildings provide protection from energy poverty. Therefore, long-term policy interventions should aim at improving structural issues regarding income, housing, energy efficiency, and education.

- **Does the choice of indicator matter?**

  Yes, it does. In summary, self-reported indicators (SILC's Incapable of Affording Adequate Warmth, 'IAAW'; and Arrears on Utility Bills, 'AUB') are fast and people-centred, they directly track inability to pay and comfort shortfalls—best for continuous

monitoring and short-run support assessment. Meanwhile expenditure-based indicators, such as the High Share of Energy Expenditure[1] or the Low income-High Cost approaches (see Estévez and Tovar Reaños 2024, 2025a, 2025b), are slower but structural—well suited for policy evaluation and targeting. Using both captures different households and makes policy both comprehensive and efficient.

All indicators have strengths and weaknesses that should be considered depending on the policy objective. For Ireland, our analysis supports the use of the following indicators.

- **Choosing a single indicator.** If a single indicator is needed, time is of the essence. Therefore, we advocate the use of the Inability to Afford Adequate Warmth (IIAW) indicator obtained from the SILC annual survey. While this indicator has its shortcomings, it provides comparable hardship signals. By contrast, expenditure-based indicators from the quinquennial Household Budget Survey (HBS) are less frequent and subject to price-period mismatches.
- **Monitoring, policy design and evaluation.** Our results strongly support the use of multiple indicators to capture the distinct and complex dimensions of energy poverty. Energy poverty is multidimensional and inextricably linked to other forms of deprivation — a result uncontested in the literature and our own research which provides evidence from Ireland.

  Regular monitoring is essential and forms a legal obligation under European Directives. We recommend the use of a multiplicity of indicators including — self-reported, expenditure-based, and other complementary indicators. The RPEP at the ESRI is arguably the best suited for this task. Having established the necessary multi-stakeholder network and leveraging previous research and expertise, the ESRI could continue providing this essential social service.

  Policy evaluation must carefully choose the indicators used in the analysis to avoid under (or over) estimation of their effects, or future potential benefits. Our results show that assessing economic interventions requires the use of different indicators due to the sensitivity of indicators to price, structural factors, behavioural responses, differences in identified vulnerable groups, and the distinction between short- and long-term impacts.

[1] These include High Share of Energy Expenditure-10% (>10% of disposable income measure), and High Share of Energy Expenditure - 2M (>2xMedian Energy Expenditure Share), the 'Low Income, High Cost' approach and the 'Low Absolute Energy Expenditure' approach.

- **How to choose? Trade-offs across indicators.**

  Expenditure-based (e.g. High share of energy expenditure or the Low income-High cost approach potentially examined using the HBS data)[2]

  - **What they do?** They quantify affordability pressure as energy outlays relative to (equivalised) income or as low absolute outlays.
  - **Strengths.** They provide transparent thresholds; they are responsive to prices and other structural factors like housing conditions, technology adoption, and behavioural responses. They serve to assess the severity/dept of energy poverty.
  - **Limitations/considerations.** Sensitive to household composition (equivalence scales); may under-capture tenants and other groups like those currently receiving social welfare supports; availability and timeliness of HBS.

  Self-reported (e.g. Incapable of Affording Adequate Warmth, 'IAAW'; or Arrears on Utility Bills, 'AUB' potentially examined using SILC data)

  - **What they do?** They capture experienced hardship and affordability pressure (cash-flow stress).
  - **Strengths.** Timeliness – annual reporting, harmonised, policy-responsive (quickly reflects shocks and short-term effect of supports), people-centred. They are simple and communicable.
  - **Limitations/considerations.** Subjectivity can downplay or exacerbate energy poverty measurement across different groups due to known reporting biases, generational norms, behavioural adjustments, cultural differences (relevant for cross-country comparisons), less tied to physical inefficiency. The direction of these biases is difficult to assess.

- **How to use indicators in practice? Mapping indicators to policy levers.**

  Indicators can only go as far as actual policy levers go. The specific mechanisms and state capacity to transfer supports plays a critical role in policy design. However, it is useful to know which indicator can better inform these decisions.

[2] [2] These include High Share of Energy Expenditure-10% (>10% of disposable income measure), and High Share of Energy Expenditure - 2M (>2xMedian Energy Expenditure Share), the 'Low Income, High Cost' approach and the 'Low Absolute Energy Expenditure' approach.

