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Staying Power: A Long-Term Framework for a Long-Term Crisis

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Our Future of Britain initiative seeks to reinvigorate progressive politics to meet the challenges the country faces in the decades ahead. Our experts and thought leaders will set out a bold, optimistic policy agenda across six pillars: Prosperity, Transformative Technology, Net Zero, Community, Public Services and Britain in the World.

Executive Summary

We need a short-term plan for Britain's energy crisis; we need a long-term plan for Britain's energy future. And the two need to be consistent with each other.

In this paper we set out proposals for both the short term and the long term.

Our proposals provide a framework for resolving the crisis in a way that will:

1. Recognise that households and businesses need immediate help commensurate with the scale of the crisis and the impossibility for large numbers of people to pay bills of this magnitude.
2. Acknowledge that in principle, support should be targeted towards those who need it most, but in practice there is no option except to support all households including a minority who do not need support.
3. Increase and not reduce the incentive for cutting energy demand, which is in the interests of both taxpayers and consumers.
4. Marry short-term and long-term needs through a predictable policy framework up to at least 2030.
5. Keep faith with Britain's overall climate objectives.
6. Contain reforms in planning and investment that will put energy on a sustainable path for the future.
7. Focus on market reform, not nationalisation.
8. Contain action to address windfall profits while protecting future investment.

Households are facing a vast and largely unavoidable rise in energy bills, which are now projected to pass £5,000 annually for a typical household in January, and average around £6,000 annually in 2023. At a national level this means that UK households are set to go from paying around £30 billion for home energy in 2020 to as much as £170 billion in 2023, approximately 7 per cent of GDP. And now that Vladimir Putin has turned off most of the flow of Russian gas to Europe, it could get worse.

While domestic-energy producers making windfall profits can be taxed, many of the producers we rely upon are based overseas and beyond the reach of HMRC. Our energy suppliers buy our energy on an international market and must pay the market price. The truth is that in the short term these are prices we simply have to pay. The choice is how to share them between government and households.

Without government action to shoulder the bulk of the increase in household costs, the impact on the general population would be completely unacceptable. The eye-watering sums involved raise legitimate questions about the fiscal sustainability of government borrowing on this scale – but the alternative of providing insufficient help to households is likely to be even more costly for the Exchequer. A rapid contraction in consumer demand would lead to a wave of bankruptcies, rising unemployment and recession, causing government borrowing to explode as taxes tank and benefit claims mount.

While providing support to households is the most important step to shoring up consumer spending, it cannot be the only action the new government takes. Businesses use even more energy than households and are already facing much higher prices, and this is unsustainable for many smaller or energy-intensive companies. While business and industry will almost certainly need to reduce energy use, closures will mean job losses, which compound both fiscal damage and personal hardship. Intervention should seek to avoid the permanent loss of viable businesses.

One way or another, a substantial increase in public borrowing is now unavoidable, one on the scale of the Covid-19 and the 2008 financial crises. But for all the urgency of financial support as we head into winter, the only real solution to this crisis lies in taking a long-term approach. Europe is short of gas. No feasible amount of extra UK production can fix that shortage and so only by reducing the amount we consume can we truly reduce our exposure to the crisis – both this winter, and in the long term.

The political and social reality is that government financial support will need to continue as long as bills remain unaffordable. This could last for years and will be costly. So it is essential that the government sets out a long-term approach that ties together the need for financial support with the need to reduce our dependence on foreign gas. That means preserving incentives on households, government and businesses to achieve this.

Many proposals for how the new government should respond to the crisis have been floated in recent weeks.

There has been much discussion of tax cuts. But whatever the merits of tax cuts more generally, as a means of getting through the energy crisis they don't help the poorer households most exposed to the cost-of-living shock. Moreover, plans for broad-based tax cuts that overcompensate the better-off are likely to elicit a strong monetary-policy response, with the Bank of England raising interest rates further and faster to contain the additional inflationary pressure such a policy would create.

It now appears that government is also considering some form of price freeze. Such an approach could meet the scale of the challenge facing householders head-on and would deal with the crisis this winter. But it is now clear that the crisis will last into next year and probably beyond, and over time the costs of such a freeze, if kept in place, would be fiscally alarming.

A longer-term price freeze would also dampen incentives for households – especially the better-off ones – to cut their consumption where they reasonably can. While we all hope that price pressures will abate, it is conceivable that they won't fall sufficiently to make government support unnecessary beyond this winter or beyond next year. If a price freeze is pursued, this makes coupling it with a large programme of demand reduction essential.

But we favour a more strategic approach to this crisis that offers long-term certainty to households while strengthening incentives on them and government to accelerate steps towards the only real solution, which is a reduction in demand and in reliance on unpredictable energy imports.

For these reasons, whatever the merits of a short-term freeze on prices, we propose instead a long-term system of rebating households the difference between a £2,000 threshold (roughly the level of today's price cap for a typical household), and the future price cap for the typical household. Paying support as a lump-sum rebate ensures that people continue to have the full incentive to cut their bills; calculating it using the price cap means that households do not receive more support the more energy they use. For households on benefits, the rebate should be 100 per cent of the difference. For all other households the rebate could be discounted to, for example, 75 per cent of the difference.

Not giving everyone the full rebate cuts the cost significantly as compared to a straight freeze, which is important given the need to also support businesses and fund a major energy-saving and insulation programme.

The proportion of the rebate offered to households not on benefits could be reduced or increased depending on policy preference. But the two-tiered approach allows a distinction to be made between the generosity of support for the poorest people on benefits and the rest of the population.

This basic model would mean some rough justice as households with higher energy needs would get the same support as those with lower energy needs. However, our analysis shows that the large majority of variation in energy bills can be explained by the characteristics of the building and the size of the household living in it.

Data on EPC ratings, for those houses with an energy-performance certificate (EPC), could be used to target rebates more accurately to households with higher energy needs. Those houses without an EPC would receive the default payment until a certificate can be rolled out to them over the coming year. Meanwhile the child-benefit system could be used to issue additional payments according to the number of children in a family as a proxy for large households with higher needs. As with other proposals, some

form of continued hardship fund would likely be needed for particularly vulnerable households – such as those living with disabilities. Together these steps would largely remove the rough justice of flat-rate cash rebates while significantly strengthening households’ rewards for cutting consumption.

The cost for such a programme for a full year is inevitably high. If typical bills average around £6,000, then the full year cost would be £92 billion, with further spending required to support businesses. This nevertheless represents a significant saving compared to the cost of a price freeze, at around £110 billion per year.

The scale of the Exchequer’s financial exposure in making such a commitment would underline the urgency of accelerating the energy transition. A national campaign to reduce demand and insulate homes must be launched immediately. And we show how, by maintaining price incentives to reduce demand, alongside real vigour applied to programmes of energy reduction, the country could make a £27 billion difference to aggregate household-energy costs as early as 2023.

It also highlights the importance of finding a way to claw back a large proportion of the estimated £170 billion of windfall profits made by UK gas and electricity producers over the next two years. Action to reduce windfall profits, particularly for low-carbon electricity generators could, sensibly applied, reduce the overall bill still further.

The current gas-price level may prove a temporary shock, as households and industry across Europe slash their demand for energy and temporary disruptions to other suppliers (such as the French nuclear fleet and Norwegian hydroelectric sector) hopefully come to an end. With a mild winter we may see prices easing back. In the medium term, more secure domestic sources of supply, such as renewables, will come onstream over the decade. If so, the fiscal costs of making the long-term commitment advocated by this report would fall away.

But we cannot rely on approaching the energy crisis with short-term measures and crossed fingers. The only way to be certain the fiscal costs will fall, without lasting damage to our economy and standard of living, is to rapidly accelerate our transition away from imported gas. A massive programme of demand reduction and insulation, and the rapid deployment of new, cheap, home-grown energy can slash our exposure and make sure that we are never in this position again.

For that to happen we must connect the short-term crisis to the long-term policy solution. It is time to end the political carousel of wishful thinking interspersed with emergency budgets. A clear, long-term framework would rescue households, rebuild confidence and force government to get on with the urgent work of fixing the energy system.

We therefore favour a commitment that lasts until 2030, with government support falling as the prices fall and as demand is reduced by the measures we put forward for long-term energy reduction and market reform.

