

Perception and reality of energy poverty in Australia: Does it shape voting intentions? *

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Abstract

This study examines how energy poverty shapes voting intentions in Australia. We compare support for the major parties (Labor and the Liberal National Coalition) with support for the minor parties. We also examine how energy poverty influences two-party preferred voting intentions between the two major parties (Coalition and Labor). We find that energy-poor households have 8 percentage points lower probability of supporting either major party compared to alternatives and that energy poor households are 1.4 times more likely to intend to vote for right wing populist minor parties than other minor parties or independents. When comparing Labor and the Coalition directly, energy poverty reduces support for Labor by 3.7 percentage points, reflecting Labor's stronger climate policies that voters likely associate with higher energy costs, while the Coalition's fossil fuel-aligned stance appears to resonate more with energy stressed households. The findings contribute to economic voting theories by demonstrating how sector-specific financial stress can reshape political behaviour.

Keywords: energy poverty, voting intention, Australia

JEL codes: D72, I32, Q42

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*This paper uses unit record data from the Household, Income and Labour Dynamics in Australia (HILDA) Survey and the Taking the Pulse of the Nation (TTPN) survey. The HILDA Project was initiated and is funded by the Australian Government Department of Social Services (DSS) and is managed by the Melbourne Institute of Applied Economic and Social Research (Melbourne Institute). The findings and views reported in this paper, however, are those of the authors and should not be attributed to either DSS or the Melbourne Institute. Beginning in April 2020, the Taking the Pulse of the Nation (TTPN) was conceptualised and implemented by a group of researchers at the Melbourne Institute: Applied Economic & Social Research. Each wave includes a set of core questions, as well as additional questions that address current and emerging issues facing Australians. The TTPN sample is stratified to reflect the Australian adult population in terms of age, gender, and location. In 2022, the Melbourne Institute and Roy Morgan formed a partnership to extend the running of the TTPN. The TTPN Survey uses a repeated cross-sectional design. The HILDA survey was approved by the Human Research Ethics Committee at the University of Melbourne ((Project ID: 31363). The TTPN survey was approved by the Human Research Ethics Committee at the University of Melbourne, under the project titled "Social and economic effects of COVID-19 on the Australian population" (Reference number: 2021-14006-14669-1). Prakash acknowledges support from the University of Melbourne Postdoctoral Fellowship Award.

1. Introduction

Elections serve as the cornerstone of democratic accountability as they provide citizens with the mechanism to reward or punish incumbent governments based on their performance across a range of policy domains (Franklin et al., 2014; Warren, 2014). Voters evaluate governments based on their performance in managing key economic and social issues and incumbents are rewarded or punished based on changes in household welfare (Lewis-Beck & Stegmaier, 2000). Understanding the determinants of voting intentions is, therefore, a central theme in political economy and electoral studies, with implications for policy formation. A vast body of literature explores the myriad factors influencing voter choice, focusing on factors such as economic conditions, social identity, ideological alignment, candidate characteristics and the relevance of specific policy issues (see, e.g., Bukari et al., 2023; De-Oliveira et al., 2022; Roberts et al., 2020; Schoen, 2004). Among the various economic factors influencing electoral behaviour, energy prices have emerged as a critical issue, particularly in contexts in which rising costs strain household budgets (Bornstein & Lanz, 2008; Parinandi & Hitt, 2018).

Energy poverty is defined as the inability to afford adequate energy services that are required to ensure a decent standard of living (Awaworyi Churchill & Smyth, 2021b; Boardman, 1991). Energy poverty could have significant implications for political behaviour, as households facing financial stress, due to high energy costs, may attribute blame to incumbent governments and change their voting intentions accordingly. In Australia, energy policy has become a highly polarising political issue with the major parties diverging sharply on approaches to energy affordability, climate change mitigation and the transition from fossil fuels to renewable energy (Kenny, 2024). For instance, the Australian Greens and Teal Independents typically advocate for aggressive decarbonisation policies, which may lead to higher short-term energy costs, while centre and right-wing parties often propose market-based solutions or subsidies to mitigate price impacts. Given these divergent policy approaches, energy poverty may influence electoral outcomes by shaping voter perceptions of government competence and policy effectiveness. Specifically, energy poverty may amplify dissatisfaction with incumbent governments, particularly if voters perceive policy failures in managing energy affordability. Research in other contexts shows that voters penalise incumbents for rising utility prices, even when those increases are driven by external factors (Brännlund & Peterson, 2024).

This paper contributes to broader debates on economic voting, energy justice and political accountability by examining how energy poverty affects voting intentions in Australia. We start our analysis using the Household, Income and Labour Dynamics in Australia (HILDA) survey to provide suggestive evidence on the characteristics of individuals who are in energy poverty and the effects of energy poverty on subjective wellbeing. We then analyse the effects of energy poverty on voter intention using data from Taking the Pulse of the Nation (TTPN) survey. We find that Australian households experiencing energy poverty are 8 percentage points less likely to support either of the major parties (Coalition or Labor) compared to the minor parties or independents. We find that energy poor households are 1.4 times more likely to intend to vote for right wing populist minor parties than other minor parties or independents. When comparing the two major parties directly, energy poverty is associated with a 3.7 percentage

points reduction in the likelihood of voting for Labor relative to the Coalition. This suggests that energy affordability concerns, potentially linked to differing party policies on climate action and renewable energy, meaningfully influence partisan choice among these voters.

2. Why would energy poverty influence voting intentions?

Incumbent governments are judged at election time on how they manage energy prices. Evidence suggests that voters are less likely to vote for the government if higher energy prices reduce their disposable income (Decker & Wohar, 2007; Healy et al., 2017). Energy prices are likely to be a particularly salient political issue for households experiencing energy poverty.

In elections, each of the parties have policies with respect to changing the energy mix between fossil fuels and renewables, which can be expected to influence the price of energy. Left/Green parties typically campaign on a platform to increase the share of renewables and implement policies to reduce carbon emissions at the expense of voters' disposable income (Brännlund & Peterson, 2024). Centre and right-wing parties that do espouse commitment to addressing climate change, usually propose softer measures, such as subsidies or information campaigns that are designed to mitigate effects on voters' disposable income (Brännlund & Peterson, 2024; Schulze, 2021). Right-wing parties are more likely to reject commitment to climate change altogether, and campaign on a platform of reducing renewables in the energy mix.

