PwC briefing on government energy proposals

14 September 2022

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PwC Briefing on government energy announcement on 08 September

Given the scale of the cost challenges faced by consumers and the business community, the Energy Plans announced by the Prime Minister on 8 September 2022 are a welcome short- term relief for consumers and business alike. Clearly, there is a need for immediate action ahead of this winter on price and demand measures, but PwC's view is that medium-term reforms of the electricity market are equally important to deliver a robust solution for energy security and affordability by reducing our long-term reliance on fossil fuels through the net zero transition.

As set out in our UK Economic Outlook, PwC expects the effect of high energy prices to have a detrimental impact on the UK economy for the next few years. A plan to support the economy, both to transition away from high prices and into a more sustainable environment for energy for consumers and businesses alike, is critical.

Targeting energy prices directly by the proposed Energy Price Guarantee (EPG) will have the benefit of reducing the short-term peak in inflation. We estimate that the peak in inflation can be brought down from around 17% without intervention, to around 11% following this policy intervention, broadly in line with the government's own estimate of a 5pt curb in inflation. PwC intends to update the UK Economic Outlook Report to reflect headlines on inflation and interest rates once we have further information.

Much of the detail on how the announced support packages will be administered, is yet to be worked through, including the total cost and how they will be financed. A summary of the proposals is set out below alongside initial analysis and key considerations.

Summary of announced government measures.

Energy Bill Support Scheme (EBSS)	Energy Price Guarantee (EPG)	Support for business and non-domestic properties
• Non means tested measure targeted at households / domestic customers. • Provision of £400 non-repayable discount to households in England, Scotland and Wales. • Discount applied monthly to the household electricity bill (from supplier) for 6 months starting 1 October 2022. • Households will receive discounts of £66/month in October and November and £67 in December, January, February and March.	• Non means tested measure targeted at households / domestic customers. • Cap on the per kilowatt-hour unit rate (p/kWh) for electricity and gas • Effective from 1 October 2022, running for 2 years. • £2,500 annual bill headline figure based on average dual fuel household - households using more than 'average' household will pay more. • Administered in addition to the EBSS and payments to eligible vulnerable customers (up to £1,200) • An additional discretionary fund will be available for those households who are outside of the schemes.	• Non means tested measured targeted at business users. • Cap on the per kilowatt-hour unit rate (p/kWh) for electricity and gas as is being provided to households under the EPG. • Effective for 6 months from 1 October 2022. • Further support to be provided to vulnerable sectors after the 6 month period with a review in 3 months time to consider where support should be targeted.

1. Action to provide short term help is necessary but will be expensive so the UK needs to maximise the value of every pound spent, while balancing the economic impact.

We have already seen UK gas and electricity prices increase to unprecedented levels, partly as a result of the war in Ukraine. These were forecast to rise further, which would have material negative effects across the country on cost of living and businesses alike. Without action, the typical domestic consumer's bill could have risen to as much as £6,000 later this winter and businesses coming to an end of their current contracts this autumn, facing five fold or more increases in energy costs (assuming current gas and electricity forward assumptions).

Delivering targeted support to those that need it most while balancing the medium-term economic impact to the UK is at the forefront of the Prime Minister's energy agenda. On 8 September, the Government announced the Energy Price Guarantee, which will be offered together with the already committed £400 assistance under the Energy Bill Support Scheme. The EPG limits the amount households can be charged per unit of gas or electricity for the next two years from 1 October 2022. The EPG applies to all forms of energy customer (including fixed rate tariffs), albeit there will be slight differences between the unit costs for prepayment meter customers and other bill payers, as is the case under the existing price cap. The EPG will effectively freeze the annual energy bill at £2,500 for the 'average' dual fuel household. Those households consuming more than 'average' will incur higher energy bills. To illustrate this, The Department for Business, Energy and Industrial Strategy (BEIS) has published a table that provides example savings for different types of home with different levels of energy usage.