Introduction

The UK and Europe face a severe energy crisis this winter. Now that Russia has all but ceased exporting gas to Europe, prices have risen to extreme new highs and the crisis is set to be both deeper and longer than anyone was predicting earlier this summer. This is a long-term challenge.

Looking at the problem on a national level, before the crisis UK households spent around £30 billion a year on energy bills. But UK households can now expect to spend something closer to around £170 billion on energy bills in 2023, approximately 7 per cent of GDP. Some estimates are now suggesting prices could go higher still.

Household energy costs are similar across the income distribution, with the richest 10 per cent of households only spending around 30 per cent more on energy than the poorest decile. Consequently, this massive increase in household bills will be an unmanageable burden for most households, especially those on low and middle incomes.

But this is not just a household crisis. Businesses use even more energy than households and are already facing much higher prices than households. This is an unsustainable situation for many smaller or energy-intensive companies. Closures would mean job losses, which compound both fiscal damage and personal hardship.

This is a crisis of similar if not greater scale than that seen in either 2008 or during Covid-19, and must be treated with the same seriousness. Both required huge fiscal interventions from government. Tackling the crisis of Covid-19, for instance, has required an estimated cost of government spending of £375 billion according to the National Audit Office.¹

Financial support on a scale that meets the level of social need will run to – and possibly beyond – £100 billion next year for households alone, raising the question of whether this level of spending is fiscally sustainable. In reality, the risk to the public finances of not providing households with enough financial help is bigger than that from providing too much support. Without adequate financial support for households, consumer spending would collapse, leading to a wave of bankruptcies and rapidly rising unemployment. A sharp and deep recession would result, causing tax revenues to tank, benefit payments to rise and the deficit to balloon.

In the wake of the financial crisis the deficit exceeded 10 per cent of GDP. An economic shock on a similar scale today would amount to borrowing in the order of £250 billion next year. Preventing such a shock by backstopping households with a generous rescue package is therefore likely to be a far cheaper option for the Exchequer in the short run. Meanwhile, by saving thousands of businesses from

bankruptcy it would ensure that the medium-term recovery from the economic shock would be far swifter.

At the same time, however, a large-scale fiscal intervention will stoke aggregate demand across the economy at just the moment when the Bank of England is expected to raise interest rates sharply to cool demand in order to get inflation under control. The policy challenge, then, is to design a fiscal support package that meets the level of social need as cheaply as possible – both for the sustainability of the public finances and to minimise the monetary policy reaction.

The need to protect households and businesses this winter is clear and urgent. Ahead of going into this winter, millions of households and businesses are already seeing their debts with energy companies increase. As prices rise further in October many will simply be unable to pay. Without financial help, this will lead to deprivation and destitution on an enormous scale.

But by focusing exclusively on this winter, the current political debate fails to adequately confront the need for longer-term thinking. In Europe, planning is taking into consideration not just this winter, but the next five to ten winters. Now that Russia's gas supply has been fully weaponised, it is hard to see an end in sight to the supply shock. This means government support for households will also have to be in place for the long term, until the country can be weaned off its reliance on imported gas.

In both the short term and the long term our energy and economic security now depends on our ability to minimise our exposure to the volatile international gas prices. High prices are a market signal that we need to use less because there is not enough supply. We must not ignore that signal; it means reducing demand is essential. In the short term, the less we use, the less we pay for. In the longer term, we can also help lower the prices we pay as clean, secure UK sources of energy displace expensive imported energy. It is critical that households, businesses and governments are all incentivised to reduce demand where they can. It must form an essential national mission.

The new prime minister will be widely expected to deliver a new package of support almost immediately. There will certainly be temptation to announce another set of very short-term measures. But this myopic approach, characterised by ad hoc solutions for a few months at a time, disconnects the short-term problem (expensive fossil fuels) from the medium-term solution (radically reducing our use of gas).

By failing to recognise the long-term nature of the Treasury's exposure to high energy prices, the government has in the past wrongly viewed investments (like energy efficiency) as yet another cost, rather than a way of insulating the public finances from the need to subsidise household energy costs. The new chancellor must take a far more strategic approach and commit to a longer-term framework for support that aligns the Treasury's incentives to decarbonise our homes with those of households.

The Treasury will almost certainly wince at the prospect of making a long-term commitment to financial support for household energy bills that could last for years. But the reality is, unless prices fall fast, such a

framework would only make explicit what is already implicit: that voters will not be left to freeze in their homes. But by formalising a financial-support package, the Treasury would have an explicit incentive to reduce the cost of that support by driving down household bills and accelerating home decarbonisation.

A long-term approach to this crisis must achieve three priorities:

1. Supporting households through the crisis while ensuring they are both incentivised and helped to reduce their energy consumption where they can reasonably do so.
2. Supporting businesses through the worst of the price shock so that viable businesses can adapt and survive and minimise the economic contractions.
3. Tackling the long-term problem of high energy prices through a radical programme of action to reduce demand, increase supply and minimise windfall profits where possible.

Priority One: Supporting Households

Thus far, the government has taken the approach of using a mix of targeted and universal fixed payments, or rebates, to support households. Rishi Sunak's package of support in May offered all households £400 for this winter and variable levels of support for households on benefits, with a maximum of £1200 per household.

This approach recognised the principle that financial assistance should be as targeted as possible towards households that need it and not to those who don't. But it also highlighted a limitation with such targeting. While it is possible to target financial help at the 8 million families on benefits, there are millions more low-income households who can't be reached through the system, either because they don't claim or aren't entitled to benefits.

Moreover, the cost-of-living shock now reaches too far up the income distribution for action via the benefits system to be sufficient. Restricting support to households on benefits would mean many lower- to middle-income households would be cut off from support. As energy prices have continued to increase over the last few months the case for providing much wider support has become overwhelming. But absent any better targeting mechanism, that means settling for some form of universal support.

In response to this challenge, various iterations of prize freezes have been mooted by opposition parties and industry and are reportedly being considered by government. And recently calls for social-tariff approaches have emerged, notably from the Resolution Foundation, who have proposed a mixed approach that augments already planned cash rebates with social-tariff reductions.

How do the options currently on the table stack up when considered as plans to roll forward into 2023/2024?

Tax Cuts

There is a perfectly legitimate debate about the place of tax cuts in the general management of the economy. But the truth is they are a poorly targeted on those families in greatest need and wildly expensive as a way to deal with the household energy crisis.

Proposals have included a moratorium on green levies, cutting VAT by 5 per cent and reversing the national insurance contributions (NICs) rise in April, and ending the freeze on income-tax thresholds. Rolled forward into 2023 these proposals could cost a combined £73 billion a year. But they would do very little to help the households most exposed to the crisis, or the economy. Cuts to income tax or

NICs in particular would be very regressive, helping the poorest households the least and leaving millions of low- and middle-income households without the support they need.

A large fiscal stimulus from tax cuts, combined with the inevitable further package of support for households, would also likely prompt the Bank of England to further raise interest rates to keep inflation under control, meaning more pain for those with mortgages and no net gain for the economy.

Price Freeze

If a price freeze at the current price level, proposed by both industry and opposition parties, were extended into 2023 it would come at a cost of more than £110 billion against a projected £6,000 price cap.

This approach would stop energy prices increasing for all households, however much energy they use, and cover further uncertain changes in price levels. Both of these attributes are appealing given the considerable variation in household energy needs and high price volatility. The other implication of a freeze, however, is that it is untargeted, meaning larger and wealthier households would receive financial help they do not need.

But in the longer term the biggest problem with a price freeze is its impact on household incentives. We need the incentives provided by high prices to guide consumers to cut back on energy use where they can. If household demand is not reduced then the likelihood of high prices persisting will grow. To bring prices back down, we need to reduce demand across Europe. This is why the IMF has strongly advised against interventions that suppress the price signal.

While it is clearly the priority that householders can afford to stay warm, they should also be fully rewarded if they can cut demand. At a £6,000 price-cap level, this signal should be telling householders that a 10 per cent reduction in demand is worth £600. Under a price freeze, it would be worth only £200.

Paying for a price freeze would entail subsidising suppliers to pass on lower rates to consumers. government could do this directly. But proposals have been made to allow the industry to do so indirectly by setting up a “deficit fund” that would allow suppliers to borrow money from commercial banks, backed by government, to fund lower tariffs in the short run. It is unclear whether this type of proposal would result in higher government borrowing, or keep the commitment off the Treasury books. But either way it would add further cost to the price freeze by relying on commercial rather than government borrowing. In addition, the problem with this variant is that it would likely need to be paid back through higher energy bills in future in a highly regressive manner compared to government covering the costs through general taxation.

