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**IS A SOCIAL TARIFF FOR ENERGY FEASIBLE AND EFFECTIVE?**

19 October 2022

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**Preamble**

**Since this analysis was completed, on 18 October the Chancellor announced that the Energy Price Guarantee will end in April 2023 and be replaced by more targeted support which HM Treasury were working on. Without the Energy Price Guarantee it has been estimated by Cornwall Insights that the average price of electricity and gas will rise to about £84 per week. We do not know whether the details of the more targeted scheme will be announced in the Autumn Statement due on 31 October. Our analysis will need to be repeated when we have the details. Meanwhile it may be helpful in illustrating some of the challenges in designing social tariffs**

**Summary**

There are three ways to mitigate fuel poverty in the short term: cap prices for all such as the Liz Truss Energy Price Guarantee capping bills at an average of £2500 or the Rishi Sunak £400 mitigations being paid from October to April; using a social tariff which adjust the price paid by the amount consumed; or by subsidising the income of low-income consumers, which Rishi Sunak did in May after the first hike in energy prices. This paper is focussed on social tariffs and concludes that they are probably not as easy to implement and not as effective as using subsidies delivered via the social security system. They certainly cost less than price caps for all.

**The challenge**

We estimate that after the Energy Price Guarantee[[1]](#footnote-1) announced by Liz Truss on the 8 September begins to operate domestic fuel expenditure will average £33.03 per week from October 2022 (after taking into account the £400 energy bills discount[[2]](#footnote-2)). If no new policies are introduced when the £400 mitigation ends in April 2023 average fuel bills will rise to £48.41 per week despite the Energy Price Guarantee. This will result in 63% of households (an increase of 3.7 million households over today) being in fuel poverty defined as spending more than 10% of equivalised net after housing costs income on fuel. At a more severe threshold 27% will be spending more than 20% of net their income on fuel.[[3]](#footnote-3)

It has been suggested that the existing structure of gas and electricity tariffs – a standing charge plus a fixed unit rate plus added charges for prepayment meters – could be replaced by a more progressive social tariff. According to Fair by Design:

“A social tariff is a targeted discount energy deal for qualifying low-income consumers. It is a safety net for eligible households who might be struggling to afford their bills. It is typically below the price of the cheapest available energy tariff and targeted at those living in fuel poverty or on a low income.”[[4]](#footnote-4)

We have been asked by Fair By Design to review what a social tariff for energy might look like and what the distributional effects of such an intervention could be.

**Background**

The idea of a social tariff has been mooted before, particularly in relation to water charges[[5]](#footnote-5). Broadband has introduced a social tariff based on receipt of mean-tested benefits[[6]](#footnote-6).

With fuel there is the challenges of knowing who uses which fuel and how to deliver a reduction in bills. There is no monopoly supplier and households use not one substance but combinations of electricity, gas, oil, coal, and wood. Every household uses electricity but a social tariff for electricity alone might not solve the problem for big users who heat with electricity. Nor alone would it solve the problem of other households which heat with other fuels.

Providing a gas social tariff might be more efficient. 85% of UK households have a gas supply, probably most using it for heating and cooking. But what about the rest – rural households, 20% of households in Scotland and many more in Northern Ireland? Could we have a social tariff for electricity consumers who do not have access to gas? Some of these will heat not with electricity but with oil (including gas oil). Are there any gas consumers who don’t use it for heating?

There is also the issue of how much fuel poverty would be picked up and reduced by social tariffs? This is the question we investigate here.

In May 2022, the then Chancellor, Rishi Sunak, announced a package of support to help with rising fuel costs: £400 for all households which is to be paid in monthly instalments from October 2022 to March 2023; and additional amounts to pensioners, means-tested benefit recipients and people with disabilities. The Resolution Foundation estimated that the measures announced to support households this year would "in effect offset 82 per cent of the rise in households’ energy costs in 2022-23, rising to over 90 per cent for poorer households". But that is old hat now.

In response to a significant increase in the cost of wholesale energy, on September 8 the government announced that it would freeze the cap at an average of £2,500 per household for two years and that the freeze would also apply to consumers of oil. Together with the £400 mitigation this will have reduced the number of households in fuel poverty from 13.3 million to 10.4 million from October. But when the £400 mitigation runs out next March there will be 17.0 million households in fuel poverty – 62.5% of all households.