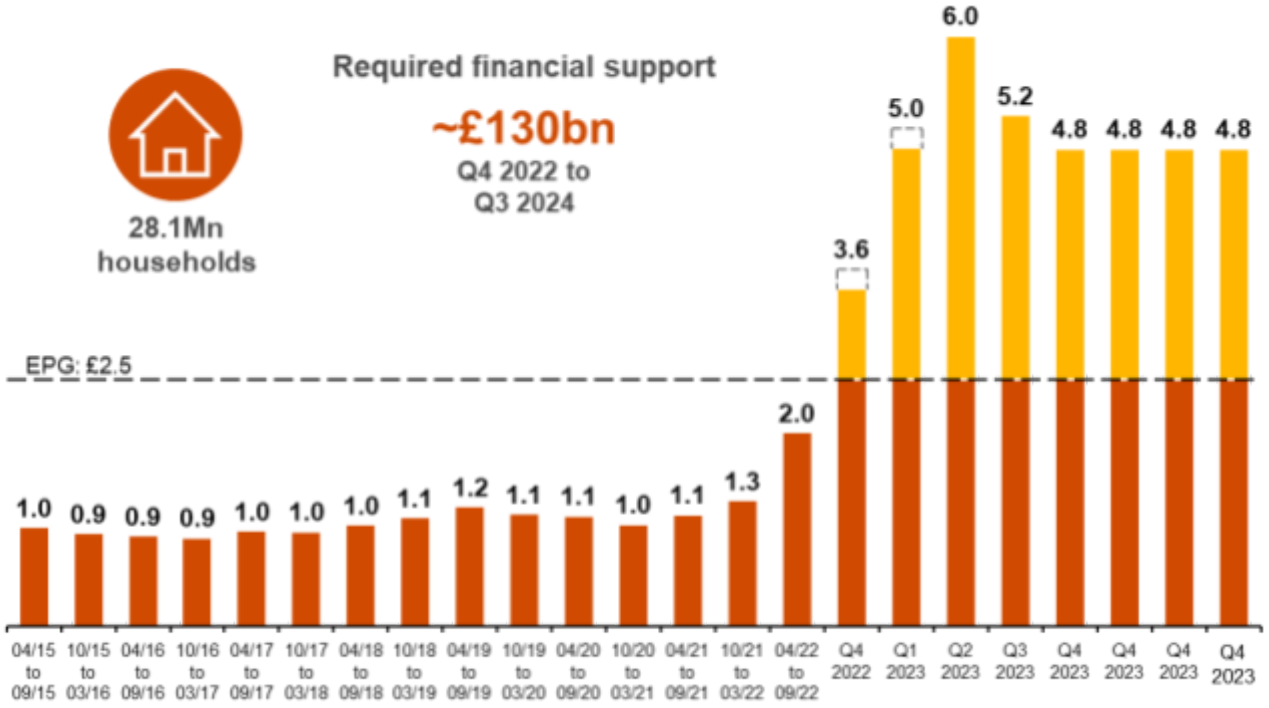
Typical Bills – 2019 median consumption (Dual fuel, annual basis)

Property type	Under October price cap	Under government Energy Price Guarantee	Difference
All dwellings	**£3,550**	**£2,500**	**£1,050**
Houses	**£3,800**	**£2,650**	**£1,150**
Detached	£4,700	£3,300	£1,400
Semi Detached	£3,800	£2,650	£1,150
End Terraced	£3,500	£2,450	£1,050
Mid Terraced	£3,300	£2,350	£950
Bungalow	£3,500	£2,450	£1,050
Flats	**£2,450**	**£1,750**	**£700**
Converted flat	£2,750	£1,950	£800
Purpose built flat	£2,400	£1,750	£650

Source: BEIS

Our initial estimate is that the cost of measures targeting households alone could be in the order of £130bn[1], based on forecasted gas prices at the start of September. While the total cost is unknown and will be determined by natural gas and power prices and the extent of demand reduction, the total cost is likely to be above the total support provided under the Covid job retention ('furlough') scheme of £70bn[2]. This will result in the intervention potentially being one of the largest fiscal support measures ever announced by a UK Government, particularly when the costs of support measures for businesses are added on. As the details for business have not yet been announced, the scheme cannot yet be calculated.