In the 2025 Federal Election, the Coalition sought to frame Labor-Greens-Teal policies, particularly those aimed at reducing carbon emissions, as a main cause of higher electricity prices. At the same time, they campaigned on a platform that emphasized nuclear energy as a key component of future energy supply, alongside a more balanced approach to fossil fuels and renewables in the overall energy mix (Kenny, 2024). Meanwhile, two of right-wing populist parties – One Nation and Trumpet of Patriots – adopted a more hardline stance, attributing high energy costs directly to Australia's commitment to the Paris Agreement and Net Zero targets, and promised to incentivize cheaper coal and gas-fired baseload power, reduce renewable energy in the energy mix and support nuclear energy in the medium term.

There is a general perception, particularly among individuals experiencing higher energy costs, that increasing the share of renewables and policies designed to reduce carbon emissions and address climate change, drive up energy prices and contribute to higher incidence of energy poverty (Aklin, 2021; Alesina & Drazen, 1991; Hess & Renner, 2019). This suggests that individuals experiencing energy poverty might be more likely to vote conservative, either for the Liberal National Party Coalition or for a right-wing minority party. Using data from general elections in Sweden where energy costs are a particularly salient political issue given high heating costs, Brännlund and Peterson (2024) find that electoral support for the radical right is highest in electorates experiencing the highest rates of energy poverty.

Our conjecture that energy poverty increases support for right-wing parties is further reinforced by the fact that energy poverty represents a broader form of economic insecurity, which disproportionately affects low-income households (Azpitarte et al., 2015). Evidence from Europe and the US suggests that economic insecurity is often a predictor of right-wing

populism (Guiso et al., 2024; Rebecchi & Rohde, 2023). Economic insecurity leads people to be disaffected with traditional political parties and be more likely to turn to minority parties spruiking populist ideas (Guiso et al., 2024). In times of heightened economic insecurity right wing populist minority parties employ rhetoric that plays on people's fears and mistrust of establishment politics (Algan et al., 2017; Bellodi et al., 2023; Dustmann et al., 2017).

A proviso to the general argument that people experiencing energy poverty may be more likely to vote for right wing political parties could be if policies to phase out fossil fuels are coupled with clear just transition strategies that compensate for the cost of higher energy prices. Bolet et al. (2024) find that the vote share of the government, which phased out coal mining in Spain in the lead up to the 2019 elections, increased when the phase out was accompanied by significant investment in the affected communities to offset the adverse labour market effects. Brännlund et al. (2024) reach a similar conclusion for Sweden, where, in the lead up to the 2022 elections, high energy prices represented a threat to job security in electorates with large manufacturing bases. These authors find that individuals in such electorates were more likely to vote for the incumbent left-wing Social Democratic Party that campaigned on a platform of providing economic compensation to cushion the effects of higher prices.

3. Data

We employ both the HILDA and TTPN surveys. We use Release 23 of the HILDA survey which spans the period 2001 to 2023 to examine the characteristics of households in energy poverty and the relationship between being in energy poverty and subjective wellbeing. Since its inception, with the exception of the 2010 wave, HILDA has asked respondents if they “were unable to heat their home” and “could not pay electricity, gas or telephone bills on time” because of a shortage of money. We use responses to these questions to create a binary variable measuring subjective energy poverty. Since 2005, HILDA has also asked a question about energy expenditure. In a robustness check, we use data on energy expenditure to create an alternative measure of energy poverty - Low Income High Cost (LIHC), defined as whether household energy costs exceed the national median level while household disposable income, after deducting energy expenses, falls below the income poverty line (Hills, 2012). In our analysis, we focus on adults over the age of 18 with complete set of observations for our control variables, giving us a final estimation sample of 285,357 observations for 31,519 individuals.

HILDA does not contain data on voting intentions. To examine the relationship between energy poverty and voting intentions, we employ the monthly TTPN survey, the first wave of which was administered in April 2020. Each wave of the TTPN survey includes a set of core questions, as well as additional questions that ask about topical current and emerging issues facing Australians. The TTPN Survey uses a repeated cross-sectional design in which approximately 1,000 individuals, selected at random, are interviewed each month. The TTPN sample is stratified to reflect the adult population in terms of age, gender, and location. Questions measuring both subjective energy poverty and voting intentions have been asked in ten waves of the TTPN survey (i.e., in waves 61, 63, 67, 69, 73, 75, 78, 81, 84 and 87), giving us a total sample of 9,656 individuals aged 18 or above. Questions about energy poverty in the TTPN survey correspond to how the questions are asked in HILDA ('unable to heat' and/or 'unable to

pay bills on time'). The question about voting intentions in the TTPN survey is: "If a federal election for the House of Representative were being held today – which party would receive your first preference?" Respondents were given the options: "Australian Labor Party", "Liberal Party", "The Nationals", "The Greens", "United Australia Party", "One Nation", "Independent Candidate", "Other Party", "Can't say" and "Prefer not to say".

4. Empirical model

To understand the determinants of energy poverty; we use the following reduced form equation:

$$EPov_{it} = \alpha_0 + \sum_n \gamma_n \mathbf{X}'_{n,it} + \sigma_s + \tau_t + \varepsilon_{it} \quad (1)$$

where $EPov_{it}$ is a binary outcome denoting the incidence of energy poverty, defined as a state in which household i is 'unable to heat' and/or 'unable to pay bills on time' at time t (the relevant HILDA survey wave). Characteristics of respondents/households are captured in the vector $\mathbf{X}$. These consist of controls for age, level of education, employment status and marital status of the individual; whether the household contains someone who has a long-term illness, disability or impairment; the number of children in the household broken down according to age groups, whether the household is located in a regional or city location. σ_s denotes the state/territory in which the household is located. We also include year fixed effects, τ_t , to account for permanent differences across time. α_0 is the constant while ε_{it} is the error term. We pool 23 waves of HILDA data in our regressions with standard errors clustered at the individual level.