The cost of the £2500 energy price guarantee is going to fall on the exchequer and may be more than £140 billion. It cannot be sustained. We need a more permanent solution including investment in solar, wind and nuclear generation and a huge investment in raising the thermal efficiency of our housing stock. How might a social tariff contribute?

There is a history here. The last big energy crisis in the UK followed the Yom Kippur war and at that time there was a good deal of attention paid to the notion of ‘tariff tilting’[[7]](#footnote-7) (making fuel tariffs more progressive) both in government[[8]](#footnote-8) and by research.[[9]](#footnote-9) The government eventually rejected it – three times. We were slightly more positive, but hardly enthusiastic. But energy prices fell, and the problem went away - really until this year.

The arguments in favour of a social tariff are as follows[[10]](#footnote-10):

1. Existing tariffs are regressive. The standing charge is especially regressive, justified by very dubious economic principles, and they vary inexplicably by region. The fixed price per unit advantages large consumers by diminishing the marginal price as consumption increases. There are thus muted incentives to economise.
2. A social tariff could abandon the standing charge and charge high consumers more per unit and thus encourage them to reduce consumption.
3. It could mitigate fuel poverty and the burden of fuel costs: the choice between heating and eating and the impact of cold conditions on health and mortality.[[11]](#footnote-11)
4. It would be better targeted than the £400 mitigation being paid from October 2022 to March 2023 as well as the recently announced Energy Price Guarantee capping tariffs at £2500 over the next two years. It could be a long-term solution.
5. If a social tariff was achieved by tilting tariffs so that they are more progressive it could pay for itself in whole or in part, thus avoiding the cost to the exchequer of £100-£150 billion.
6. Reducing energy bills is a more effective way of tackling fuel poverty than increasing incomes.

The arguments against a social tariff are as follows:

1. Some argue that tariff structures are immutable, that pricing policy should be solely based on criteria of cost and ‘distortions’ should not be introduced into the pricing system. If hardship results, it should be dealt with by the social security system[[12]](#footnote-12).
2. Not all small consumers are poor and not all large consumers are rich as we will see below and in the annex. The fundamental problem is that energy suppliers know nothing about the composition or income of their consumers. Neither does the government, if they are not claiming social security benefits. Even for those claiming benefits, they only know the incomes of those claiming means-tested benefits and nothing about their fuel arrangements. The Inland Revenue knows more about the incomes of taxpayers but not households, and the links between Inland Revenue data and the DWP data has been diminished/abolished by the introduction of Universal Credit. So the targeting of support with fuel costs must be inevitably crude and inexact.
3. There are numerous practical difficulties in ensuring that social tariffs are targeted. These are discussed below.

**Methods and data difficulties**

The rest of this paper will attempt to address these latter two points by modelling the distributional effects of, initially two social tariffs and comparing these with support provided through the social security system. First, we must acknowledge some problems that are difficult to overcome.

There is no evidence to draw on in relation to the behavioural consequences of a social tariff for energy.

We make use of the latest available 2019/20 Living Costs and Food Survey micro data. The 2020/21 micro data is overdue to be released but we fear that like many other large ONS surveys its representativeness will have been harmed by the pandemic.

The LCFS does not collect consumption data, though its predecessor the Family Expenditure Survey did. This means that we are not able to estimate how to make energy tariffs more progressive. Instead only how to make spending more progressive.

The LCFS collects data on spending for the most recent bill and because the fieldwork is deliberately spread over the year, the most recent bill for some will be for the summer period when the heating is off, and for others the winter period. In our 1983 analysis we tackled this problem by analysing spending in two periods April to June which is the billing period following the winter months and October to December which is the billing period covering the summer months.[[13]](#footnote-13)

But having looked at the seasonal data in the LCFS we find that now there is little seasonal variation in spending (see Table 1). We suspect that this is due the numbers of consumers who pay their annual bill by fixed monthly or quarterly direct debits and in addition 56% of all households have dual fuels – gas and electricity provided by the same supplier.

**Table 1: Seasonality of expenditure on fuel. LCFS 2019/20 uprated to April 2023**

|  |  |  |
| --- | --- | --- |
|  | Mean £ per week | Median £ per week |
| January to March | £50.99 | £42.42 |
| April to June | £48.14 | £42.66 |
| July to September | £46.29 | £40.35 |
| October to December | £48.24 | £41.94 |

The most difficult problem we face, and it is also one that will be faced in the administration of the Energy Price Guarantee, is how to deal with multiple fuel users. 85% of consumers have access to gas. 56% use the same supplier of gas and electricity. Those who don’t may rely on electricity which everyone has and/or oil, LPG, or solid fuels. Reducing gas and electricity expenditure will not help the latter groups. The solution for analytical purposes is to tilt overall spending, which is fine as a research exercise, but it is very difficult to envisage as a practical solution.