- **Crisis relief & disconnection prevention.** Example policies: cash top-ups, social tariffs, arrears write-downs, supplier forbearance, winter ban on cut-offs). Use as primary indicators IIAW, and AUB. Look at complementary indicators with high time frequency - energy prices.
- **Structural fixes**. Example policies: retrofits, heating system upgrades, appliance replacement, fuel switching, insulation, Energy Performance Building Directive implementation. Use as primary indicators: Low Absolute Energy Expenditure, Low Income High Cost and High Share of Energy Expenditure[3] (see Estévez and Tovar Reaños 2024, 2025a, 2025b for further information). These align with high bills and poor stock—strong for target selection at building/area level and for ex-post evaluation of savings. However, looking at other primary and complementary indicators is important, not to miss other knock-on impacts throughout the economy and ensure robust analysis.

  Medium-term affordability. Example policies: recurrent transfers, minimum income, tax credits. First, use IIAW, and AUB as they may react first to cash constraints and are available more frequently. Second, Low Absolute Energy Expenditure, Low Income High Cost and High Share of Energy Expenditure[4] to improve as prices and incomes settle.

- **How to make the best use of limited resources? Implications of targeting energy poverty.**

  Our analysis estimates in 2016 an average energy-poverty gap of about €65 per month (or €780 per year) per household, with a range of €39–€91 per month (€468–€1,092 per year). Applied to 35% of households (≈ 770,000 out of 2.2 million), this implies an aggregate subsidy of roughly €30–€70 million per month, or €360–€841 million per year. On average, a yearly subsidy of €50 million per month; or €601 million per year.

  The 2016 energy-poverty gap implied an aggregate subsidy of €601 million per year to lift all affected out of energy poverty. The recent universal €250 electricity credit cost the State about €550–575 million in total, spread across all 2.2–2.3 million households. In other words, the fiscal scale of the 2025 intervention is broadly comparable to the mid-range of the 2016 gap estimate. Most importantly, the gap calculations make clear that

[3] High Share of Energy Expenditure - 2M (>2xMedian Energy Expenditure Share)
[4] High Share of Energy Expenditure - 2M (>2xMedian Energy Expenditure Share)

higher transfers are required for vulnerable households to exit energy poverty, whereas lower uniform amounts are unlikely to be sufficient. The same fiscal envelope could therefore be used more efficiently through targeting. Alternatively, if transfers were directed only to households identified as energy poor (typically no more than 15% of households) the overall cost of intervention would be reduced by half, while still providing adequate support to those most in need. (Estévez, Tovar, 2025a)

Note that these estimates are subject to change; and that the policy amounts are not directly comparable as they are 2016 equivalent euros. A back-of-the-envelope estimate of the subsidy required to eliminate energy poverty - like the one above - is derived directly from the definitions of each indicator. For every household classified as energy poor, one calculates the minimum monetary transfer needed to lift it just above the threshold—whether by reducing its energy share of income below the benchmark or by closing its excess "high cost" gap. Averaging these amounts provides the mean shortfall per household, which, when multiplied by the share of the population identified as energy poor, yields the aggregate subsidy required under each definition. This approach offers a straightforward way to compare the fiscal scale of interventions across indicators.

Broad interventions such as electricity credits, or indirect tax cuts (VAT, excise, carbon tax relief) are poorly targeted. While they reach 100% of those in need, they also reach a large proportion of people who might not require support — 75% of the population who is not income poor. They have high fiscal costs and provide supports that are likely to be insufficient. By contrast, policies like means-tested welfare increases or targeted lump-sum supports target hardship better. For example, focusing efforts on the energy poor would simultaneously reach more than 80% of the income-poor, 85% of single parents, 50% or tenants. Meanwhile, only 4% of the population who is not income-poor would be receiving supports. These results highlight the potential of target policies to increase the size and efficiency of government supports with the smallest fiscal costs.

Means-tested welfare increases and lump-sum supports target hardship better; PRSI credit changes reach low earners outside welfare. Electricity credits help but are less progressive than welfare boosts (though better targeted than generic tax cuts).