Estimated cost of Energy Price Guarantee for average dual fuel household (£000s)



Source: PwC analysis

There is also a possibility that the cost of the EPG scheme will exceed these estimates since the level of support is based on the difference between actual commodity prices and their capped levels. As there is no proposed cap on support, the UK will potentially have an open liability, emphasising the importance of the announced Energy Supply Taskforce succeeding in agreeing lower long-term gas contracts. The Government will have a strong fiscal incentive to use future measures to bolster energy supply and constrain energy demand, as these will all help to reduce the ultimate cost of the scheme.

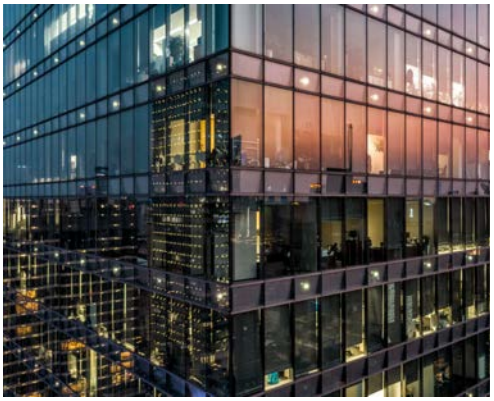
However, on their own, these measures will not fully address all the challenges that consumers and the economy currently face. This means we need to maximise the impact of every pound to support those who need it most to reduce the instances of fuel poverty. An assessment of the true cost and impact on UK economy recovery is also critical.

[1] Costs calculated as the difference between EPG of £2,500 and projected energy prices under the default tariff cap methodology, which our analysis assumes to be £3.5k for Q4 22, £5.3k for 2023, and £4.8k for 2024, based on futures prices as at 6 September 2022. Assumes average household consumption in line with TDCVs of 2,900kWh/a for electricity and 12,000kWh/a for gas.
[2] House of Commons library, Job retention scheme statistics (23.12.2021) (Link).

To date, the price cap has shielded domestic consumers from the brunt of energy price rises but National Energy Action already estimates that at the current price cap level of £1,971, a total of 6.5m households are in fuel poverty[3]. While the introduction of the EPG from October will protect households from further expected energy price increases, the net increase in the average annual bill alongside an overall increase in cost of living will lead to the number of households in fuel poverty rising. This may lead to behavioural changes with households looking to reduce their own consumption e.g. through turning heating down or even off, in an attempt to mitigate high energy bills over the winter. To date, energy efficiency schemes have not featured prominently in any solutions, however action to reduce demand will need to be considered as well as supporting consumers to be more efficient and reduce their demand.

We have seen through recent trials that some consumers are willing to respond to prompts to reduce their consumption at certain times of the day, such as the National Grid ESO / Octopus Energy Crowdflex trial, which found that when customers on flat tariffs were promoted to reduce demand in a peak period to save money that on average household consumption reduced by 41% (increasing to 59% for households with an electric vehicle)[4].

2. Businesses have received six months of support with targetted interventions thereafter; much of the business support packages are yet to be worked through…



While the government's focus has been largely on addressing affordability for households, domestic demand accounts for only a third of total electricity demand[5]. For SMEs and businesses, the commitment to provide an equivalent scheme to the households scheme under which energy costs will be capped for the next six months is welcome, but details of the scheme are yet to be provided.

The announced six month price support provides some relief to businesses but our understanding of how the government will support business after this period is limited beyond the commitment to support the most vulnerable sectors such as hospitality. The Government has committed to concluding its review of where support will be targeted within three months. How these measures will be financed also remains unclear with different proposals being considered.

Many industries are coming under severe financial pressure, impacting operations and at worst threatening shutdowns. Renewal notices for energy contracts due in October have in some cases reflected increases in excess of five times, made worse for some by a move from the traditional 1,2,3 year fixed contracts to monthly rolling contracts, which will challenge forecasting and cash flows. In addition, some suppliers are choosing not to offer renewal quotes, limiting the choices available to businesses and increasing the prevalence of “out of contract” rates in response to market conditions and pressure on collateral requirements.

The impacts on margin vary by industry sector and customer profile. In the short term Business to Business (B2B) corporates have greater options for passing costs on to customers, whilst Business to Consumers (B2C) corporates are increasingly having to absorb costs to retain consumer demand. Whilst some B2B corporates are passing on costs, increased sales levels are inflating debtors positions. Corporates who have pre-agreed capped asset based lending facilities face the decision of refinancing facilities (where possible) or continuing to operate with existing facilities in a higher cost environment, leading to increased pressure on cash.