**Analysis**

This paper is going to analyse three simple measures to mitigate fuel poverty. The first abolishes the standing charge and reduces tariffs so that those with fuel bills below the median are reduced by £15 per week which is roughly the same amount as Rishi Sunak’s £400 mitigation being paid between October 2022 and March 2023. The second reduces fuel bills by £20 per week. Both of these measures could be paid for either by the taxpayer or by increasing the fuel payments of households spending more the median. The third shows the impact of using the social security system to mitigate fuel bills by the same amounts paid for by the taxpayer. .

Figure 1 shows the cumulative distribution of weekly expenditure on fuel. The mean is £48.41 and the median £41.83. In April 2023 3.5% of households with bills below the median would pay zero because their bills are already less than £15 per week. Of the rest the maximum bill for those below the median would be £26.83 per week.

**Figure 1: Cumulative % distribution of spending on fuel £per week**

Table 2 summarises the distributional effect of the first two options. Look first at the gainers. Given that we chose the median as the threshold for the £15 reduction in tariffs, 50% of households gain. Within this just over half of pensioners gain and over three quarters of single person households, which illustrates a challenge to social tariffs – the amount of energy consumed is related to household and housing size. Thus only 41% of households with dependent children gain. 47.7% of those receiving Attendance Allowance or Personal Independence Payments (PIP) or Disabled Living Allowance gain. However the overall effect is mildly progressive – 60% of households in the lowest quintile of equivalent net income after housing costs gain. However 40.9% of the top quintile also gain. This may be disappointing, but it is considerably more progressive than the Sunak £400 or the Truss £2500 cap. Fuel poverty (using the proportion of households spending more than 10% of their net equivalent income after housing costs on fuel) falls by almost a quarter. Using the 20% threshold the fuel poverty also falls by 16%.

The £15 per week could be paid by the exchequer at an approximate cost of £10.7 billion per year – only about 10% of the costs of the Truss cap. Alternatively it could be paid by those spending more than the median on fuel either as a £15 charge on their bills or tapered so that larger consumers pay more. The distributional consequences of a flat £15 increase in bills are illustrated in Table 2. Given we fix the support at the median 50% of households will lose including 49.1% of pensioner households and 59% of families with children. 40% of households in the bottom quintile of equivalent income will also lose and 14.8% will move into fuel poverty using the 10% threshold will be offset by increases and using the 20% threshold 8% more will move into fuel poverty after the tilt than before it.

A social tariff of £20 per week improves the proportion of households lifted out of fuel poverty. But if it is to be paid for by increasing bills of those above the median by £20 it would wipe out about half of this reduction .

**Table 2: Social tariff: Reduce weekly fuel bills by up to £15 per week for those spending less than the median paid for through an increase in weekly fuel bills by £15 per week for those spending more than the median.**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | % gainers | Number  In 1000s | % losers | Number  In 1000s |
| Overall | 50.0 | 13744 | 50.0 | 13736 |
| Pensioner households | 50.9 | 4455 | 49.1 | 4289 |
| Singles | 76.4 | 2981 | 23.6 | 921 |
| Couples | 54.5 | 2866 | 45.5 | 2390 |
| Households with dependent children | 41.0 | 2773 | 59.0 | 3998 |
| Other[[14]](#footnote-14) | 23.8 | 669 | 76.2 | 2138 |
| Households receiving disability benefits | 47.7 | 1427 | 52.3 | 1567 |
| Households receiving means tested benefits | 46.2 | 1788 | 53.8 | 2086 |
| Quintile 1 of net equivalent income AHC | 60.0 | 3244 | 40.0 | 2167 |
| Quintile 5 of net equivalent income AHC | 40.9 | 2239 | 59.1 | 3241 |
| % change in fuel poverty 10% threshold. From 62.5% | -23.9 | 4064 | +14.8 | 1504 |
| % change in fuel poverty 20% threshold. From 27% | -16.0 | 1179 | +8.00 | 1594 |
| Social Tariff at £20 per household | | | | |
| % change in fuel poverty 10% threshold | -28.8 | 4893 | +17.0 | 1733 |
| % change in fuel poverty 20% threshold | -19.2 | 1414 | +10.6 | 2102 |

