

*The Energy Price Guarantee:
What principles should the UK Government apply
in thinking about how to implement this?¹*

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15 September 2022

The UK is faced with an historically unprecedented rise in real domestic fuel bills.² Something must be done. A major energy policy response is required from the government. The question we aim to address below is what principles should guide energy policy in the context of the current crisis. We draw on some lessons from economic history seeking what we would term ‘good energy policy’.³ We believe that the principles themselves are largely uncontroversial even if the practical implementation can be challenging and the subject of legitimate policy debate.

1. The UK must get energy demand down to reflect the fact that energy is scarce.

The motivation for the government’s announced policy (The Energy Price Guarantee)⁴ is to control the price that homes and business pay in the face of the unprecedented rises in underlying

¹ The authors wish to thank Robert Ritz. Pollitt acknowledges discussions with his colleagues at the Centre on Regulation in Europe (CERRE) and the ideas in his earlier CERRE paper: Pollitt, M.G. (2022), *The Energy Market in Time of War*, https://cerre.eu/wp-content/uploads/2022/09/The-War-Economy-and-Energy-CERRE_edited-TC_2AM-PDF.pdf. These comments are the views of the authors alone and not necessarily those of any individual or organisation with which they are associated.

² The biggest recorded annual rise since 1921 in the real price of household electricity was 18% (in 2006) and real price of heating fuel was 29% (in 1927). (See BEIS, Historical Electricity Data 1920-2021, real price of electricity per kWh to 1921-1990 and electricity component of consumer prices 1990-2021; and Table A5, Heating (Domestic) in Fouquet, R. (2008), *Heat, Power and Light: Revolutions in Energy Services*, Edward Elgar (pp.413ff) for data from 1921-2000, and BEIS Table 2.3.5 for data on overall real gas bills 2000-2021.) By contrast the real price of household electricity and gas was due to have gone up around 235% and 342% respectively between 30 September 2021 and 1 October 2022, had Ofgem’s proposed cap for 1 October 2022 been implemented. The proposed nominal rises in bills were 259% for electricity and 376% for gas (see Ofgem’s Model Default Tariff Cap Level v.1.13, <https://www.ofgem.gov.uk/publications/default-tariff-cap-level-1-october-2022-31-december-2022>), and assuming 10% inflation over the period.

³ See M. Ozawa, J. Chaplin, M. Pollitt, D. Reiner, & P. Warde (Eds.), *In Search of Good Energy Policy*, Cambridge: Cambridge University Press.

⁴ <https://www.gov.uk/government/publications/energy-bills-support/energy-bills-support-factsheet-8-september-2022>

wholesale gas and electricity prices. The underlying cause of these high prices is a physical shortage of gas across Europe (and the world). Therefore, demand must fall. We don't want to demand more, pay more per unit and pay more overall. And we don't want to reduce gas demand simply by inducing a recession. We want to demand less gas, pay less per unit and save on overall energy expenditure. Reducing the consumption of an inelastically demanded and supplied good produces a sharp fall in the price. If we don't do this, we end up with undesirable pecuniary externalities where my higher expenditure, forces others to spend more.⁵ The countries that reduce their demand through methods which do not reduce GDP (e.g. by effectively switching fuels in their power system or by reducing heating demand for gas) will pay less and have less inflationary impact (by reducing the weighting of gas prices in their inflation index). Those countries that do not reduce demand will suffer larger declines in real income, have more energy price inflation, and be at great risk of stagflation.

2. *The UK must allocate scarce energy to its most socially valuable use.*

The energy consumption of households is not equally socially valuable (since it includes heating unused parts of the home as well as outbuildings and swimming pools). Nor is all household energy consumption more socially valuable than commercial services and industrial production. Households consume significant shares of direct consumption of gas (c.37%)⁶ and daily peak electricity (c.45%)⁷. A failure to target aggregate household consumption worsens the shortage of gas problem for the entire economy. It increases the price of gas and the risk of supply interruption in industry. This reduces output and exports. Most households will understand the trade-off between something that is costly and inconvenient at home and something that is costly and inconvenient at work. A great success in World War Two was to prioritise the reduction of household consumption of coal (then the major heating fuel) to allow energy to be reallocated to war production. A notable failure in World War Two was the failure to do this with electricity, which led to blackouts (as households switched to electric heaters because electricity was unrationed and relatively cheap) and restrictions on post-War industrial output. This failure to ration electricity was largely a failure of political messaging⁸. The failure to manage overall fuel demand had disastrous consequences when the UK suffered a fuel crisis in 1947, with an interruption to export-led growth and long-term political damage to for the political party in power (The Labour Party).⁹

⁵ See Milne, A. (2022), *An economic narrative for better managing the European energy crisis*. Mimeo.

⁶ DUKES Table 4.2. Supply and consumption of natural gas and colliery methane.