Tariff Reduction/Social Tariff

Another proposal put forward recently by the Resolution Foundation would be to offer a “social tariff” that reduces the price of energy by a certain percentage (30 per cent). This is different to a straight freeze which fixes the unit price people will pay. Instead, a universal social tariff would mean that Treasury’s exposure to further increases in the price cap is reduced, though obviously households’ exposure is much higher.

To help fund the cost of the 30 per cent bill cut, the Resolution Foundation also proposes a 1 per cent rise in all income- tax rates to help pay for support instead of or until a more targeted approach being implemented, while noting that increasing taxes would be politically difficult. This package was proposed in addition to existing support for households, which we assume would also need to continue into next year. We estimate the net fiscal cost of these measures would come to £64 billion if extended into 2023–2024 and if the estimated price cap remains at £6,000.

The logic behind this proposal is that reducing unit prices would help households that have unavoidably higher energy needs more than any flat-rate rebate. Meanwhile, for already energy-efficient households, reducing the unit price would prevent the government over-subsidising energy-efficient homes. The Resolution Foundation also argues that the price signal is now so large that taking 30 per cent off it will not materially change households’ incentives to save energy.

This is an innovative proposal which, as outlined, is less fiscally costly and would do less to dampen incentives than a blanket freeze.

However, reducing prices by a fixed percentage becomes problematic if there are future shifts in the price cap. These would require further adjustments to the generosity of the scheme in order to either save public money (if the price cap fell) or increase the support offered (if the price cap heads towards £6,000 or more). Since the proposal was estimated, the expected level of the typical bill next year has already risen £2,000 a year, meaning the scheme no longer looks generous enough to poorer or middle-income households. Indeed, if a 30 per cent bill reduction proves not to be enough and needs to be increased, then the resulting intervention starts to look more and more like a price freeze.

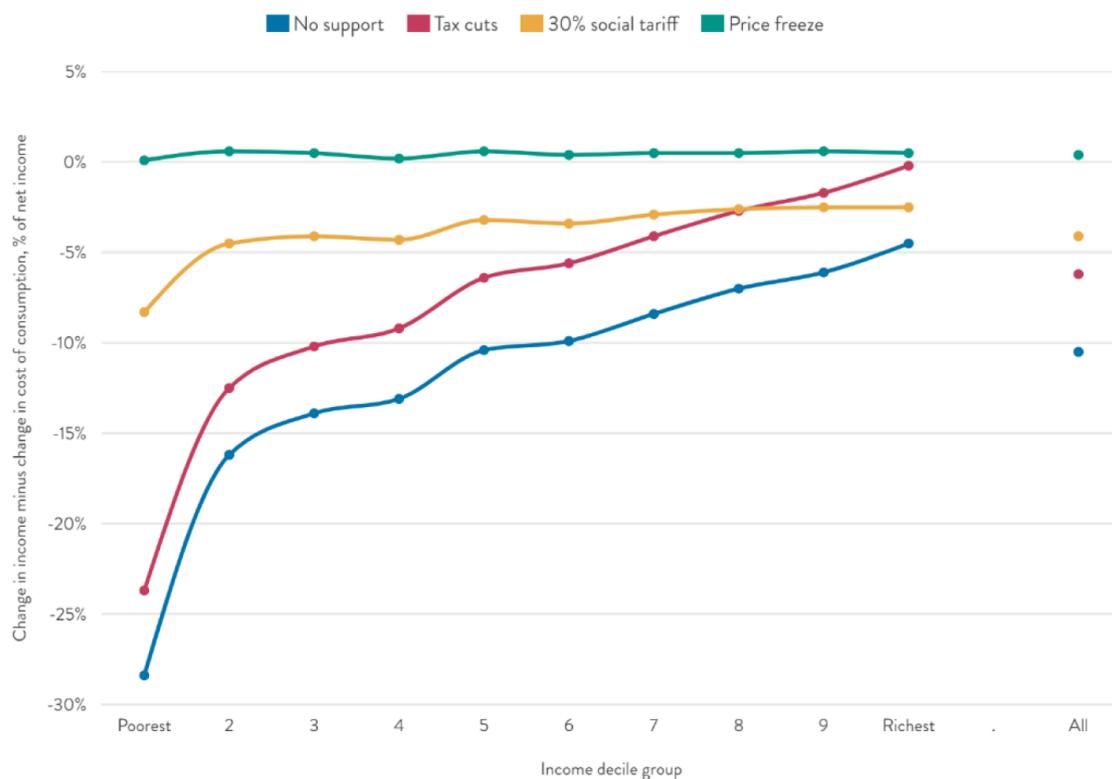
How the Options Stack Up

Figure 1 shows the distributional impacts of these proposals by income decile. The dark blue line shows the catastrophic impact of the expected 2023/2024 price cap as a proportion of household income. The energy crisis is a huge hit to almost all households, and even those in the relatively better-off seventh income decile are set to feel a squeeze equivalent to 10 per cent of their income. For lower-income

households the size of the shock is enormous. Even after an April uplift to universal credit and other benefits, households in the bottom decile will be 33 per cent worse off.

This analysis clearly demonstrates that tax cuts would be completely ineffective at supporting poorer or middle-income households. Meanwhile a 30 per cent bill cut, while much more progressive, is unable to adjust to the latest increases in price-cap projections and now looks insufficient to support poorer households. A price freeze, on the other hand, protects all households equally from recent price increases, but that means the potential costs are very high.

Figure 1 – Comparing the distributional impact of other proposals



Source: TBI calculations using UKMOD version 3.5 run on data from the 2019-20 Family Resources Survey. UKMOD is maintained, developed and managed by the Centre for Microsimulation and Policy Analysis at the Institute for Social and Economic Research (ISER), University of Essex. The results and their interpretation are the sole responsibility of TBI.

There is no perfect solution to this challenge. Any support mechanism will have trade-offs and drawbacks. But we must take a long-term view that prioritises reducing our reliance on volatile fossil fuels and incentivises both government and households to cut back demand wherever they can. Our proposal seeks to balance these objectives and link the required short-term and long-term actions through a framework of support that results in clear incentives to tackle the structural cause of this crisis – our dependence on volatile international energy markets – so that it cannot happen again.

Our Proposal for Household Support

In light of the shortcomings of the various options proposed to date we suggest a different approach grounded in four principles. The household-support package should:

1. **Last as long as the crisis**, but with support tapering away as price and demand come down.
2. **Provide the necessary financial assistance as efficiently as possible.** The cost to the state of providing financial help to everyone who needs it will be expensive, especially if prices stay high. We need to ensure we make savings where we can, without leaving people vulnerable.
3. **Maintain incentives for households.** Support must preserve the price signal, ensuring households can afford their bills while still being incentivised to save as much energy as they reasonably can.
4. **Strengthen incentives for government.** Short-term support packages obscure the long-term reality of the state's exposure to high household energy prices. Support should be accompanied by an immediate, funded and enduring plan to urgently accelerate home decarbonisation and reduce demand.

We propose establishing a threshold for typical household bills above which government support begins. This might reasonably be set at the current price-cap level for a typical household of around £2,000. Government support would then calculate a flat-rate rebate for costs between the threshold and the prevailing price cap, which is currently expected to be around £6,000 by April next year. The rebate, in this case, would be £4,000 for next year.

Not every household would receive the full rebate. Households on benefits would receive 100 per cent, but for those outside of the benefit system, we propose that it be reduced to 75 per cent of the full amount. This fixed cash rebate would preserve households' incentives to reduce demand and save money.

The rebate would be paid as a fixed refund on the monthly bill (or equivalent for households on prepayment meters), thus ensuring households could afford to pay their bills while preserving the incentive to reduce demand where they can sensibly do so.

The level would be reassessed on a quarterly basis to keep up with price movements and weighted across the year to reflect the seasonality of demand, crucially ensuring that support arrives with households when it is needed.

Critically, household financial support would need to be accompanied by a national campaign to reduce consumption where households can sensibly do so, and a huge investment in improving the energy efficiency of homes.