To examine the relationship between energy poverty and wellbeing, we use the reduced form model:

$$WB_{it} = \alpha_0 + EPov_{it} + \sum_n \gamma_n \mathbf{X}'_{n,it} + \sigma_s + \tau_t + \varepsilon_{it} \quad (2)$$

where WB_{it} is one of life satisfaction, mental health or general health. Life satisfaction is based on responses to the question "How satisfied are you with your life?" measured on a scale of 0-10, where 0 is totally dissatisfied and 10 is totally satisfied. Mental health is a five-item mental health inventory (MHI-5) scale based on questions that reflect nervousness, psychological fatigue, agitation and depression, transformed to a 0-100 scale, where higher values indicate better mental health. General health serves as an indicator of self-assessed health status that is derived from five questions from the SF-36 questionnaire and is transformed to a 0-100 scale, where higher values indicate better general health. $EPov_{it}$ is measured as subjective energy poverty, as defined in Equation 1, and LIHC, which we use as a robustness check. Each of the other variables, including the controls, are defined the same way as in Equation 1.

We examine the relationship between energy poverty and voting intention using the following reduced form model:

$$Vote_{it} = \alpha_0 + EPov_{it} + \sum_n \gamma_n \mathbf{X}'_{n,it} + \sigma_s + \tau_t + \varepsilon_{it} \quad (3)$$

$Vote_{it}$ is the voting intention of respondent i in wave t . $EPov_{it}$ is measured as subjective energy poverty, as defined in Equation 1. $\mathbf{X}$ is a vector of characteristics of the respondent.

Given available data in the TTPN survey, we control for gender, age, level of education, employment status, whether the individual is in a regional or metro location. a_0 is the constant while ε_{it} is the error term. σ_s is the control for the state/territory in which the individual resides. We also control for survey month fixed effects, τ_t . In alternative specifications, we estimate Equation 3 using logit and multinomial logit.

5. Trends in energy poverty and energy prices

Figure 1 illustrates the trend in energy poverty over time using HILDA survey data, while Figure 2 shows corresponding trends in electricity and gas prices. The data reveal persistently high levels of energy poverty in Australia (Figure 1). Since 2001, between 2-4 per cent of the respondents reported being unable to adequately heat their homes due to financial constraints. More significantly, approximately 14 percent of households (or one in seven) have consistently struggled to pay utility bills on time. After initial declines, energy poverty reached its peak during 2011. This corresponded to a sharp increase in energy prices during this period (Figure 2), reflecting rising wholesale market and network costs, as well as higher contract costs for all customer types. Following the spike in subjective energy poverty in 2011, the next decade saw modest reductions in energy poverty, before increasing again during 2022-2023. The recent increase in energy hardship coincides with the lingering economic effects of supply chain disruptions due to the COVID-19 pandemic and Russia-Ukraine conflict, which has generated sustained inflationary pressures across global economies (Maneejuk et al, 2024; Simhauser, 2023). Australia has been particularly affected by these macroeconomic shocks, as evidenced by the sharp rise in domestic electricity, gas, and other household fuel prices (Figure 2).

6. Results

6.1. Who are likely to be in energy poverty in Australia?

Figures 3 and 4 present estimates from OLS and fixed effects regressions, respectively, that examine the likelihood of different demographic groups being in energy poverty. Younger individuals are more likely to be in energy poverty compared to older Australians, which potentially reflects that younger people have lower average incomes while experiencing higher housing costs. Households who have members with long-term illnesses are more likely to be in energy poverty. This reflects the need for individuals with chronic health problems to maintain ambient indoor temperatures, additional energy requirements of medical equipment and income constraints associated with being in poor health (Benzeval & Judge, 2001). Marital status similarly correlates with energy poverty, with those who are separated, divorced or widowed facing higher risks than their married or single counterparts. This could potentially be due to the loss of dual incomes or the financial impacts of relationship breakdowns.

Employment status shows expected patterns, with the unemployed and those not in the labour force significantly more vulnerable to energy stress than employed workers. The presence of young children consistently predicts being in energy poverty, which is likely due to both increased household energy needs with young children in the home and reduced workforce participation among caregivers. There are significant gender differences in the likelihood of

being in energy poverty with females being more vulnerable to being in energy poverty, consistent with the broader feminization of poverty literature (Pressman, 2003; Ward et al., 2004). Educational attainment serves as a protective factor, with tertiary education associated with substantially lower energy poverty rates, underscoring education's role in both income generation and energy literacy. Indigenous Australians face substantially greater energy poverty risks, consistent with broader socioeconomic disadvantage experienced by indigenous Australians (Biddle et al., 2013; Davis, 2015). Geographic disparities are also evident, with regional residents facing higher energy poverty risks, which possibly reflects both limited energy alternatives and the energy-intensity of living in regional areas.

6.2. Wellbeing consequences of energy poverty

Table 1 presents the results for the relationship between being in energy poverty and wellbeing. Columns 1, 2 and 3 present results for life satisfaction, mental health and general health respectively. Results in Panel A are for subjective energy poverty ('unable to heat' and/or 'unable to pay bills on time'), while results in Panel B are based on the LIHC indicator of energy poverty. Our results align with existing research, including previous studies using HILDA, finding a negative association between being in energy poverty and multiple dimensions of wellbeing (see, e.g., Awaworyi Churchill & Smyth, 2021a; Awaworyi Churchill et al., 2020; Banerjee et al., 2021; Liddell & Morris, 2010; Llorca et al., 2020). This pattern holds consistently across life satisfaction, mental health and general health outcomes. Specifically, individuals who live in households that are energy poor have, on average, 0.053 to 0.223 lower life satisfaction on a scale of 0 to 10, depending on how energy poverty is measured. Being in energy poverty is associated with lower mental health with estimates ranging between 0.263 and 2.743 points (on a 0-100 scale) depending on how energy poverty is measured. Being in energy poverty is also associated with lower general health, with estimates between 0.236 and 1.538 (on a 0-100 scale), depending on whether energy poverty is measured subjectively or objectively. Across all three measures of wellbeing the point estimates are larger when energy poverty is measured subjectively than objectively using the LIHC indicator.

6.3. Energy poverty and voting intentions

Table 2 presents results showing the relationship between being in subjective energy poverty and voting intentions based on the TTPN survey. In Panel A, we compare the relationship between being in energy poverty and intention to vote for either one of the major political parties (i.e. the Coalition or Labor) as opposed to voting for a minor party, independent or being undecided. In Panel B, we compare the relationship between being in energy poverty and intention to vote for Labor as opposed to the Coalition, on a two-party preferred basis.