⁷ Lampadatiu, E. and Leach, M. (2005), *Evaluating Participation of Residential Customers in Demand Response Programs in the UK*. ECEEE 2005 Summer Study, France.

⁸ For an excellent account of the successes and failures of UK energy policy during WW2 see: : Shin, H. and Trentmann, F. (2019), 'The Material Politics of Energy Disruption: Managing Shortages Amidst Rising Expectations, Britain 1930s-60s', in D. C. Needham (ed.), *Money and Markets: Essays in Honour of Martin Daunton*, Boydell and Brewer.

⁹ See Robertson, A.J. (1987), *The Bleak Midwinter 1947*, Manchester: Manchester University Press and also a nice book review: Smith, H. (1987). Alex J. Robertson. The Bleak Midwinter 1947. *Albion*, 19(4), 681-682. doi:10.2307/4049527

3. *The UK must control the impact of high gas prices on general inflation.*

General inflation is a problem and potentially a larger and longer-run problem than energy inflation *per se*. The rise in wholesale gas prices is very large and has significantly contributed to general inflation. Some control of headline energy prices is necessary to prevent a price-wage inflationary spiral. What we need is a pricing scheme which reflects scarcity AND which limits the impact on household incomes and inflation. A rising block tariff, with a high marginal price for final units of consumption is essential to signal to consumers that demand must be reduced to meet supply. We need to make sure that bill support schemes do reduce the consumer prices index. This is most simply done by fixing the unit price at the forward price of gas and electricity and rebating to achieve a target bill level through the fixed charge. We could have a rising block tariff where the first, say, 2000 kWh of electricity and 10000 kWh of gas per year are at a lower unit price and units above this are at the average expected forward price. This would strongly incentivise reductions from the typical consumption levels (2900 kWh of electricity and 12000 kWh of gas). An additional advantage is that it would give bigger percentage bill reductions to those who consume less than average, who tend to be poorer. It also effectively represents a lump-sum subsidy to each household, not a subsidy to every unit of energy consumption. The government's current proposed unit price is 34.0p / kWh for electricity and 10.3p / kWh for gas (including VAT)¹⁰, when Ofgem's calculated average wholesale price is 37.4p / kWh and 11.5p / kWh for gas (excluding VAT).¹¹ This indicates that the ex VAT price being charged for electricity and gas is only 84% and 86% of the required marginal price for electricity and gas. This could easily be altered at no net cost to the average consumer. Rebalancing between fixed and variable charges in this way will have a greater impact in moderating inflation because it should not affect the ONS calculated average price (which takes both elements into account) but will reduce the overall expenditure weight due to reduced consumption.¹²

4. *The UK should seek to minimise its net energy import bill.*

These increasingly costly energy imports directly reduce real incomes in the UK and the wealth of UK plc. A policy which increases demand for an expensive import from abroad, by subsidising it, does this twice over. It increases both the quantity of imported gas and its unit price. Where these quantities are materially large in GDP¹³, this will show up as lower exchange rate and the need to increase exports (or attract inward investment) to balance the balance of payments. We need to actively promote energy efficiency, home energy production and additional LNG capacity export capacity. The UK continues to have large

¹⁰ <https://www.gov.uk/government/publications/energy-bills-support/energy-bills-support-factsheet-8-september-2022> (Accessed 12 September 2022)

¹¹ See Ofgem (2022), Model - Default Tariff Cap Level v.1.13, available at: <https://www.ofgem.gov.uk/publications/default-tariff-cap-level-1-october-2022-31-december-2022>

¹² See ONS (2019), *Consumer Prices Indices Technical Manual*, Office for National Statistics. Electricity and gas tariffs are discussed in section 9.5.2. However, in section 9.2 it is noted that bill rebates which are one-off would not normally count as price reductions.

¹³ See Milne, A. (2022), *Energy Crisis: Manage Quantities and Avoid Burdening The Tax-Payer*, NIESR Policy Paper No.35, for various calculations of how large the GDP impact might be.

untapped capacity for improving the energy efficiency buildings¹⁴, potential for onshore wind and PV and improving its domestic production and re-export of gas. Large increases in import bills and depreciation of the current were a significant contributor to the decline in the exchange rate and increase in inflation in the 1970s following the first oil shock. This would have been worsened if UK governments had subsidised oil consumption and promoted oil imports. As a historic example of success in reducing its exposure to fossil fuel imports, Sweden went from being the second most oil dependent country in Europe to one of the least due to a range of policies including the promotion of nuclear power and a pioneering carbon taxation system.¹⁵ Other countries similarly promoted successful long-term reductions in fossil fuel dependency, such as France with its nuclear power programme¹⁶ and Denmark with its leadership on wind power, energy efficiency and district heating¹⁷.