- **What else have we learned from the RPEP?**
    - **Energy poverty levels.** In Ireland, during the last decade, indicators range from approximately 6% to 18%. However, any single indicator masks other types of energy poverty deprivations. Composite/union indicators show that a substantially higher number (above 35%) suffer from at least some form of energy poverty hardship. (Estévez, Tovar, 2025a; Estévez, Tovar, 2025b)
    - **Main drivers of energy poverty.** The most important driver for energy poverty is income, followed by tenancy status, and other conditions that correlate with it. Many expenditures-based indicators are function of income, so the relationship is established by definition. However, our results show that these are also the strongest predictors of the Inability to Afford Adequate Warmth (IAAW) and Arrears on Utility Bills (AUB) self-reported indicators. (Estévez, Tovar,2024)
    - **Overlapping indicators.** Evidence from Ireland reveals small overlap across indicators, i.e different households are flagged by different metrics. Confirming a pattern observed across Europe. A reason why considering multiple indicators is desirable. (Estévez, Tovar, 2025a)
    - **Definitional sensitivity.** Indicators are meaningfully sensitive to small, yet reasonable, changes in their definition. For example, a 1% change in threshold level, type of income (net, disposable, after transfers and benefits). It is likely that this result reflects the variety of energy poverty experiences, small overlap across indicators, and the households shifts between them. (Estévez, Tovar, 2025b)
    - **The role of social transfers.** Supports lower measured cost burdens without fully resolving day-to-day hardship. Transfers and subsidies reduce expenditure-defined energy poverty for families with children and larger households, and they attenuate unemployment effects to statistical insignificance in HBS. Yet the same groups still report difficulty keeping warm or avoiding arrears in SILC. (Estévez, Tovar, 2025b)

      While income supports can alleviate energy poverty in the short term, comprehensive policies for housing, income inequality and other structural issues must be addressed alongside long-term energy policies.

      Effective solutions lie in well-targeted policies that cautiously consider their general equilibrium effects.
    - **The role of household composition.** Because both income and energy expenditure are equivalised, larger households benefit from economies of scale

and are therefore less likely to breach expenditure thresholds even when they feel financially constrained. In our results, household size and composition show little correlation under expenditure-based metrics but a strong association with affordability issues. Methodologically, results are sensitive to the chosen scale; reporting robustness to alternative scales is good practice. (Estévez, Tovar, 2025b)

- **The role of health status.** Chronic illness and being out of work due to incapacity increase risk in the expenditure measures, probably through tighter budget shares, and in the self-reported measures. Research has shown that energy poverty has negative effects on health. Taken together, these results demonstrate the feedback loop, and reinforcing relationship, between different types of hardship. (Estévez, Tovar, 2024; Estévez, Tovar, 2025b)
- **The role of energy efficiency.** Energy efficiency investments are unlikely to deliver the large welfare and environmental benefits widely expected from them, raising questions about their role in achieving a just energy transition. However, they can mitigate the risk of energy poverty for those residing in the most energy-inefficient dwellings. (Estévez, Tovar, 2024)

- **Are we missing something? Policy relevant lessons from the literature**
  - Households frequently move into and out of energy poverty. Furthermore, those classified as energy poor in consecutive years are often actually just shifting between different types of energy poverty experiences. A household that, in one year, exceeds the expenditure threshold may, in the next, reduce consumption to cut costs—falling into arrears on utility bills or reporting an inability to keep the home adequately warm. Such mobility across categories underscores that energy poverty is not a single, static condition but a set of related deprivations with distinct causes and remedies. This dynamic reinforces the case for monitoring multiple indicators in parallel, ensuring that shifts in the form of hardship are not mistaken for exits from energy poverty. (Note that we can't do this because of the lack of longitudinal data in Ireland)

- **What to do now? Recommendations going forward.**
  - **Monitor energy poverty and communicate clearly**. Publish a one-page dashboard each year with the latest established indicators available.

Additionally, a report analysing the evolution of energy poverty, policies, and effects. For example: retrofit pipeline metrics -homes treated, modelled kWh saved and associated climate benefits

- **Improve current indicators.** Data availability allows for improved indicators. For example: yearly availability of the HBS in Ireland would allow the estimation and use a variety of expenditure-based measures in a timely fashion. For example, Low Income High Cost (LIHC) measures: before energy costs or after them (as in England). Ideally, using a LIHC Minimum Energy Standard, following the example of Scotland. Increasing the complexity of LIHC indicator reduces the biases and weakness outlined above. Plus better longitudinal data collection? SILC has a partial panel but very high attrition (can look between 2 year but not more – in other countries this is possible). HBS more frequent availability?

This section draws on the following ESRI publications:

Estévez, A., and Tovar Reaños, M. (2024). Empowering homes? Unravelling the connection between energy efficiency and well-being, ESRI Working Paper 784, Dublin: ESRI, https://www.esri.ie/publications/empowering-homes-unravelling-the-connection-between-energy-efficiency-and-well-being

Estévez, A., and Tovar Reaños, M. (2025a) *Shedding Light on Energy Poverty: Evidence from Ireland*, forthcoming ESRI Working Paper

Estévez, A., and Tovar Reaños, M. (2025b) *Targeting Energy Poverty: Evidence from Household-Level Data in Ireland*, forthcoming ESRI Working Paper

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