The results in Panel A suggest a statistically significant negative association between being in energy poverty and support for the major parties, with the estimates suggesting that energy-poor households have 8 percentage points lower probability to vote for either Labor or the Coalition compared to voting for a minor party, independent or being undecided. This pattern aligns with protest voting theories, where economic hardship may drive voters toward non-traditional political options. The result is consistent with the finding in Botha et al. (2025) that

economic disaffection more generally has contributed to the growth in support for minor political parties and independents in Australia. In Panel B, being in energy poverty is associated with reducing support for Labor relative to the Liberal National Party Coalition by 3.7 percentage points. This finding reflects Labor evincing stronger support for increasing renewable energy in the energy mix and stronger commitment to addressing climate change. Existing studies for Europe and the US suggest that voters perceive policies designed to curtail carbon emissions and increase renewable energy as contributing to lower energy affordability (Aklin, 2021; Alesina & Drazen, 1991; Brännlund & Peterson, 2024; Hess & Renner, 2019). In contrast to Labor, the Coalition has emphasised maintaining a greater balance between fossil fuels and renewable energy in the energy mix and has been more circumspect about addressing climate change.

Figure 5 presents the results of a multinomial logit model showing the relationship between subjective energy poverty and voting intentions in which the outcomes are intention to vote for either the Greens or a right-wing populist party, defined as intending to vote for the United Australia Party or One Nation Party. The reference category is intending to vote for an independent or 'other' minor party. The point estimate for intention to vote for the Greens is not statistically different than intention to vote for an independent or 'other' minor party. However, individuals in energy poverty have a higher probability of supporting a right-wing populist party, compared to intending to vote for independents or other minor parties with an odds ratio of 1.4. This makes sense in that most independents and other minor parties in the House of Representatives in the 47th Parliament (2022-2025), corresponding to when the relevant waves of the TTPN surveys we use were administered, were Teals or had outlooks closer to the Greens on renewable energy and addressing climate change than the right-wing populist parties.

7. Conclusion

Our findings suggest that energy poverty is negatively correlated with subjective wellbeing and that voters differentiate between parties based on their perceived impact on energy costs. With respect to voting intentions, we draw three main conclusions.

First, between the major political parties, individuals experiencing energy poverty are more likely to vote for the Liberal National Coalition than Labor. The reason for this finding is consistent with the literature on energy poverty and voting intentions in Europe and the US. The evidence suggests that voters associate support for increasing the share of renewable energy in the energy mix and commitment to Net Zero carbon emissions with higher energy costs. The Liberal National Coalition has been more circumspect in their support for renewables than Labor and critical of Labor's 2030 target under the Paris Agreement.

Second, individuals who are in energy poverty are more likely to vote for one of the minor parties than either Labor or the Coalition. This finding is consistent with protest voting theories, in which dissatisfaction with the perceived ability of major political parties to address economic insecurity results in voters seeking out more radical non-traditional alternatives.

Third, among the minor parties, people in energy poverty are more likely to vote for right wing populist parties. This result is consistent with findings with respect to how people in energy stress vote in Europe (Brännlund & Peterson, 2024) and more general studies about the relationship between economic insecurity and intention to vote for right-wing populist parties. In the 2022 and 2025 Federal elections, the main right-wing populist parties (One Nation and the United Australia Party/Trumpet of Patriots) campaigned on a platform that commitment to Net Zero and increasing renewables is responsible for higher energy costs.

Many of the characteristics of people that we identify as being associated with being in energy poverty – being younger, having lower subjective wellbeing, being less educated and having poorer labour market outcomes – are the characteristics of people attracted to right-wing populist movements more generally (Jasko et al, 2020).¹ In this respect, being in energy poverty is likely to reinforce other adverse economic outcomes that attract individuals to right wing populist movements (Guiso et al., 2024; Margalit, 2019; Rebecchi & Rhode, 2023).

A limitation of these results is that we employ repeated cross-sectional survey data. While the association between energy poverty and voting intention is clear, one should be cautious about inferring causality. Moreover, although a strong predictor, voting intention is not the same as actual voting behaviour (Lee et al., 2016). Yet, despite these limitations, the findings carry significant policy implications for political parties and the energy sector. Given that energy poverty has electoral consequences, the major parties cannot afford to treat energy affordability for low-income households as a secondary concern. Failure to adequately address energy poverty may result in lost votes, potentially contributing to political instability or the rise of populist or single-issue parties capitalising on economic grievances. The finding that energy poverty pushes voters towards right-wing populist parties suggests the need to combine policies designed to mitigate climate change with just transition strategies that fully compensate the losers from the clean energy transition. This includes, as part of broad-based packages, a need for robust measures such as direct energy subsidies and investment in energy efficiency upgrades for low-income housing. These measures need to address the hardship directly and signal to disaffected voters that mainstream parties are responsive to their economic needs.

¹ One difference is gender. While we find that females are more likely to be in energy poverty than males, most studies find that males are more likely to be attracted to right-wing populism than females (see, e.g., Spierings & Zaslove, 2017 for a discussion of the literature on gender and right-wing populism).

