

Low Energy

The British Energy Security Strategy brings increased ambition on decarbonising electricity but fails to offer immediate respite from high energy costs

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The Government's British Energy Security Strategy was charged with reducing national exposure to imported hydrocarbons and bringing down energy bills for already-stretched households. Announcements on the supply side were a mixed bag, with high ambition on nuclear and offshore wind but minimal progress on lower cost onshore wind and solar. Overall, these efforts – culminating in a 95 per cent decarbonised electricity system by 2030 – would be a big step toward net zero. From a living standards point of view, though, while the Government's supply-side interventions will likely feed through to lower energy costs during the late 2020s, they will do little to help households facing unaffordable bills in the short term.

Despite the Energy Strategy being presented as a response to the war in Ukraine, there are few supply-side measures that can make a material difference to household energy costs this year, as such it remains inevitable that the Government will need to revisit its Energy Support Package announced in February. That said, largely overlooking the cheapest sources of electricity generation – onshore wind and solar – brings a risk of energy costs being higher than they need to be in years to come.

There is also continued uncertainty around how the net zero transition will be funded, with a reliance on energy bills seemingly favoured by the Government despite it being inherently less equitable than funding through general taxation.

The Strategy also continued to focus on the easier task of decarbonising electricity generation, overlooking the harder parts of net zero, namely domestic energy efficiency. Bills are a function of both price and consumption, and as such cutting energy waste is a key way of helping families with high costs. Half of the poorest households in England live in homes without wall insulation, and will therefore face heating bills £200-400 higher this winter than if they lived in equivalent insulated homes. Energy efficiency remains a key gap in the Government's net zero plans, and will need a long-term strategy to fill, but with the benefits currently amplified by high gas costs there is little reason to hold back on starting now.

The release of the [British Energy Security Strategy](#), prompted by the crisis in Ukraine, was an opportunity for the Government to accelerate measures to move to a cleaner, cheaper and more resilient energy system, at the same time as cutting the cost of energy for years and decades to come. The Strategy focussed on measures on the supply side, including a large increase in targets for nuclear electricity generation including [up to eight new reactors](#), bolstering already ambitious goals for offshore wind, and doubling goals for hydrogen production. It did, however, fail to make significant progress on onshore renewables and offered very little to reduce energy use, particularly in the home. In this Spotlight we focus on what the Strategy means for energy costs, and therefore household living standards, particularly for those on low to middle incomes.

The strategy contained little to help with the cost of energy bills in the short term and so targeted support for those on lower incomes will be needed

The [Government's Strategy](#), and its focus on energy supply, brought limited options to help with the energy costs facing households this winter. Long lead times for construction of new energy infrastructure, even if processes are streamlined, means that additional financial support to help poorer families with energy costs is now certainly needed. This is not least because the policy package announced in February, while widespread in support, [only covers half of April's price cap increase](#). So, support better targeted at poorer households is needed in the short term; and policy should not hold off until October when prices are set to rise further (some estimates suggesting the price cap could rise to more than £2,500) and family finances will have been stretched by six months of high energy bills.

Further ahead, though, welcome new longer-term targets on offshore wind, with the associated planned grid upgrades essential to facilitate an increasingly variable system, will help to reduce the cost of electricity generation – but not until the latter half of the 2020s. The Government also held back on the onshore renewable energy sources that are lowest in cost and quickest to build. While unlikely to be delivered at scale for this winter, some onshore wind and large-scale solar projects could be commissioned in time for next winter, taking the sting out of high electricity prices then (wholesale markets are [currently priced at around £115/MWh for winter 2023](#)).

The strategy confirms concerns that the Government plans to lean on energy bills to fund new infrastructure, rather than general taxation that would be more progressive