[3] National Energy Action (Link).
[4] National Grid ESO (Link).
[5] BEIS Energy Trends (July 2022) (Link) Based on domestic demand of 109.45TWh and total demand of 334TWh for 2021 (provisional).

3. The market volatility has also brought with it additional challenges around liquidity given the size of the exposure on energy

The government has also sought to address funding liquidity issues caused as a result of higher prices and market volatility, which in turn have required market participants to post higher collateral in order to hedge their positions. The 'Energy Markets Financing Scheme' will see the government and the Bank of England establish a £40bn fund to provide loans to suppliers to address collateral and liquidity challenges. The scheme should reduce the need for future government intervention and bring some welcome liquidity back into the markets. However, it is not clear on; how the scheme will be administered, whether it will be extended to other participants active in the wholesale markets to help fully address the challenge, or potential unintended consequences state intervention may have in the market.

The UK's announcement of an Energy Markets Financing Scheme to support energy companies follows action taken by several European countries. Finland, Sweden and Switzerland have all announced plans to offer liquidity support of up to €10bn, €23bn and €10bn respectively to energy companies trading in electricity derivatives markets. EU president Ursula von der Leyen has also pledged to provide liquidity support to energy companies in the EU to cope with market volatility. Following comments made by Christine Lagarde, who indicated that the European Central Bank will not provide liquidity to energy utility firms, such measures are unlikely to mirror those in the UK. We anticipate that details on such mechanisms and other support measures will become clearer when the EU president makes her State of the Union Address on 14 September.

4. Price intervention alone is unlikely to be sufficient and some increased form of demand side management is expected, in most cases this is being done already by businesses and consumers as a way of immediately reducing cost.

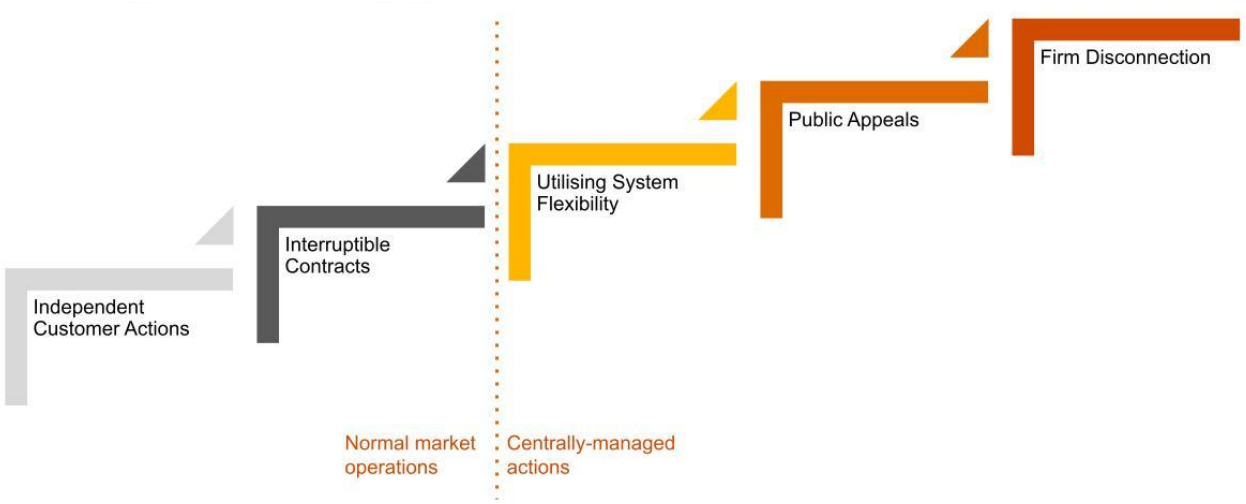
Consultation on demand management was a notable omission within the announced energy plans. Instead, UK intervention has typically focussed on downstream price measures. While the challenges faced by the UK are similar to those faced by countries in Europe, other European nations are taking different approaches. This partly reflects the difference in our supply base for energy and current market environment, for example France, where the bulk of the nuclear reactor fleet which provides ~70% of the country's supply is currently offline for maintenance, or Germany, which is gas dependent following the permanent shutdown of its own nuclear operations and reduction in coal usage. Each European country has its own specific challenges to balance but there is an increasing focus on managing usage to reduce overall demand requirements.