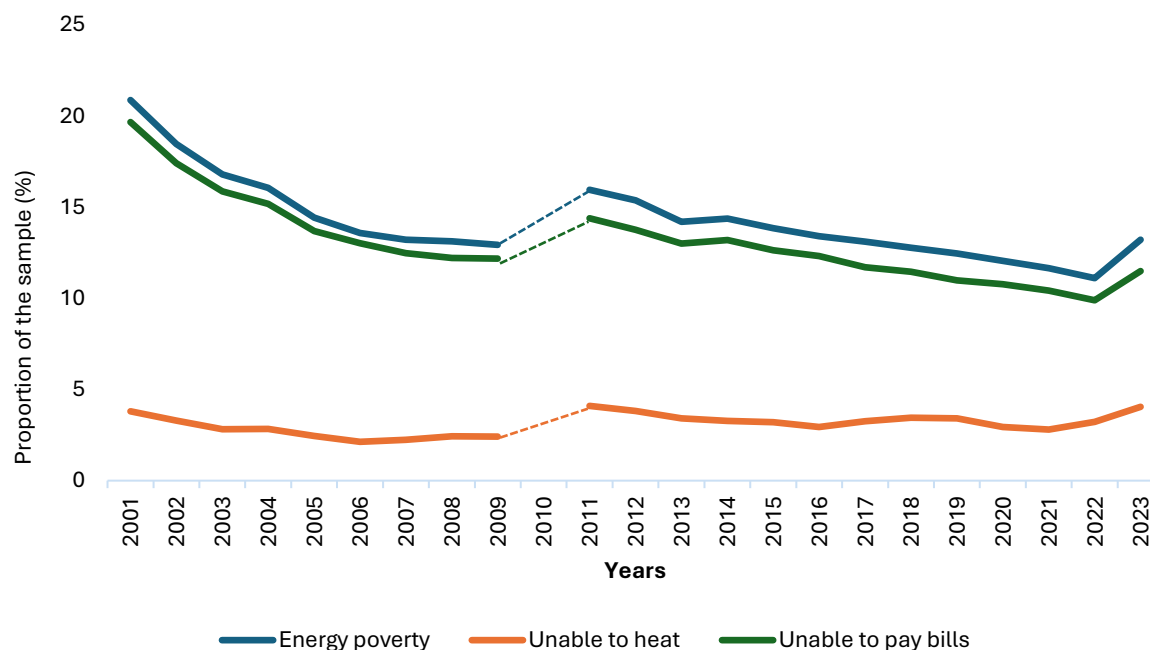
References

- Aklin, M. (2021). Do high electricity bills undermine public support for renewables? Evidence from the European Union. *Energy policy*, 156, 112400.
- Alesina, A., & Drazen, A. (1991). Why are Stabilizations Delayed? *The American Economic Review*, 81(5), 1170-1188.
- Algan, Y., Guriev, S., Papaioannou, E., & Passari, E. (2017). The European trust crisis and the rise of populism. *Brookings Papers on Economic Activity*, 2017(2), 309-400.
- Awaworyi Churchill, S., & Smyth, R. (2021a). Energy poverty and health: Panel data evidence from Australia. *Energy economics*, 97, 105219. doi:<https://doi.org/10.1016/j.eneco.2021.105219>
- Awaworyi Churchill, S., & Smyth, R. (2021b). Widening the safety net. *Nature Energy*, 6(9), 856-857. doi:10.1038/s41560-021-00891-w
- Awaworyi Churchill, S., Smyth, R., & Farrell, L. (2020). Fuel poverty and subjective wellbeing. *Energy economics*, 86, 104650. doi:<https://doi.org/10.1016/j.eneco.2019.104650>
- Azpitarte, F., Johnson, V., & Sullivan, D. (2015). *Fuel poverty, household income and energy spending: an empirical analysis for Australia using HILDA data*. Melbourne: The Brotherhood of St Laurence.
- Banerjee, R., Mishra, V., & Maruta, A. A. (2021). Energy poverty, health and education outcomes: evidence from the developing world. *Energy economics*, 101, 105447.
- Bellodi, L., Morelli, M., Nicolo, A., & Roberti, P. (2023). The shift to commitment politics and populism: Theory and evidence. *CEPR Discussion Paper No. 18338*.
- Benzeval, M., & Judge, K. (2001). Income and health: the time dimension. *Social Science & Medicine*, 52(9), 1371-1390. doi:[https://doi.org/10.1016/S0277-9536\(00\)00244-6](https://doi.org/10.1016/S0277-9536(00)00244-6)
- Biddle, N., Howlett, M., Hunter, B., & Paradies, Y. (2013). Labour market and other discrimination facing Indigenous Australian. *Australian Journal of Labour Economics*, 16(1), 91-113.
- Boardman, B. (1991). *Fuel poverty: from cold homes to affordable warmth*. London: Belhaven Press.
- Bolet, D., Green, F., & Gonzalez-Eguino, M. (2024). How to get coal country to vote for climate policy: The effect of a “Just Transition Agreement” on Spanish election results. *American Political Science Review*, 118(3), 1344-1359.
- Bornstein, N., & Lanz, B. (2008). Voting on the environment: Price or ideology? Evidence from Swiss referendums. *Ecological economics*, 67(3), 430-440. doi:<https://doi.org/10.1016/j.ecolecon.2007.12.026>
- Botha, F., Nolan, W., Nguyen, V.H. & Peyton, K. (2025) Rational Disaffection? The Economic Origins of Minor Party Voting in Australia. *Australian Economic Review* (this issue).
- Brännlund, A., Amcoff, J., Österman, M., Peterson, L., & Brännlund, H. (2024). Jolts at the ballot box: Electricity prices and voting in Swedish manufacturing communities. *Energy Research & Social Science*, 110, 103419.
- Brännlund, A., & Peterson, L. (2024). Power politics: How electric grievances shape election outcomes. *Ecological economics*, 217, 108077. doi:<https://doi.org/10.1016/j.ecolecon.2023.108077>
- Bukari, Z., Hamid, A. B. A., Md. Som, H., Hossain Uzir, M. U., Bashiru, S., Agyepong, L., . . . Al Halbusi, H. (2023). Determinants of voters behaviour and voting intention: The mediating role of social media. *Cogent Business & Management*, 10(2), 2140492.
- Davis, M. (2015). Closing the gap in indigenous disadvantage: A trajectory of indigenous inequality in Australia. *Georgetown Journal of International Affairs*, 16, 34.