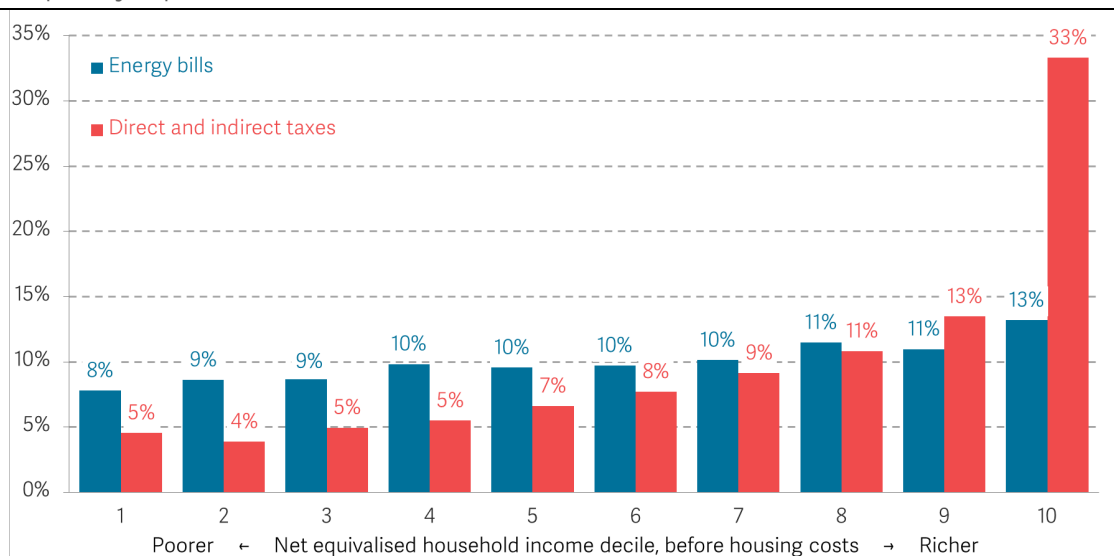
The Strategy has not clarified how the net zero transition will be funded, although it seems energy bills will continue to be used to pay for infrastructure instead of using general taxation. As Figure 1 shows, utilising Exchequer funds would be more equitable, with richer households footing a greater share of the bill. Much progress towards net zero to date has been underpinned by levies on household bills – these currently account for £153 of the typical dual fuel bill of £1,971. In this context it was concerning that the Strategy did not commit new taxpayer funds. Indeed, the rapid advancement in nuclear capacity – potentially

involving 8 new reactors, at a cost of several tens of billions of pounds – is set to be underpinned by the [Regulated Asset Base \(RAB\) model](#), whereby households fund projects through a charge on energy bills during development and construction stages, rather than waiting until they are up and running. Using energy bills to fund huge infrastructure projects will put the largest burden on those with lower incomes and smaller budgets, so further clarity is needed on both the terms of proposed RAB deals, and how consumer protections can be built in, ideally without increasing overall project costs.

There is also uncertainty around how the Government’s ambitious hydrogen production targets will be funded; prior to the Strategy’s release, it was suggested that this could be done through [levies on bills again](#). Considering that most hydrogen will be used in industry or transport, this would represent yet another regressive charge on households, and would be best avoided in favour of support funded through general taxation.

Figure 1 **Funding new infrastructure through general taxation sees higher-income households make a greater contribution than those on lower incomes**

Share of total domestic energy costs and total household direct and indirect tax receipts, by equivalised income decile: UK



Notes: Energy costs are the sum of domestic gas and electricity bills shared across households. Direct taxes include Income Tax, National Insurance Contributions, Student Loan repayments and Council Tax, with indirect taxes made up of VAT, alcohol duties, vehicle excise and fuel duties, Stamp Duty, Insurance Premium Tax and Air Passenger Duty.
Source: RF analysis of ONS Living Costs and Food Survey, ONS Effects of Taxes and Benefits on Household Income data.

One area where bill-payers can benefit, however, is through continued use of ‘fixed price’ contracts-for-difference (CfD) for renewable energy, which will continue to carry a negligible, [or even negative](#), subsidy as costs fall, as well as cushioning households from potential future high gas prices (by paying pre-agreed costs for energy rather than those dictated by global commodity markets). There is also new clarity on plans to reform levies on energy bills (the Government has now explicitly stated it is looking to move these to gas, clarifying vagaries in last year’s [Net Zero Strategy](#)).