Amendments to the 'Energy Conservation Ordinance', which recently came into force in Germany, place restrictions on energy use including the illumination of monuments and public buildings, and cap on the temperature of heating in public buildings to 19ºC. Similar measures have been employed in Spain, where the introduction of restrictive measures to limit air conditioning use in public buildings, shops, commercial centres, bars and restaurants and turn lights off in shops and public buildings by 10pm led to a 3.7% reduction in electricity demand in their first week.

Measures implemented in Europe have driven reduction in demand but have also begun driving behavioural change, as is consistent in the normal operation of the market, where businesses and consumers respond to higher prices by reducing demand. Where, in the UK, this proves insufficient, there are a series of escalating steps to manage demand that could be called upon. In the UK, this regime is overseen by the Government, the energy regulator, the Office for Gas and Electricity Markets ("Ofgem"), and the Electricity System Operator ("ESO") and is regularly tested to ensure it can be robustly deployed.

The UK can call on mechanisms that already exist, and have been used before, such as the interruptible contracts mechanism, which allows for suppliers to reduce the energy that they provide to the top 200 users in the UK if there are challenges with supply. Beyond this, further direct measures can be employed, although measures to engage consumers to voluntarily reduce usage is likely to be difficult and there is no current way of tracking or enforcing compliance. Smart meters will help provide an indication of real time usage but as of today only 50% of UK households have them installed. For businesses,the demand measures we are currently seeing are driven by a focus on cost vs. any form of direct intervention.

Escalating actions to manage demand



5. Short term action needs to also be accompanied with medium-term market reforms to provide the UK a pathway to a more resilient and low cost energy system.

Recent events have brought home the challenges of transitioning away from fossil fuels and our status as a net importer of gas. Reform is needed to our energy markets to provide an enduring solution for energy security and affordability. Decarbonisation has long been a key objective, but more than ever it is also the way of mitigating the current situation, where the UK is exposed to global fossil fuel prices. Reform needs to focus on expanding the role of renewable energy and nuclear power in our energy mix and ensuring that the prices we pay appropriately reflect the costs of these technologies, alongside energy efficiency measures.

Furthermore, there should be recognition that market reforms and delivery of large-scale renewables will take time to deliver and the UK will need to look to short to medium-term actions to bridge the gap between immediate interventions and longer-term market reforms. E.g. considering other measures such as storage and other forms of renewables (onshore wind, solar), which can be deployed quickly to reduce dependency on gas generation and wholesale price volatility.

We will need to accelerate the rate of deployment of renewable technologies in order to meet our 2035 decarbonisation targets:

A 4.5x increase offshore wind capacity to to reach 50GW by 2030 (from ~11.3GW at the end of 2021).	A 3.5x increase in Nuclear capacity to 24GW by 2050 (from 7GW in 2021).	Hydrogen production to reach 10GW by 2030 (evenly split between blue and green).

Government's Review of Electricity Markets arrangements (REMA) is central to unlocking this investment, by enabling the UK to move to an electricity system designed for a predominantly renewables generation mix. Any short term changes need to be considered in this context, should support the evolution of the market and must not stall either planned investments or the investment environment more broadly, given the scale of capital required over the next ten years (£40bn every year)[6] to achieve net zero.

The reforms being considered under REMA around the separation of markets and funding of legacy 'back-up' generation to maintain security of supply should begin to address questions around market liquidity and exposure to volatile wholesale gas prices.