- De-Oliveira, M., de Almeida, C. M., & Mainardes, E. W. (2022). Politics and social media: an analysis of factors anteceding voting intention. *International Review on Public and Nonprofit Marketing*, 19(2), 309-332.
- Decker, C. S., & Wohar, M. E. (2007). Do increases in petroleum product prices put the incumbent party at risk in US presidential elections? *Applied economics*, 39(6), 727-737.
- Dustmann, C., Eichengreen, B., Otten, S., Sapir, A., Tabellini, G., & Zoega, G. (2017). *Europe's trust deficit: causes and remedies*. London: Centre for Economic Policy Research.
- Franklin, M. N., Soroka, S. N., & Wlezien, C. (2014). Elections. In M. Bovens, R. E. Goodin, & T. Schillemans (Eds.), *The Oxford handbook of public accountability* (pp. 389–404). Oxford: Oxford University Press. Retrieved from <https://doi.org/10.1093/oxfordhb/9780199641253.013.0035>. doi:10.1093/oxfordhb/9780199641253.013.0035
- Guiso, L., Herrera, H., Morelli, M., & Sonno, T. (2024). Economic insecurity and the demand for populism in Europe. *Economica*, 91(362), 588-620.
- Healy, A. J., Persson, M., & Snowberg, E. (2017). Digging into the pocketbook: Evidence on economic voting from income registry data matched to a voter survey. *American Political Science Review*, 111(4), 771-785.
- Hills, J. (2012) Getting the Measure of Fuel Poverty: Final Report of the Fuel Poverty Review. Department of Energy and Climate Change, London, UK.
- Hess, D. J., & Renner, M. (2019). Conservative political parties and energy transitions in Europe: Opposition to climate mitigation policies. *Renewable and Sustainable Energy Reviews*, 104, 419-428.
- Jasko, K., Webber, D. & Kruglanski, A. (2020) Political Extremism in P.A.M. van Lange, E.T. Higgins & A.W. Kruglanski *Social psychology: Handbook of basic principles*, 3rd edition. New York: Guilford, pp. 567-588
- Kenny, M. (2024). Climate and energy have emerged as a federal election flashpoint. But unless the economy improves, will voters be listening? *The conversation*, June 24.
- Lee I-C, Chen EE, Tsai C-H, Yen N-S, Chen ALP, Lin W-C (2016) Voting Intention and Choices: Are Voters Always Rational and Deliberative? *PLoS ONE* 11(2): e0148643. <https://doi.org/10.1371/journal.pone.0148643>
- Lewis-Beck, M. S., & Stegmaier, M. (2000). Economic Determinants of Electoral Outcomes. *Annual Review of Political Science*, 3(Volume 3, 2000), 183-219. doi:<https://doi.org/10.1146/annurev.polisci.3.1.183>
- Liddell, C., & Morris, C. (2010). Fuel poverty and human health: A review of recent evidence. *Energy policy*, 38(6), 2987-2997. doi:<https://doi.org/10.1016/j.enpol.2010.01.037>
- Llorca, M., Rodriguez-Alvarez, A., & Jamasb, T. (2020). Objective vs. subjective fuel poverty and self-assessed health. *Energy economics*, 87, 104736. doi:<https://doi.org/10.1016/j.eneco.2020.104736>
- Maneejuk, P., Kaewtathip, N., & Yamaka, W. (2024). The influence of the Ukraine-Russia conflict on renewable and fossil energy price cycles. *Energy Economics*, 129, 107218.
- Margalit, Y. (2019). Economic insecurity and the causes of populism, reconsidered. *Journal of Economic Perspectives*, 33(4), 152-170.
- Parinandi, S., & Hitt, M. P. (2018). How politics influences the energy pricing decisions of elected public utilities commissioners. *Energy policy*, 118, 77-87.
- Pressman, S. (2003). Feminist explanations for the feminization of poverty. *Journal of Economic Issues*, 37(2), 353-361.
- Rebechi, A., & Rohde, N. (2023). Economic insecurity, racial anxiety, and right-wing populism. *Review of income and wealth*, 69(3), 701-724.

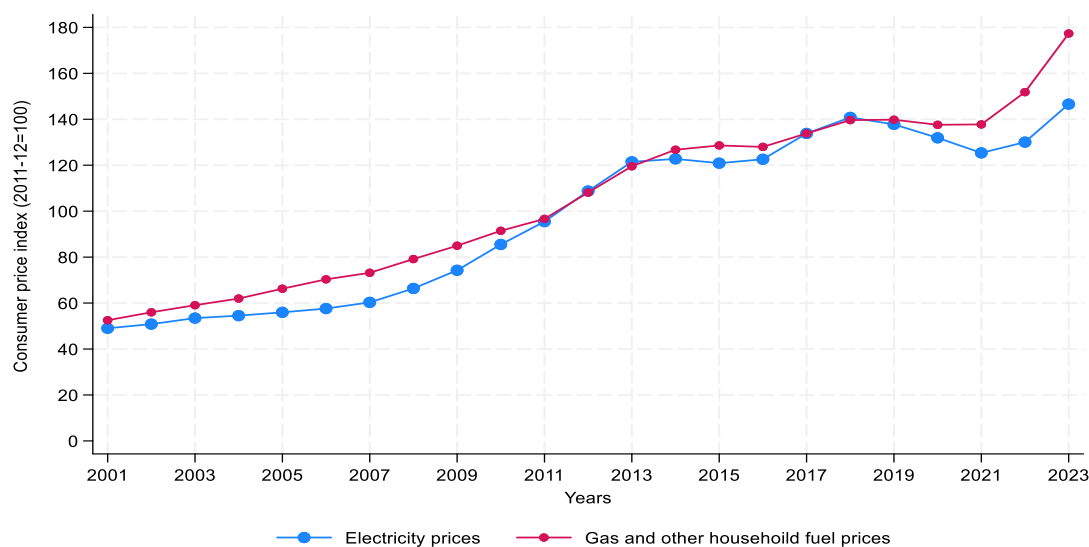
- Roberts, B. J., Struwig, J., Gordon, S. L., & Davids, Y. D. (2020). The unconvinced vote: The nature and determinants of voting intentions and the changing character of South African electoral politics. In *Reflections on the 2019 South African General Elections* (pp. 117-134): Routledge.
- Schoen, H. (2004). Winning by priming? Campaign strategies, changing determinants of voting intention, and the outcome of the 2002 German federal election. *German Politics and Society*, 22(3), 65-82.
- Schulze, K. (2021). Policy characteristics, electoral cycles, and the partisan politics of climate change. *Global Environmental Politics*, 21(2), 44-72.
- Simshauser, P. (2023). The 2022 energy crisis: Fuel poverty and the impact of policy interventions in Australia's National Electricity Market. *Energy Economics*, 121, 106660.
- Spierings, N., & Zaslove, A. (2017). Gender, populist attitudes, and voting: explaining the gender gap in voting for populist radical right and populist radical left parties. *West European Politics*, 40(4), 821-847.
- Ward, K., Rahman, F., Islam, A. K. M. S., Akhter, R., & Kamal, N. (2004). The Effects of Global Economic Restructuring on Urban Women's Work and Income-Generating Strategies in Dhaka, Bangladesh. *Critical Sociology*, 30(1), 63-102.
- Warren, M. (2014). Accountability and Democracy. In M. Bovens, R. E. Goodin, & T. Schillemans (Eds.), *The Oxford handbook of public accountability* (pp. 39–54). Oxford: Oxford University Press.