Such an approach would be progressive overall, while supporting all households and costing less than an overall price freeze.

Explaining the “Price Cap for the Typical Household”

Using the “price cap for a typical household” to calculate the size of the rebate means that, unlike a price freeze, the amount of financial support would not vary from household to household on the basis of how much energy they use. Well-off households using more energy than average would not receive more financial support than any other, unlike with proposals that entail freezes to, or reductions in, unit costs.

The price cap for a typical household is the figure Ofgem publishes and is commonly referred to as the “price cap”. It is an illustration of what the price cap imposed on unit energy costs implies for a normal household in terms of an annual dual-fuel bill. Typical consumption values are calculated by Ofgem, and they are not calculated to be the mean or median consumption. It will be important to update these typical consumption values regularly so that as the amount of energy used by households falls over time - in response to successful demand reduction - so does the price cap.

How Well Targeted Would Flat-Rate Payments Be?

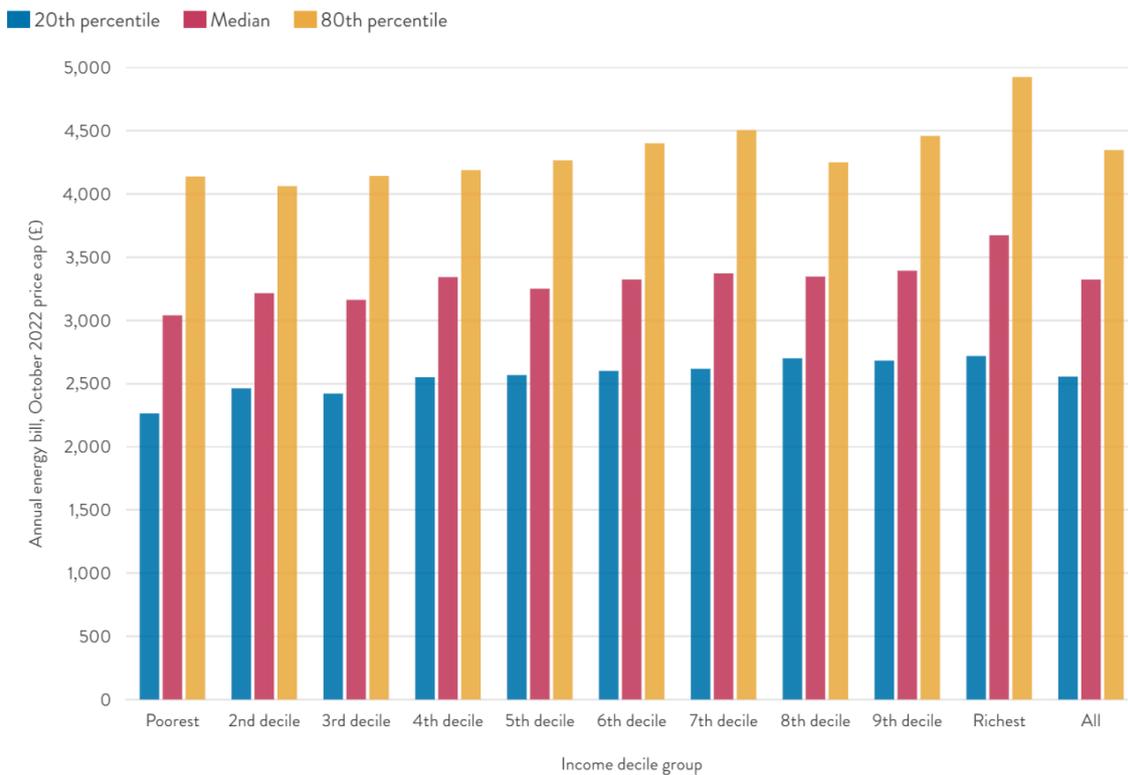
This form of flat-rate compensation has the advantage of preserving households’ incentives to cut consumption, since the cost of additional energy usage remains at the high market price. They also have the advantage of not providing large amounts of subsidy to better-off households that use a lot of energy – those which can best afford the bills and which need to do the most to reduce demand.

However, this approach risks an element of rough justice. It would somewhat over-compensate smaller, better-insulated households relative to larger, less efficient ones. And it offers no more generosity to a family of five than a single-person household, despite clear variation in energy needs.

How much of a problem is this and what, if anything, can be done about it?

At first glance, it appears that energy usage is relatively uniform across much of the income distribution. Within income deciles, however, there is a substantial degree of variation in energy bills. The chart below shows the projected bills for households at the 20th, median and 80th percentiles of energy expenditure by income decile. Even among the poorest households, we can see that those consuming the most energy spend over twice as much as households on similar incomes consuming the least. As a result, the simple rebate scheme outlined above would mean that some households would actually see their bills fall in April next year while others with comparable incomes would still face very large increases.

Figure 2 – There is more variation in energy bills within income deciles than between them



Source: TBI calculations using 2019 English Housing Survey data

Does this mean that cash rebates are too unfair to be viable? If we can identify the drivers of variation in energy consumption it may be possible to refine the targeting of support to reduce the rough-justice problem without having to give up on lump-sum payments that best preserve incentives for reducing consumption.

A study conducted for the Department for Business, Energy and Industrial Strategy (BEIS) in 2021 used real-world sample data alongside meter readings and household surveys to try and determine what factors drive household energy use above average. There were four clear drivers of gas demand:

- **Floor area:** a proxy for the size of the house. For example, households with floor area above 140m² use over three times more gas than those in 50m² properties.
- **Standard Assessment Procedure (SAP) rating:** a measure of how energy efficient the house is. For example, houses rated EPC E and below use 1.6 times more gas than houses rated EPC C or above.
- **Daily heating hours:** which is also a proxy for how often occupants are home. For example, each extra hour of heating per day above the average increases gas use by around 3 per cent.
- **Household size:** the number of people living in the home. For example, homes with five occupants use around 1.6 times more gas than those with one.

Of these, floor area and SAP rating by far the largest factors in gas-use variation. Factors driving electricity use are far more diverse but generally boil down to two main drivers: the number of appliances and the number of people in the household.

Using the 2019 English Housing Survey Fuel Poverty data set, we can see how much of the variance in household bills is due to these variables. A simple regression including the EPC band, floor area and number of people in the household suggests that these variables alone explain some 75 per cent of variation in total energy expenditure.

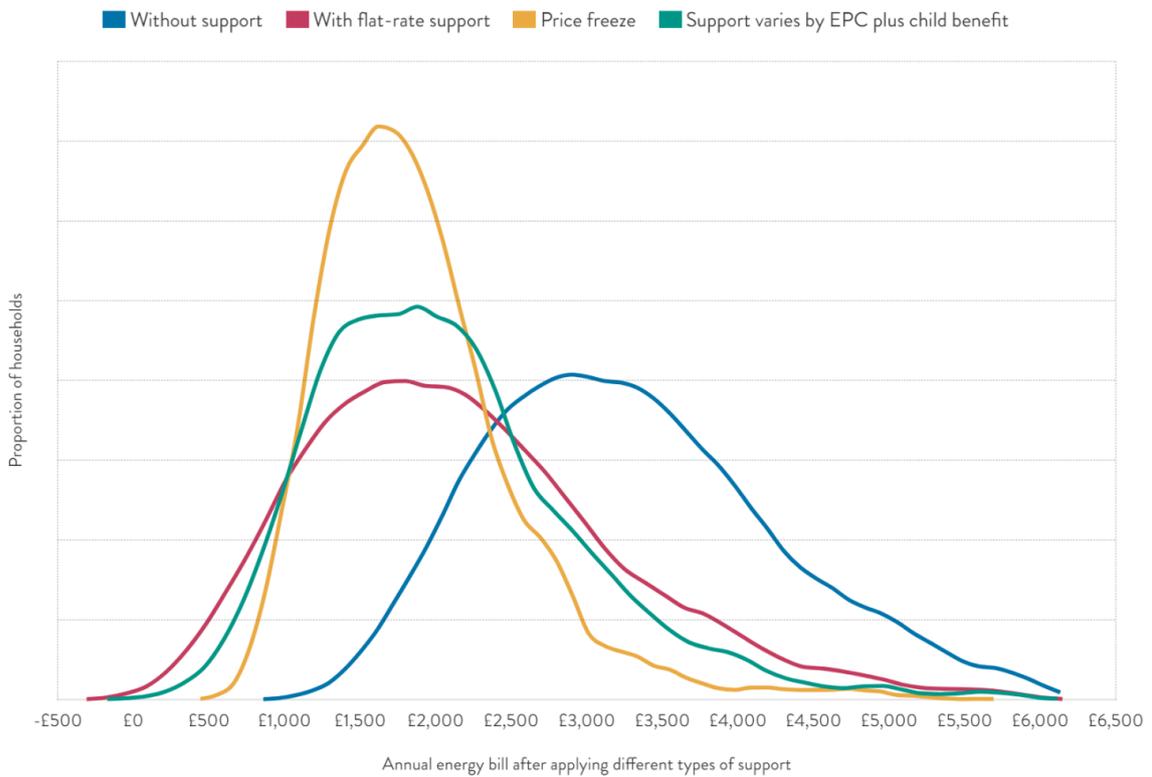
The optimal design for a rebate scheme would therefore be to vary the amount according to different houses' size and EPC efficiency ratings, as well as the number of occupants. This is unlikely to be feasible in practice, however. Some degree of targeting would be possible, though. For those houses that have an EPC certificate it would be relatively simple for suppliers to provide variable support through bills based on publicly available EPC data for their customers. This would involve reducing the rebated amount for houses in bands A, B and C, and increasing it for those in bands E, F and G. As a lump sum rebate this would not dampen incentives for owners of less energy efficient households to improve their properties. Houses without an EPC could have one issued or just receive the standard rebate. Similarly, larger households could be targeted through the child-benefit system.