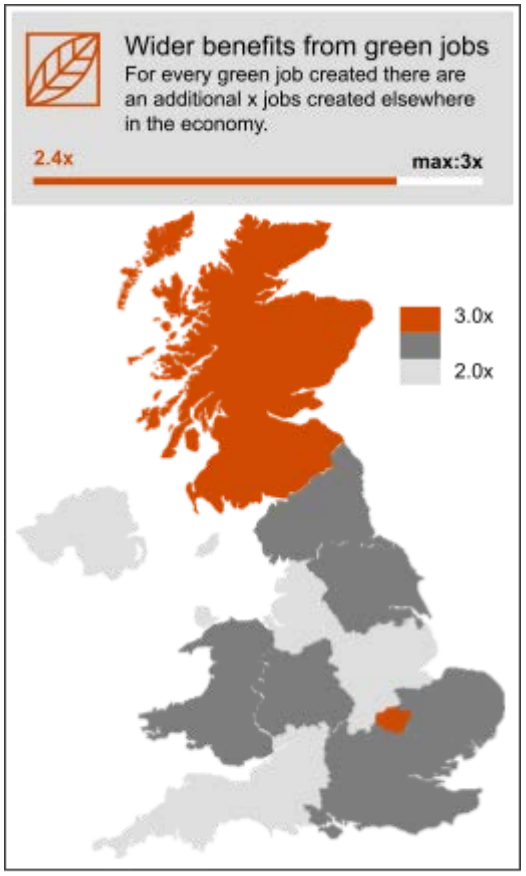
However, REMA on its own will not solve all the issues in the medium term. A holistic approach between industry, Government and the regulator is necessary to bring all the potential market reforms together into a coherent ongoing programme of change. For example:

- Coordinating investment in renewables and associated grid upgrades to support delivery of our decarbonisation targets and address increasing constraint costs for consumers. National Grid ESO estimates £54bn of investment is required in the UK transmission system to support the connection of the offshore wind needed to meet our 2030 decarbonisation targets. Complementary reforms across planning, to the way in which strategic investments in the grid receive approval and the speed of approving new investments through uncertainty mechanisms would support delivering this investment.
- Demand-side response from consumers will become increasingly important to balancing the systems and managing the huge expansion in intermittent generation. Delivery of Net zero will require technology-enabled suppliers to help consumers control their energy use. Action by the Government and Ofgem can help create the right conditions for 'future suppliers'. Creating a system in which price signals value flexibility and a retail market which supports competition and innovation, are fundamental for delivering this and enabling consumer demand-side response.

While REMA should begin to address a number of these challenges, the government has signalled its focus on addressing the key challenges above with the announced launch of two reviews. Firstly, a review of Energy Regulation that will focus on addressing supply and affordability. Additionally, a decarbonisation review will focus on how the UK reaches Net Zero and ensuring the UK delivers net zero by 2050 in a way that is pro-business and pro-growth. What is less clear at this stage is how the reviews' findings will feed into the wider REMA reform programme and the energy retail market strategy.

[6] PwC, Unlocking capital for Net Zero infrastructure (Nov-20) (Link).

The opportunities to support investment in the UK supply chain to build resilience and support economic growth and the creation of green jobs need to be exploited



Source: PwC Green jobs Barometer

This new low carbon infrastructure will also stimulate economic growth through investment in the UK supply chain. In its October 2021 Net Zero Strategy (link) the government aimed to secure 440k well paid jobs across Net Zero industries in 2030. This is up from the c.208k FTEs estimated to be working in the low carbon and renewables energy economy by the ONS in 2020 (link). Furthermore, there are wider benefits to growing the number of green jobs as each green job created has been estimated to provide an additional 1.4 jobs elsewhere in the economy[7].

In addition to directly delivering economic benefit through investment and creation of skilled employment, investment in infrastructure will support in building resilience in our supply chains and shield the UK from inflationary pressures associated with imports.

Delivering investment in the supply chain is proven to be a key enabler of delivering against the UK's renewable energy targets. Sectors such as offshore wind are starting to see some supply chain headwinds that are affecting costs and delivery timescales. While these are manageable at this stage, the UK alone will need to see a significant step change in delivery as it looks to deliver 4.5x the total installed capacity in 2021, by 2030. Furthermore the UK will have to compete with other growing offshore markets in North America and China.

While REMA will go a long way to addressing the need to bring capital into the market, this should be delivered collectively with other reforms to ensure that not only is the capital available to deliver against targets, but that supplies too do not become a constraining factor.

Further updates will be provided once more details are available on the schemes as well as proposals on how the Energy Plans will be financed. For more detail or information please reach out to the contacts below.

[7] PwC Green jobs barometer (Q4 2021) (Link).

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