Fig. 1 Energy poverty over time based on HILDA



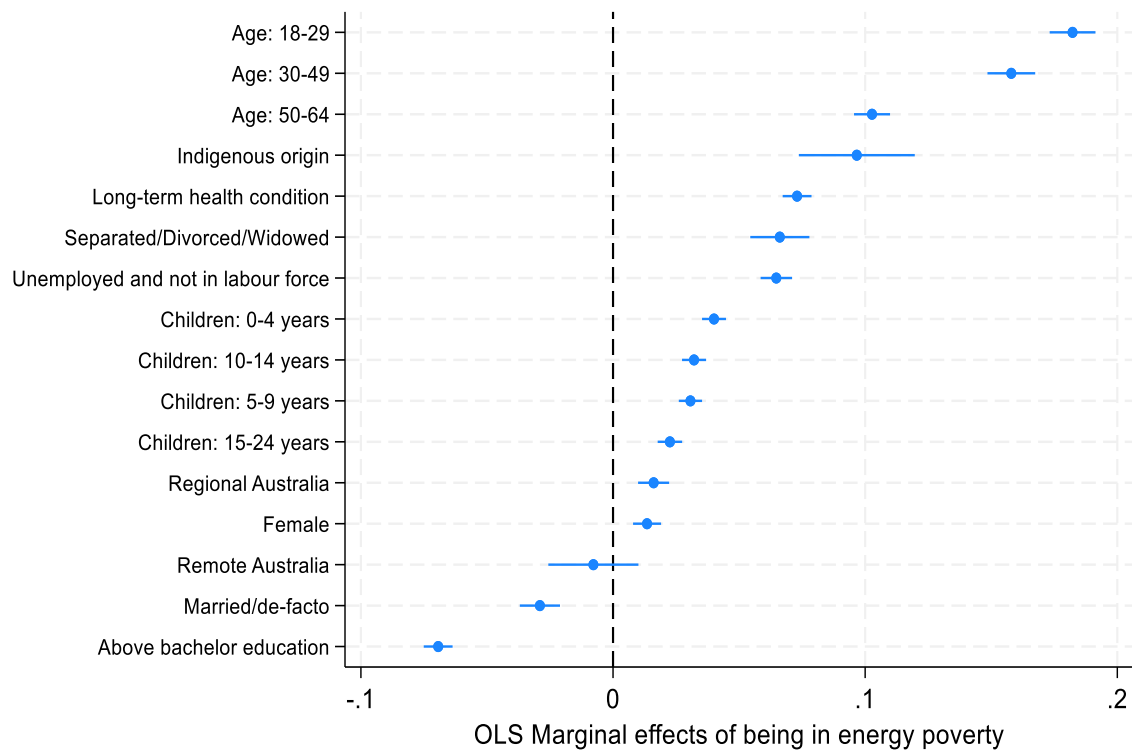
Notes: Energy poverty is defined as the household is 'unable to heat' and/or is 'unable to pay bills on time', based on responses in the HILDA survey. Data for 2010 was not collected in the HILDA survey.

Fig. 2 Electricity and gas prices over time



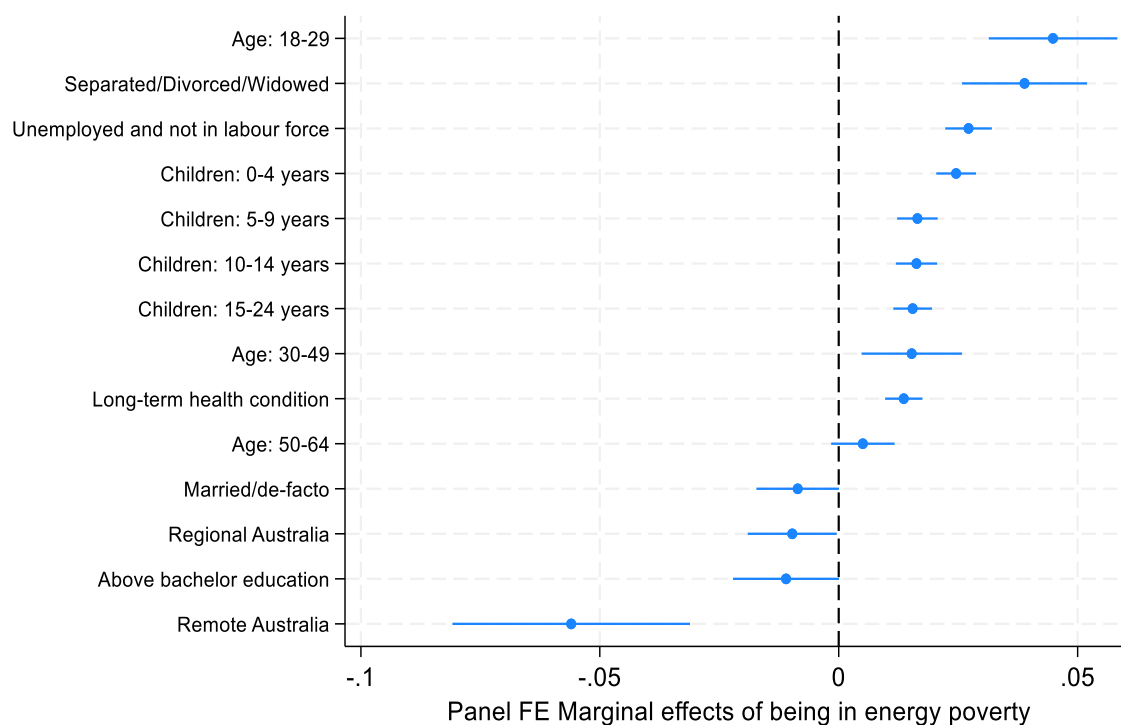
Notes: Electricity prices and Gas and other household fuel prices are the annual average consumer price index sourced from the Australian Bureau of Statistics (ABS).