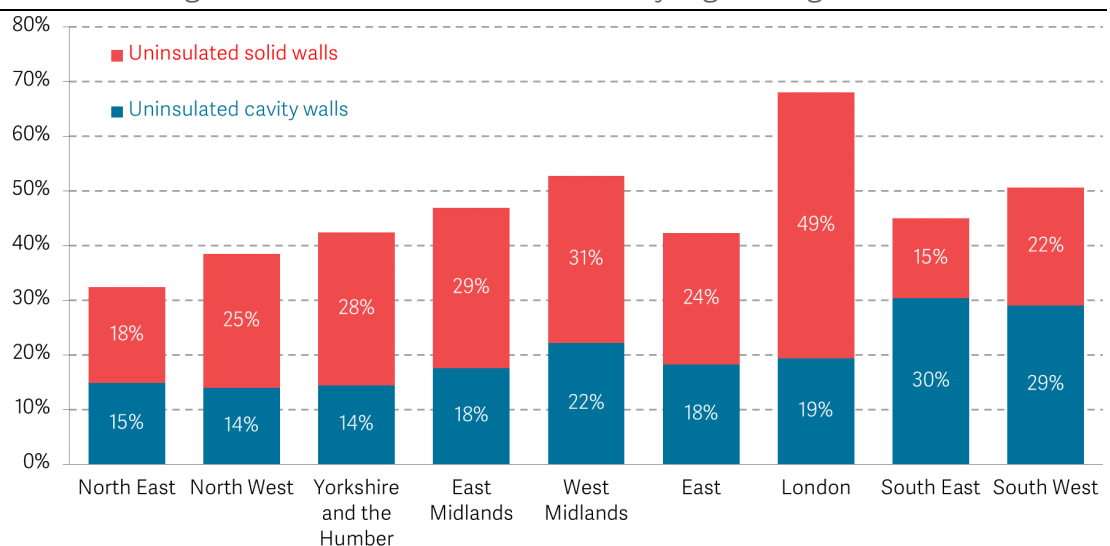
The focus on supply overlooks the urgent need to help lower-income households reduce energy demand

With any help from changes to energy supply taking years to deliver, measures to reduce demand could have been one way to support families with the higher cost of energy. The next key steps of the net zero challenge are those that most directly [impact on household consumption](#), with energy efficiency top of the list. In this context it was disappointing that almost no new measures were announced to help reduce overall energy demand.

The UK's poor record on insulating homes has [come into sharp relief](#) given record energy prices. Less efficient homes have always cost more to heat, but this gap is increasing: the additional cost of heating a typical home with uninsulated cavity walls is set to near £200 in winter 2022, compared to an equivalent insulated property, with an even greater penalty of close to £400 for uninsulated solid walls.¹ Nearly half (49 per cent) of the poorest fifth of households live in homes with uninsulated walls, and although this level is largely consistent across the income spectrum, the financial consequences of heating leaky homes will hit lower-income families hardest. These households are also not evenly spread around the country, as Figure 2 shows, with more than half of the poorest households in London, the West Midlands and the South West living in homes without wall insulation.²

Figure 2 **The issue of poor households living in badly insulated properties is particularly acute in London**

Share of households in the bottom fifth of the equivalised after housing cost income distribution living in homes with uninsulated walls, by region: England, 2019



Notes: Figures include all households in the bottom equivalised income quintile, regardless of tenure.
 Source: RF analysis of English Housing Survey data.

One obvious way to upgrade the efficiency of the nation's homes would have been to bolster the [Energy Company Obligation \(ECO\)](#) scheme with taxpayer funds. This would have provided highly targeted support: [more than one in five households in the lowest income decile](#) is eligible for ECO support, and no households in the richest decile. Instead, the

Government's strategy relies on VAT cuts, as announced in the [Spring Statement](#), and an ambition to "facilitate low-cost finance from retail lenders": moves that will exclude households without sufficient incomes or savings to underpin investment in their homes.

Despite welcome new ambition on electricity decarbonisation, the Government's energy strategy contains significant gaps

The Government's Energy Security Strategy brought very welcome targets on cutting carbon from the power sector, and there are some signs that electricity costs will fall towards the end of the decade, but these will not help lower-income households with energy costs in the short term. This is compounded by a lack of measures to reduce demand, particularly on domestic energy efficiency. Coming shortly after an underwhelming set of policies announced for the immediate energy crunch, it is near certain that the Chancellor will need to revisit his Energy Support Package ahead of the coming winter. Here the priority should be supporting lower-income households in the face of higher bills.

¹ RF analysis of English Housing Survey data shows that the costs of heating an on-grid, gas-fired, centrally heated home will increase by 114 per cent from the 2021 average domestic gas price to that in-line with a price cap of £2,500 in October 2022.

² Loft insulation also offers bill savings, as well as being cheaper and quicker to install. While levels of loft insulation are high across the country (59 per cent of English households with a loft have at least 150 mm of insulation), 18 per cent of the bottom income quintile live in homes with little (less than 100mm) or no insulation, RF analysis of English Housing Survey data shows. As with wall insulation, levels are largely flat across incomes, with a country-wide average of 15 per cent of households having less than 100mm of loft insulation, but the effects of poor insulation will be particularly felt by poorer families.