Our analysis shows that varying the level of support according to the energy-efficiency characteristics of the property and number of children in this manner, it is possible to reduce the variance in bills for households with below-average incomes (Figure 3). With the October price cap levels, 4.1 million households with below median income would face an energy bill of more than £4,000 with a uniform rebate of £1,162 (75 per cent of the amount by which the £3,549 price cap exceeds £2,000). But by targeting support in this way, it is possible to reduce this figure to 2.3 million.

Although the variance in bills after these adjustments would remain higher than under a simple price freeze, much of the unfairness is removed. And at least some of the remaining variation will be down to personal choices around energy consumption and therefore not a source of variation that demands compensation.

Therefore, if payments could be targeted at households on this basis, then the rough justice of flat-rate rebates could be substantially reduced for lower-income households. It would also provide the same amount of support to lower-income households at a much lower fiscal cost than providing support through lower energy bills.

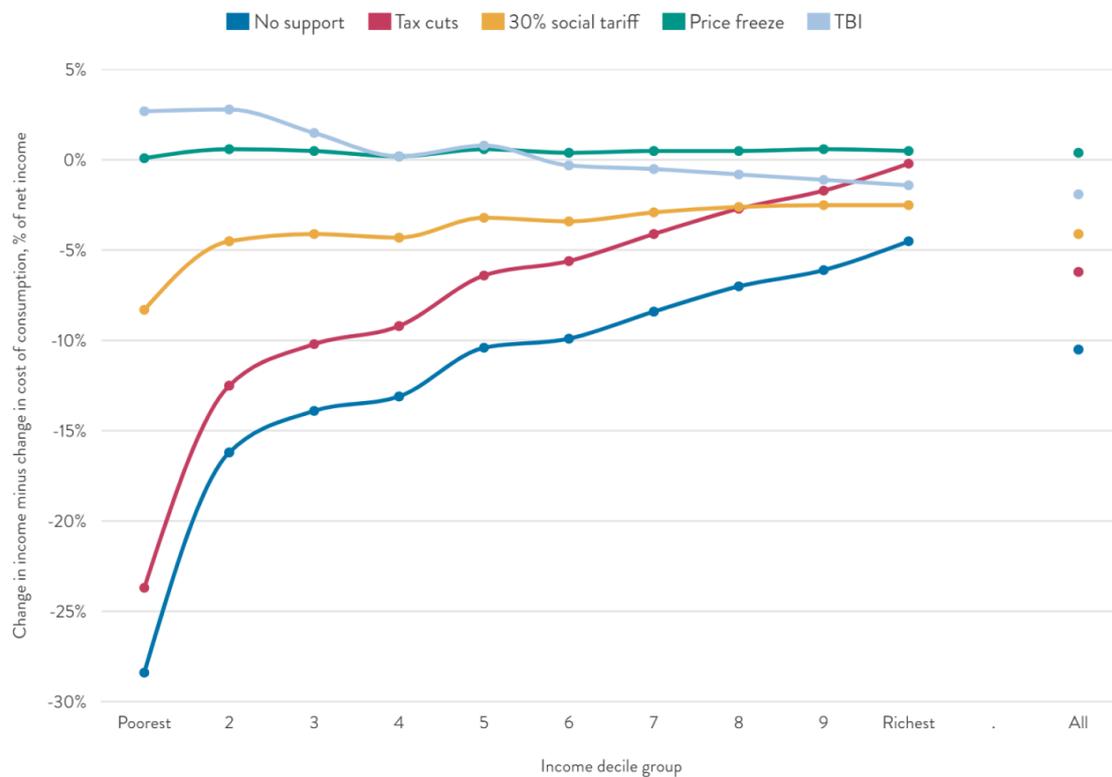
Figure 3 – Targeting support on larger households and less-efficient properties reduces “rough justice”



Source: TBI analysis using 2019 English Housing Survey data (Note: October price-cap level)

Figure 4 compares this targeted rebate package to other proposals, against an assumed £6,000 price cap for 2023. Under this package, the simple rebates outlined above are adjusted, with houses rated EPC bands A to C receiving £900 less than those in band D, while those banded E to G receive more. Households also receive an additional £500 per child via the child-benefit system.

Figure 4 – Our proposals compensate poorer households for higher energy bills at a lower fiscal cost



Source: TBI calculations using UKMOD version 3.5 run on data from the 2019–20 Family Resources Survey. UKMOD is maintained, developed and managed by the Centre for Microsimulation and Policy Analysis at the Institute for Social and Economic Research (ISER), University of Essex. The results and their interpretation are the sole responsibility of TBI

While this approach could significantly reduce the number of households receiving less support than they need, there will always be individual circumstances that cannot be accounted for. As with other proposals, some form of continued hardship fund would likely be needed to help particularly vulnerable households – such as those living with disabilities. This should ideally be delivered through local authorities working with charities to proactively identify those in need.

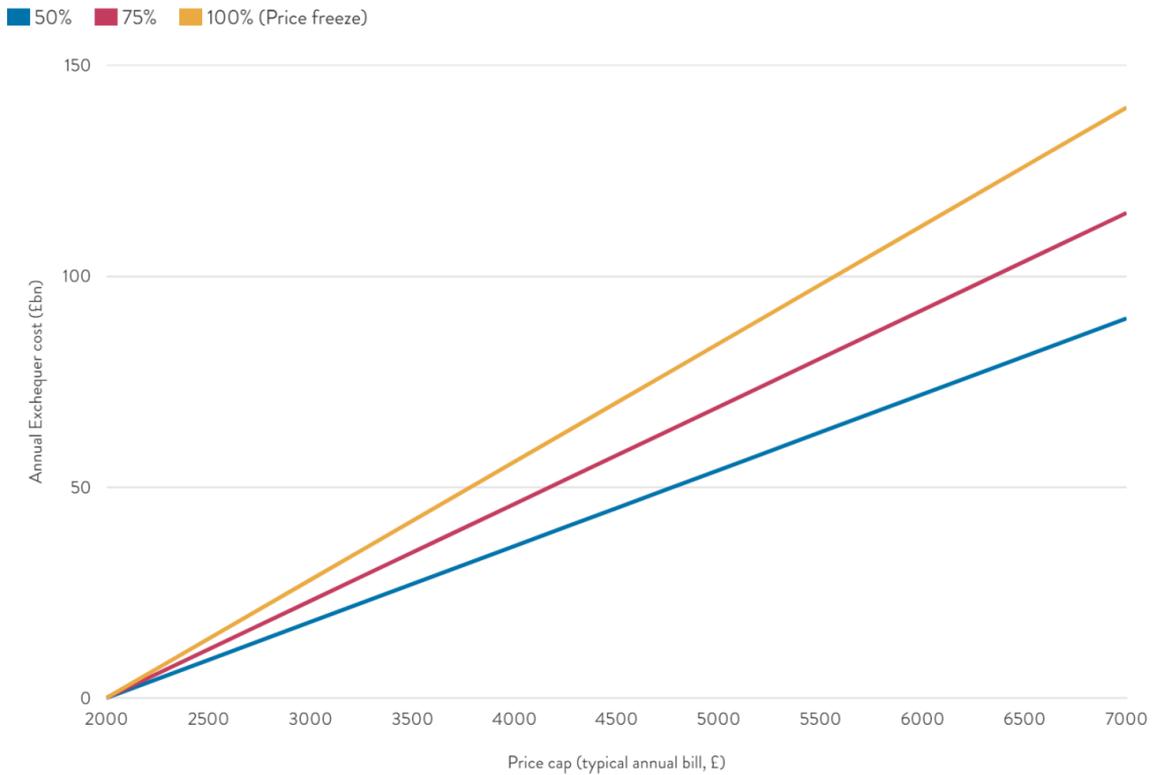
How Much Would it Cost?