Fig. 3 Plot of the marginal effects of being in energy poverty (OLS)



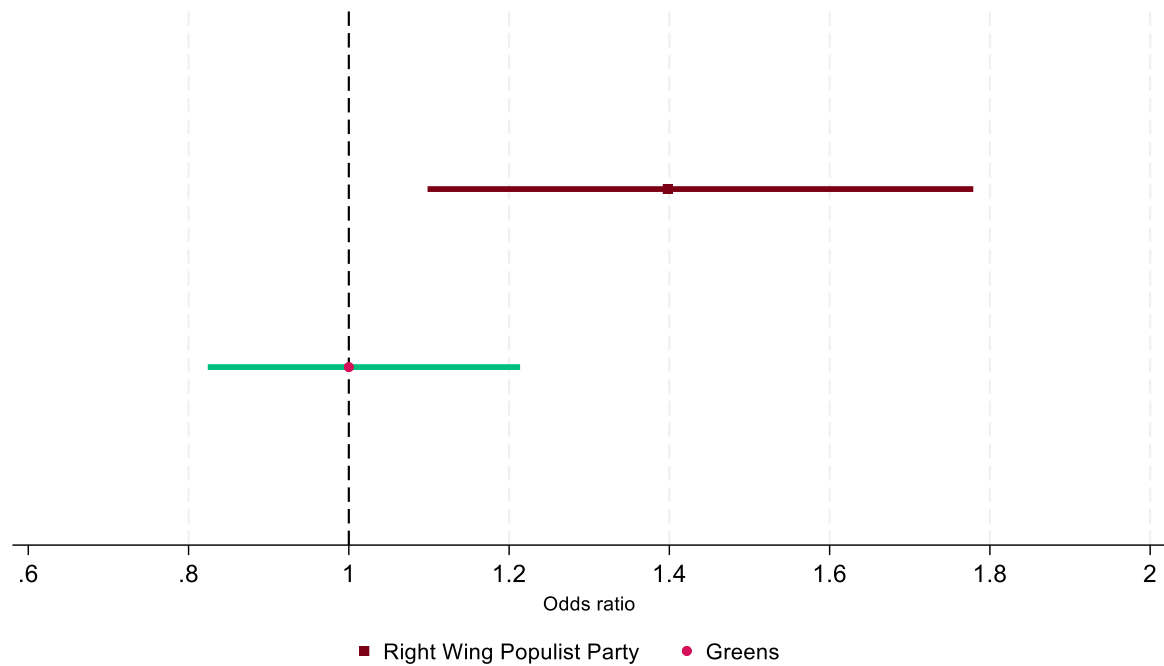
Notes: Results are for energy poverty, defined as whether the household is 'unable to heat' or 'unable to pay bills on time', regressed on individual characteristics of the household member in the HILDA survey. Results are for an OLS specification that controls for survey wave fixed effect. Robust standard errors have been applied at the individual level. The variables are ordered based on their effect size on energy poverty in descending order.

Fig. 4 Plot of marginal effects of being in energy poverty (Fixed effects)



Notes: Results are for energy poverty, defined as whether the household is 'unable to heat' or 'unable to pay bills on time', regressed on individual characteristics of the household member in the HILDA survey. Results are for a panel fixed effects model specification that also controls for individual and survey wave fixed effects. Robust standard errors have been applied at the individual level. The variables are ordered based on their effect size on energy poverty in descending order.

Fig. 5 Energy poverty and intention to vote for right-wing populist parties



Notes: Estimation is based on a multinomial logit model specification in which outcomes are intention to vote for either a right-wing populist party - the United Australia Party or One Nation Party - or for the Greens. The reference category is intending to vote either for an independents or other minor parties. The model controls for gender, age, level of education, employment status; whether the individual is in a regional or metro location, the state/territory in which the individual resides and for survey wave. Robust standard errors have been applied at the individual level.

Table 1: Effect of energy poverty on wellbeing

VARIABLES	(1) Life satisfaction	(2) Mental health	(3) General health
<u>Panel A:</u>			
Subjective energy poverty	-0.223*** (0.011)	-2.743*** (0.119)	-1.538*** (0.115)
Observations	236,893	236,893	236,893
<u>Panel B:</u>			
Low-Income High-Cost	-0.053*** (0.012)	-0.263** (0.120)	-0.236* (0.123)
Observations	236,893	236,893	236,893

Notes: Subjective energy poverty is defined as the household is 'unable to heat' and/or 'unable to pay bills on time'. Low-Income High Cost is defined as household energy costs exceed the national median level and its household disposable income - after deducting energy expenses - falls below the official poverty line. "Life satisfaction" is a measure of subjective wellbeing obtained from the survey response to the question "How satisfied are you with your life" measured on a scale of 0-10, where 0 is labelled as totally dissatisfied and 10 is totally satisfied. "Mental health" is a five-item mental health inventory (MHI-5) scale based on questions that reflect one's nervousness, psychological fatigue, agitation and depression, transformed to a 0-100 scale, where higher value indicates better mental health. "General health" serves as an indicator of self-assessed health status that is derived from five questions from SF-36 questionnaire and is transformed to a 0-100 scale, where higher value indicates better general health. Each specification controls for age, level of education, employment status and marital status of the individual; whether the household contains someone who has long-term illness, disability or impairment; the number of children in the household broken down according to age groups; whether the household is located in a regional or city location; and the state/territory in which the household is located. Each specification also controls for survey year and individual fixed effects. Clustered robust standard errors at the individual level are in parentheses. ***p<0.01, **p<0.05, *p<0.10.

Table 2: Energy poverty and measures of voting intention

VARIABLES	Effect on voting intention
Panel A:	
Energy poverty	-0.080*** (0.011)
Observations	9,656
Panel B:	
Energy poverty	-0.037** (0.015)
Observations	6,542

Notes: In panel A, outcome variable is a dummy variable = 1 if “Voting for major party”; either for Australian Labor party or Liberal-National Coalition and 0 is for all others. In panel B, outcome variable is a dummy variable = 1 if “Voting for Australian Labor party”; and 0 is voting for “Liberal-National Coalition”. Robust standard errors at the individual level are in parentheses. ***p<0.01, **p<0.05.