

# Helping low to middle income households benefit from electric vehicles and green home heating measures

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## Summary

The UK has a legal obligation and political commitment to achieve a net zero carbon economy by 2050. As 30 per cent of the adult population, low to middle income (LMI) households will be an important market for green technologies.

However, government policies to encourage the adoption of electric vehicles and green home heating measures largely target the upper and lower extremes of the income spectrum. Policies such as the Boiler Upgrade Scheme aim to stimulate the market for new green technology by subsidising the upfront costs, benefiting wealthier households who are the early adopters. The government is also supporting the poorest households through schemes like the Energy Company Obligation (ECO).

With average household energy bills set to rise by £285 over the 2023-24 financial year – even with the energy price guarantee in place – the government must act to ensure LMI households are not locked out of the money saving advantages of green technologies.

## Characteristics of LMI households

LMI households encompass working age adults in income deciles two to five. The Resolution Foundation describes this group as those “too poor to benefit from the opportunities provided by the private market but too rich to qualify for substantial state support.”

### Income

LMI households have an average gross income of £29,640. On average, 31 per cent of this is spent on housing, utility bills and transport.

### Housing and transport

LMI households are more likely to live in social housing or privately rented homes, with 57 per cent living in homes rated Energy Performance Certificate (EPC) D or below. Over a fifth of LMI households do not own a car.

## Regional distribution

Although LMI households are distributed across the UK, there are relatively more in regions targeted by levelling up, such as Yorkshire and the Humber, Wales, Northern Ireland and the North West.

## Voting behaviour

Over half of LMI household heads are in social classes C1 and C2, who are [likely](#) to be swing voters.

## LMI households miss out on green tech cost savings

Our [analysis](#) has found that, by upgrading their homes to EPC C, LMI households could save £306 on their energy bills per year, based on the price of electricity and gas in December 2022 under the Energy Price Guarantee. They could save a further £552 on running costs by switching to electric vehicles (EVs).

But many LMI households face the following barriers to adopting green technologies.

## Home energy efficiency and heat pumps

### Cost

[Forty per cent](#) of LMI households have savings and financial assets of less than £5,000, and therefore struggle to afford the upfront cost of installing home insulation and heat pumps. Despite being more efficient than most gas boilers, heat pumps can be £450 to £770 more expensive on a lifetime basis, largely due to electricity prices being higher than those of gas. The government can influence the relative costs of gas and electricity through where it decides to place social and environmental levies.

### Exclusion from existing schemes

[Eighty one per cent](#) of households with below average income and homes rated EPC D or worse are not covered by the ECO scheme. While the new ECO+ scheme broadens coverage to include more LMI households, the £1 billion announced is insufficient to meet the need.

## Electric vehicles

### Cost

A typical first hand EV costs approximately [35 per cent](#) more upfront than an equivalent petrol or diesel model. It is also still more expensive to finance both new and used electric vehicles than it is to purchase petrol or diesel cars.

### Limited second hand market

Our [research](#) shows that, once running and maintenance costs are included, the owner of a second hand EV could save between £700 to £2,300, compared to a diesel or petrol equivalent. However, the second hand EV market is still small, posing a barrier to LMI households who more often opt for used cars.

## Inconsistent charging infrastructure

There are significant regional disparities in EV charging infrastructure. For example, while London has [122 charge points](#) per 100,000 people, the North West only has 30. Most LMI households do not have access to off-street parking and so are disproportionately affected by discrepancies in VAT levied on the public network (20 per cent) compared with home electricity (five per cent).

## Recommendations

### Homes

- **Regulate the private rented and owner occupier sectors**  
Commit to a minimum energy efficiency standard of EPC C sooner than 2028 for private rented properties and put in place an EPC C target for all tenures of housing, at the point of sale, by 2030.
- **Increase financial support for retrofit and heat pump installation**  
Encourage the market to offer more attractive financial packages, like green mortgages, and issue targeted concessional loans for energy efficiency retrofit to homeowners, administered by the UK Infrastructure Bank. Those at the lower end of the income spectrum should be offered means tested grants and subsidies for retrofit and heat pump installation.
- **Provide financial incentives for energy saving**  
Reward homeowners who invest in energy efficiency measures within the first two years of purchase with a stamp duty rebate.
- **Make heat pumps cheaper to run**  
Permanently remove green levies from electricity bills.

### Electric vehicles

- **Make financing cheaper and simpler**  
Reform the Consumer Credit Act so lenders can offer buyers an EV, chargepoint and energy tariff in one package. Provide tax relief to car rental and leasing companies so savings can be passed onto consumers.
- **Support the sale of second hand EVs**  
Provide tax credits, grants for the purchase of used EVs, or discounted leasing schemes.
- **Fix inconsistent charging infrastructure**  
Offer targeted finance for EV charging points to areas with the worst public transport and fewest charge points. Reduce VAT on public charge points from 20 to five per cent.

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