Setting a long-term financial-support framework is vital to delivering a solution to the problem of exposure to high wholesale gas prices. But the precise amount of financial support can be debated and involves trade-offs. The table below sets out how adjusting these factors could impact the cost of support under the above framework at different price levels.

Our illustrative proposal above would cost £92 billion a year at the £6,000 price-cap level currently predicted for 2023. Reducing the support threshold or increasing the universal offer to further protect households would increase those costs – doing both would cost £126 billion next year. In the other

direction, reducing the universal support to 50 per cent would reduce Exchequer costs to £73 billion, but leave more households more exposed. Figure 5 shows how annual Exchequer costs vary at different price-cap levels according to the generosity of the universal element.

Figure 5 – Annual Exchequer costs at different price levels and support levels



Source: TBI calculations. Lines refer to different potential levels of rebate for household not on benefits.

Clearly support levels also vary wildly according to prices, with each £1,000 change in the price cap leading to a £23 billion change in HMT costs on our illustrative proposal.

Worrying though these costs are, absent any other way to better target financial support, the Exchequer will be exposed to these levels of support unless and until household energy consumption can be reduced or decoupled from imported gas. This financial-support framework combines appropriate levels of generosity with strong incentives on both households and government to take the action needed to solve the problem.

Priority Two: Supporting Businesses

Households are not alone in suffering from high energy bills. Any package of measures for this winter will also need to address the rising energy costs of businesses too.

Many businesses are also worrying about their viability going into winter, as energy bills are set to increase expenses at the same time as a contraction in discretionary spending cuts revenues. In that context, financial support to households will also benefit businesses by propping up discretionary spending and leaving more room for businesses to pass on energy costs through prices. Any support package for businesses needs to start by making sure they still have customers.

But while this may be enough for larger businesses to weather the storm, it is unlikely to prove sufficient for small and medium enterprises (SMEs) or energy-intensive industries. These companies may find increasing costs impossible to absorb. Support for these businesses is needed to avoid both a deep recession and job losses that could ultimately put an even greater demand on the state support for households.

Providing financial support for businesses is a different challenge to that for households. Businesses energy use is extremely variable meaning that, unlike for households, flat-rate rebates would not be an option. And freezing unit prices would be a huge disincentive to reduce consumption through efficiency, contributing to prices remaining higher for longer.

For this winter, using existing avenues for support is the only realistic approach. For SMEs, that likely means pandemic-style loans or business-tax deferrals may be able to do a lot of the heavy lifting, potentially alongside some grants or tax relief available for specific sectors. For energy-intensive industries, like steel, paper, glass and ceramics, the government is already consulting on extending its existing relief scheme – but it may need to look at options that go beyond protecting firms from environmental and policy costs.

But it is absolutely clear that many businesses need urgent help and that puts extra pressure on reducing the overall expenditure on household support.

While there are trade-offs between these objectives, there are also synergies. Ensuring households are incentivised to reduce demand can help decrease the costs of support over time. Targeting support effectively can reduce the cost exposure. But there are no perfect answers, and all proposals have their drawbacks.

The proposals currently being put forward take different approaches to these trade-offs. While some of these proposals have been put forward as solutions for this winter, it is clear that support will need to

continue into next year. As this report is interested in the longer-term framework required for effective support, here we examine their impact if they were continued into 2023.

Priority Three: Reducing the Costs

The scale of these costs, and the fact they will be needed for as long as prices stay high, demonstrates the extent of the exposure for the public finances. The financial-support framework for households outlined above would meet the scale of social need while maximising incentives on households and governments to drive hard towards the only real long-term solution: to get our energy system off its reliance on gas. But what scope is there to accelerate that journey? And how much would rapid progress achieve in reducing the burden on the state?

The answer to these questions partly depends upon how energy prices evolve. As recent weeks have demonstrated, it is impossible to predict the likely path of prices over the coming months, let alone years. Much will depend on the pan-European ability to reduce demand effectively. Weather will have a huge impact in any given year as cold winters could deplete storage. The broader economic impact of higher prices will be to dent aggregate demand, which will weaken demand for energy. And the ability to increase capacity of low-carbon generation will be key to reducing the amount of gas required for power. These factors are all highly uncertain but could create huge swings in prices in the months ahead. What is clear is there is significant risk of continuing high energy prices for the foreseeable future.

Against that background, concerted government action in three areas could rapidly reduce energy costs and fiscal exposure.

1. Reducing Demand and Insulating Homes

Across Europe, governments are doing everything they can to reduce demand for gas. Germany is investing €14 billion per year in energy efficiency. Italy is spending around €12 billion a year on heat pumps and retrofitting buildings. France improved over 300,000 homes in the first six months of this year. This is in addition to huge information campaigns at country and EU levels and enormous expansions in renewable-energy programmes.

These interventions recognise that demand reduction is by far the largest tool available to bring down bills in the short term. But the UK government has so far failed to follow suit. It claims to be investing around £5 billion in improving the energy efficiency of buildings across this parliament, but that includes large sums on public-sector buildings. Investment in retrofitting homes is actually around £1 billion a year.

These are large savings against high prices. Recent research by NESTA ² suggests that a 20 per cent reduction in household gas use could be achieved by next winter. Against a £6,000 price cap, that would

see an average saving of around £700 a year. Electricity usage is harder to assess: a reduction of 10 per cent should be possible through simply using appliances less often. Together that would save a typical householder over £900 a year. Over the longer term, insulating houses has the potential to bring down gas bills further – probably around another 10 per cent on average.

But such significant reductions in energy use will not happen organically as a result of the price signal alone. It needs to involve a three-part plan from government:

- An immediate **energy-saving campaign**, to be launched alongside the financial support. It should make a national mission out of saving energy, making clear that every unit wasted is helping to push up prices while setting clear reduction targets. During Covid-19, the government focused communication around getting the R number (the rate of infections) under 1. This became a national effort with daily statistics. The same could be done for electricity-demand reduction.
- **Practical advice** to all householders on how to reduce demand effectively through small measures, such as lower boiler-flow temperatures, better use of thermostats and controls, information on the cost of using certain appliances and accessories, and practical DIY steps such as draught-proofing.
- A **fully funded national retrofit scheme** delivered at speed in conjunction with local authorities. It should target the worst-performing homes and most vulnerable households first. We recently published a paper setting out what such a scheme might look like ³.

A 20 per cent reduction in heating demand and a 10 per cent reduction in electricity demand could be achieved by next year with concerted government action. This could save UK households £27 billion in aggregate against a price cap of £6,000, with savings increasing as more houses are retrofitted.

2. Reducing Windfall Profits

So far, action to reduce windfall profits has focused overwhelmingly on oil and gas producers. This is understandable, but it overlooks the fact that (using 2021 generation as a guide) around 40 per cent of our power comes from generators that are able to sell at the prevailing high prices, even though their own costs have not risen. Broadly speaking, these are older renewables, nuclear and biomass plants. Newer renewables, by contrast, have tended to be deployed under the “contracts for difference” regime, which means that these generators are already lowering household bills.