5. *The UK must have proper oversight of what taxpayer cash on energy is spent on.*

£150+bn over two years (as the estimated cost of the policy)¹⁸ is a lot of money and no-one should write a blank cheque for this kind of additional public expenditure. While consumers will obviously benefit from the proposed price guarantee, so too will the recipients of the subsidies that will be paid to the energy industry. The c.£150bn will be paid out to electricity and gas companies. Where will this money go and what effect will it have? As taxpayers, we deserve an accounting of who benefits from the proposed energy expenditure. This will naturally give rise to questions as to whether further taxation of war time profits – which is what these profits are - is needed. We should be able to see where profits are being made in the energy value chain and whether this is stimulating beneficial long-term investment in the UK energy sector. Both the National Audit Office and Ofgem need to be involved now in monthly monitoring the expenditure flows in the electricity and gas flows and linking them to legal entities, building on Ofgem's experience with Energy Companies' Consolidated Segmental Statements.¹⁹

¹⁴ Only 42% of homes in England and 37% of homes in Wales have an EPC rating of C or higher. See <https://www.ons.gov.uk/peoplepopulationandcommunity/housing/datasets/energyefficiencyofhousingenglandandwalescountryandregion>

¹⁵ Lindmark, M. (2019), 'Rethinking the Environmental State: An Economic History of the Swedish Environmental Kuznets Curve for Carbon'. In M. Ozawa, J. Chaplin, M. Pollitt, D. Reiner, & P. Warde (Eds.), *In Search of Good Energy Policy* (Cambridge Studies on Environment, Energy and Natural Resources Governance, pp. 139-164). Cambridge: Cambridge University Press. doi:10.1017/9781108639439.012

¹⁶ See Chick, M. (2009), *Electricity and Energy Policy in Britain, France and the United States Since 1945*, Cheltenham: Edward Elgar.

¹⁷ Hvelplund, F., Djørup, S., & Sperling, K. (2019)., 'Fossil Fuel Systems to 100 Per Cent Renewable Energy-Based Smart Energy Systems: Lessons from the Case of Denmark, 1973–2017'. In M. Ozawa, J. Chaplin, M. Pollitt, D. Reiner, & P. Warde (Eds.), *In Search of Good Energy Policy* (Cambridge Studies on Environment, Energy and Natural Resources Governance, pp. 165-186). Cambridge: Cambridge University Press. doi:10.1017/9781108639439.013

¹⁸ See <https://ifs.org.uk/articles/response-energy-price-guarantee>. The IFS estimate the cost at £100bn in the first year and £60bn for a second year of support for households (at 2019 consumption, so likely less if consumption falls).

¹⁹ <https://www.ofgem.gov.uk/publications/energy-companies-consolidated-segmental-statements-css>

6. *The UK should work with European partners to deal with the underlying problem.*

The UK is effectively still part of the single market in gas and electricity.²⁰ UK prices move in line with those in continental Europe and the UK benefits from the shared security which a large regional energy market offers. In turn, Europe benefits from being integrated with the UK, most recently via the utilisation of our LNG import capacity and electricity exports to France, where a good number of its nuclear reactors have been shut down for maintenance over the summer. The whole of Europe has a critical gas supply problem that poses a serious security threat. We need to co-ordinate with other European countries to reduce energy demand and to increase energy supplies. Simply competing with them to secure gas supplies from Norway or on world LNG markets will be costly for everyone. It is in our interests to co-ordinate with the EU and to encourage co-ordination within Europe and more broadly. There remains potential for coordination between US, Japan, Korea and Europe to increase supply and reduce global demand for gas. This is also a time for the UK to seek to advance its full integration into the European energy and carbon markets. What Russia wants is to divide the UK from our friends and neighbours in Europe: we must actively frustrate this with further energy cooperation, reflecting what has happened in cooperation to help Ukraine in its war effort.

7. *If the UK was to spend £150bn spent on energy policy is it best spent on the Energy Price Guarantee?*

This is a more general question. The Energy Price Guarantee is an enormous transfer within UK society. Since 2019, the UK has been legally committed to a net-zero economy and the amount of investment that this ambitious commitment would require has been estimated at 1%-2% of GDP²¹. If we are to spend 3% of GDP per year²² for the next two years on energy policy, is giving everyone a bill reduction really the best long term use of this money even if this money were to be spent directly on energy issues? Using even a fraction on other policies, such as energy efficiency investments and the conversion of gas plants to dual firing with oil might achieve shorter run results more cost effectively.

²⁰ See Pollitt, M.G. (2022), 'The further economic consequences of Brexit: energy', *Oxford Review of Economic Policy*, 38(1): 165-178 (DOI: 10.1093/oxrep/grab044)

²¹ Committee on Climate Change (2019), *Net Zero: the UK's contribution to stopping global warming*, May 2019, London: Committee on Climate Change.

²² UK GDP at market prices in 2021 was £ 2371 bn, see <https://www.ons.gov.uk/economy/grossdomesticproductgdp/timeseries/ybha/pn2>