The result is that households are currently paying enormous windfall profits to many non-gas generators. While lack of publicly available information means the exact scale of these profits is unclear, they have been estimated to be as high as £34 billion. ⁴

Some have called for quick fixes to this problem – either through scrapping subsidy payments, extending windfall taxes or trying to make generators accept fairer fixed-term prices through contracts for

difference. However, such approaches are not without their challenges. Removing levies would be challenged in the courts, damage trust in government and only recoup around £3 billion. Windfall taxes may prove extremely difficult to implement in a market of complex ownership structures while heterogeneous financial arrangements mean it is difficult to know where the profits are really being made. And asking generators to swap high wholesale profits for long-term fixed-price contracts is more likely to spread out windfall profits over time rather than reduce them.

These challenges mean we could see government drawn to ideas for reform of the electricity market that “bifurcate” or “split” it in two. This would remove low-carbon, low-marginal cost generation from the current gas-driven wholesale market and ensure it is paid an appropriate price instead, with customers seeing lower bills as a direct result. In this reform, different prices would be paid to gas and non-gas generators. Reforming the way the entire market operates would ordinarily be a complex long-term challenge, requiring extensive negotiation with stakeholders, and legislation and regulation to be developed. This is a process that BEIS has already begun, but if prices stay high and quick fixes do not work, then government may increasingly be drawn to more radical and urgent market-splitting options.

The government must ensure that whatever they choose does not fundamentally damage the confidence of investors in UK energy generation. Nevertheless, it would be unwise for generators to assume that public pressure will not force government to take punitive action. In the medium term, it may be in both government and generators’ interests to work together on a compromise solution through which they can reduce energy costs for households and businesses.

If government action was able to reduce windfall profits by 75 per cent for non-gas generation, this could raise £14 billion against a £6,000 price cap. This figure could change significantly both up and down over time as existing power-purchase agreements are renegotiated and as nuclear plants retire.

3. Increasing Domestic-Energy Supply

The third element of accelerated policy action to restore affordable, stable prices involves developing new sources of energy supply. First, we need to be realistic about the role of gas in the transition: this crisis has shone a light on our continued dependence on it. Efforts to increase domestic production are already underway, including a re-examination of the evidence on fracking.

Success in raising domestic production, if it could be achieved, would not significantly affect the price of gas in the UK since any increase in supply would be small in the context of European energy consumption. But more domestic supply could act as a source of tax revenue to help fund transfers to households. There is little more the UK can do besides engaging in international co-operation to reduce demand, and secure and share supply.

Accelerating the transition to low-carbon power is an altogether more promising long-term solution.

New renewable energy generation currently gets built under fixed-price contracts called “Contracts for Difference”, the latest round of which saw 7GW of new offshore wind committed at a price of £49/MWh,⁵ a price well below the recent wholesale prices that are driving our bills. Even once we add a conservative estimate of the additional “system costs” of £25/MWh to account for the nature of intermittency of renewables, the total cost of energy from these technologies looks to be around £75/MWh. That is a tiny fraction of current wholesale prices that have ranged from £200/MWh to £600/MWh over the past few months.

With the tumbling costs of wind and solar, it is increasingly possible to plot a course away from using gas for electricity. Even if gas is still required as back-up for times of low wind (a role that gas generators are actually reasonably well suited to), we can radically reduce our dependence on it over the course of a decade through a concerted deployment of low-carbon generation.

Of course, the government is already making significant progress in the rollout of offshore wind and other renewables, with an ambitious target of 50GW of offshore wind by 2030. Such ambition will undoubtedly help reduce exposure to high prices over the course of the decade, but it will almost certainly fall short of capturing the full potential of renewable energy to achieve UK energy security, especially given some of the statements made about solar and onshore wind by the Conservative Party leadership candidates. Such rhetoric highlights the need for more serious long-term thinking about the role of determined delivery of renewables in getting the UK off gas.

But whatever targets the government may set, delivering on them is altogether harder. There are some major challenges government will need to grapple with fast to ensure they are realised:

- Calls to loosen the **planning rules** on solar and onshore wind have so far been resisted by government. Projects should be allowed to go ahead provided they can achieve a substantial majority of local support. But current barriers are extremely pernicious and designed to seriously limit – rather than accelerate – deployment.
- Although government has been more ambitious on offshore wind, major reforms will be required to the way that planning and **consenting** is handled for projects to proceed at a faster pace. Industry suggests that by doing this, the typical four years spent on planning and consent could be cut to one year, dramatically accelerating deployment.
- Increasingly, wind farms are also forced to wait for **transmission infrastructure** – the wires that transport electricity to where it is needed – due to bottlenecks in the system. Turbo-charging the £50 billion plan from the Transmission System Operator to build out the essential new capacity in transmission networks will be essential to ensuring new generation can be delivered quickly and that the power it generates can be fully utilised.
- New generation capacity will need to be accompanied by new **storage and flexibility capacity**. Urgent development of long-duration storage technology, such as green hydrogen, will be needed alongside developing markets in flexibility, on both the supply and demand side.

- Optimising these new technologies at scale and keeping bills as low as possible will also require **market reform**. Ensuring the system benefits of storage and flexibility are captured and rewarded is essential to keeping long-run prices down. While reforming markets and support mechanisms is a complex activity and should be done in a managed way that does not lead to an investment hiatus, it is still essential to bringing down bills in the long run.
- Other reliable options are worth pursuing too. Greater **interconnection** of the UK with Europe minimises the risk of long periods of low renewable generation. And exciting initiatives like XLinks⁶ are gaining ground – a project designed to supply the UK directly with reliable, renewable “baseload” power from Morocco by undersea cable. That single project could supply 8 per cent of UK electricity by 2030 for an expected price of around £50/MWh.

Changes in planning laws should also extend to the possibility of a new generation of nuclear power. There is no doubt that in the future, to meet our climate goals, we will need nuclear energy. And the technology has developed rapidly in the past few years. Smaller-scale nuclear plants are a realistic option. The challenge is that they're unlikely to come onstream until into the 2030s. But given the huge expansion of electricity demand coming from electrified heating and transport, government must match its aspirations to build a new fleet with action.

New generation capacity is unlikely to make a significant difference to the amount the UK spends on energy next year. But even the existing pipeline of low carbon electricity due to come online by 2028 should be able to reduce household energy costs by £10 billion a year against a £6,000 price level. And by 2030, if government was to accelerate deployment in line with its own suggestions⁷ of what is plausible, this increases to £25 billion.

These savings would apply to businesses too, meaning a total UK saving of £31 billion by 2028 and £75 billion by 2030 against £6,000 price-cap levels.

Taken Together, This Offers Huge Potential to Reduce Exposure to High Prices in Future

Demand reduction, market reform and increased deployment of low-carbon supply are powerful tools to reduce the Treasury's long-term exposure to energy-bill support costs. In practice, sophisticated systems modelling under various future-price scenarios will be required to underpin decisions around these transitions. But even the illustrative analysis shown here demonstrates that, accelerating the transition to net zero and taking action to reform the energy market could hugely reduce both household bills and the state's exposure to continued high prices.

This should turn Treasury thinking on its head. Rather than seeing home decarbonisation as a cost that is competing with spending on cash transfers to hard-pressed households, it must urgently recognise it as the only guaranteed way out of having to provide such support for years to come. This fiscal exposure

should be central to the way Treasury conducts its cost-benefit analysis and makes its decisions. There is little for government to lose if energy prices come down, as faster progress will generate large carbon savings. But the savings are potentially enormous gains, if prices remain high.

The immediate energy crisis this winter demands a long-term solution. By establishing a long-term framework for financial support to households, the government can not only help weather the storm, but it can focus, clear-eyed, on fixing the energy crisis permanently and making sure we never find ourselves in this position again.

Avoiding Distractions

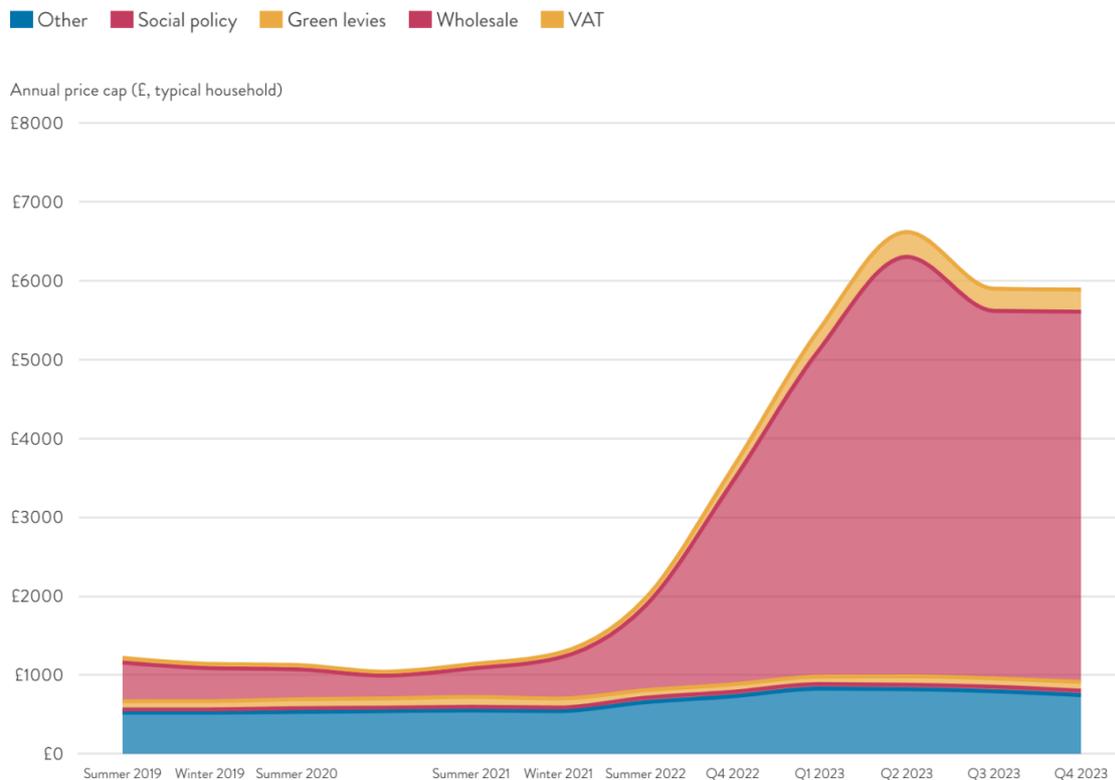
In responding to this crisis, it is important government is not distracted by actions with either limited impact or the potential to make things worse. Calls to nationalise energy suppliers, cut green levies from bills, or cancel VAT have all been mooted as potential solutions. But none of them address the core problem at the heart of the energy crisis, which is rising wholesale prices.

Where Wholesale Prices Go, the Price Cap Follows

In the UK, energy retailers (the companies that sell householders electricity and gas) operate by purchasing energy from generators via wholesale markets and selling it on to households. In that sense, they are barely more than middlemen. If the price energy retailers pay for wholesale energy increases, the price they need to charge households goes up too.

As the graph below shows, the astronomical rise in the typical household bill is caused almost exclusively by wholesale prices. Despite some of the debate in recent weeks, green levies and VAT are tiny components of household bills by comparison.

Figure 6 – Cost drivers for the energy price cap



Source: TBI

The current price cap is something of a historical anomaly. The mechanism was originally designed to protect “sticky” customers (those who do not interact with or switch their supplier) from being overcharged by retailers. It did this by capping the profit energy retailers could make per unit of energy sold. What the cap doesn’t do, and can’t do, is cap the cost of energy itself. So, if the wholesale cost of energy goes up, the price cap will inevitably follow.

But the way the cap is designed, with Ofgem setting it manually rather than having it track wholesale prices, creates a time-lag between rises in market prices and a supplier’s ability to pass those cost increases on to consumers. So, in a scenario like the one we are currently experiencing, with prices increasing much more quickly than the price cap can reflect, retailers are forced to charge as much as the cap will allow and then absorb any additional costs. The result is the price cap now effectively acting as a price floor, and those retailers unable to absorb the additional costs going bust – as we saw en masse last winter. In short, retailers are not profiting from this crisis.

It is also important to note that although the price cap is often expressed as a fixed amount for the “typical household”, it does not actually place a limit on household energy expenditure. The limit is on the price per unit of energy. So, when we say “the price cap is rising to £3,550 in October” what we really mean is that the price of electricity is rising to 52p/kWh and gas to 14.7p/kWh. This is important

because it means the households that use more energy than a “typical” household will face even higher bills than the headline price caps.

Profits Going Overseas Are Beyond Government’s Reach

It is important to ask where all this money is going – because higher prices do mean higher profits. Before the crisis UK households were paying around £30 billion in energy bills. If the cap moves to £6,000 as forecast, they would be paying around £170 billion. The cost of producing energy hasn’t changed much, so that means £145 billion in profit. So who is profiting?

The windfall profits are actually being made by producers of energy, which are largely beyond government’s reach. More than half the gas we use is imported, meaning the profits are going to other countries. The gas we produce ourselves is already subject to a windfall tax on profits, which means the government is now getting 65 per cent of those profits, with companies keeping the rest. While there may be some scope to increase or extend this, it will be limited.

So if energy retailers aren’t profiting, and gas production is already being heavily taxed, what about electricity producers? Many renewable and nuclear generators are profiting from high prices required by gas power stations. There are many ways government could look to recoup some of these profits. But given the critical importance of investment in new generation capacity to get us out of this crisis, government should be extremely careful it does not deter investment.

Consequently, while there is scope to go further cautiously, the majority of windfall profits being earned are either out of reach of the UK government or already being taxed.

Nationalisation Is Not the Answer and Would Make Things Worse

High prices have led some to call for “nationalisation”. But nationalisation of what? A recent report from the Trades Union Congress argued in favour of nationalising the big energy retailers – but also clearly acknowledged that doing so would do little to ease the current crisis.

While the energy retail market is clearly no longer working in the way it was originally intended to, the challenge is to reform it rather than own it. Given retailers are simply the middlemen and are making tiny profits and in some cases losses, nationalising them would do nothing to bring down prices.

Some point to France, where EDF has been nationalised and price rises have been capped at 4 per cent. But EDF was already 80 per cent owned by the French government, and taxpayers are still footing the bill for the price freeze. Public ownership of energy retailers simply transfers the problem of buying

expensive energy from wholesale markets away from companies and on to government – it would do nothing to reduce the price.

The part of the energy system that is generating the high prices is production. But nationalising producers is not plausible because the market value of assets make it completely unaffordable. It would be ineffective given that over half our gas comes from overseas. And perhaps most importantly, it would be disastrous for our prospects of solving the crisis in the longer term given the scale of private investment required to build new capacity to bring down prices and decarbonise.

Nationalisation offers no solutions to a crisis driven by international prices and geopolitics. The only thing the state can do to reduce household bills in the short run is to help pay for it. The only thing that will work in the long run is to drive investment in reducing demand and increasing supply. Nationalisation wouldn't help the former but would fundamentally hinder the latter.

Conclusion

The terrifying rise in energy costs of recent months means that large-scale financial support for businesses and households is now urgent and inevitable in order to prevent unacceptable social consequences and a profound economic shock.

But the design of that programme is critical to its long-term viability. We cannot afford more short-term fixes that muffle the clear signal being sent by wholesale energy prices for us to act in the hope that something will turn up to bring prices down. Short-term fixes will only prove more expensive in the long run. The only way to be certain the fiscal costs will fall, without lasting damage to our economy and standard of living, is to rapidly accelerate our transition away from imported gas. That long-term reality must guide the government's response.

Footnotes

1. ^ <https://www.nao.org.uk/overviews/covid-19-cost-tracker/>
 2. ^ <https://www.nesta.org.uk/press-release/covid-style-government-response-needed-to-prevent-gas-shortages-and-help-households-in-cost-of-living-crisis/>
 3. ^ <https://institute.global/policy/three-birds-one-stone-how-greener-homes-can-solve-energy-trilemma>
 4. ^ Bloomberg UK - <https://www.bloomberg.com/news/articles/2022-08-30/uk-predicts-up-to-170-billion-excess-profits-for-energy-firms#xj4y7vzkg>
 5. ^ CfD results are baselined in 2012 prices. Successful offshore wind capacity from the latest allocation round came in at £37.35 in 2012 prices. We have converted to 2022 prices.
 6. ^ <https://xlinks.co/morocco-uk-power-project/>
 7. ^ Based on achieving potential deployment set out by Secretary of State for BEIS ahead of the British Energy Security Strategy of 50GW offshore wind, 30GW of onshore wind and 50GW of solar by 2030.
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