For comparison Table 3 shows the distributional effects of paying support through the social security system - concentrating the £15 and £20 support purely on pensioner households, those receiving means-tested benefits and households receiving disability costs benefits. This was the vehicle used by Rishi Sunak in his May announcements. Overall the results suggest that the Rishi Sunak type strategy is more successful in reducing fuel poverty than a social tariff based on the size of bills. A £15 per week uplift would result in a 20.8% reduction in fuel poverty costing the taxpayer a total of £12.2 billion. Relative to the considerable costs associated with the Energy Price Guarantee, such a measure would be markedly more effective at reducing energy burden in areas where it is needed most, though it would cost more than the social tariffs based on expenditure analysed above. It would also be easier to administer.

**Table 3: Social tariffs restricted to social security benefit recipients**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | £15 per week uplift | | £20 per week uplift | |
|  | % gainers | Number (1000s) | % gainers | Number (1000s) |
| Pensioners | 100% | 8820 | 100% | 8820 |
| Disability benefits (PIP, AA, DLA) | 100% | 2994 | 100% | 2994 |
| UC and means tested benefits and tax credit[[15]](#footnote-15) | 100% | 3874 | 100% | 3874 |
| All | 100% | 15,688 | 100% | 15,688 |
| Approximate cost £billion |  | £12.2 billion |  | £16.3 billion |
|  |  |  |  |  |
| % change in fuel poverty (10% threshold) within Quintile 1 of net equivalent income AHC | -18.7% | 972 | -25.6% | 1331 |
| % change in fuel poverty (20% threshold) within Quintile 1 of net equivalent income AHC | -26.2% | 1058 | -34.5% | 1390 |
| % overall change in fuel poverty (10% threshold) | -20.8% | 3530 | -26.6% | 4523 |
| % overall change in fuel poverty (20% threshold) | -26.4% | 1944 | -33.9% | 2496 |

**Conclusion**

Responding to a fuel crisis is not easy. The faster that prices come down the better. The long-term solutions rest in insulation policy and investing in renewables – until recently much neglected by the present government.

The problem is that:

1. The energy companies (and the Government) know very little about the circumstances of households.
2. Fuel bills vary little by income.
3. Fuel bills vary in complex ways.

We conclude that probably the best way to mitigate fuel poverty is to focus on incomes. One strategy would be to increase the level of social security benefits substantially. We were expecting that they will be increasing in April 2023 by the level of price inflation in September 2022, before the increase in fuel prices in October and certainly not sufficiently to mitigate fuel prices next April. But now there is some doubt about that. We have modelled a social tariff for those receiving social security benefits and of course it is beneficial, but higher fuel prices will still be hitting households beyond the scope of social security. Nevertheless there is a strong case for raising social security benefits – especially working age and children’s benefits that have so seriously been reduced in real terms since 2010. Of course an uprating of benefits and a social security fuel subsidy would increase the impact.

We have found that a social tariff would generally benefit poorer consumers and those in fuel poverty. If the exchequer paid it would be a much cheaper and more redistributive measure than the Truss cap. If it was paid for by increasing the tariffs for other consumers, then it will result in some above median consumers being pushed into fuel poverty. Reducing the bills of social security recipients would have more impact on fuel poverty but also miss many in fuel poverty who are not social security recipients.

Finally it is worth remembering that the cost-of-living crisis is not only caused by rising energy bills. The prices of other commodities are also rising and in particular food[[16]](#footnote-16). Figure 2 shows the median costs of energy, food and energy and food as percentage of total expenditure. In 2019/20 energy and food together took up 27% of total expenditure of the lowest decile and we estimate that that will increase to 37% in April 2023. In contrast energy and food took up 18% of the top decile in 2019/20 and that will increase to 24% in April 2023.

**Figure 2: Average (median) energy/food expenditure as a percentage of total expenditure by income decile in 2019/20 and in April 2023 estimated**

Assumptions: Food price inflation assumed to be 15% since 2019/20, median energy prices assumed to have increased to the energy price guarantee.

**Annex: Variations in fuel expenditure.**

Figure 3 shows that fuel expenditure is fairly flat across the quintile income distribution. At about median income the proportion of households in fuel poverty at the 10% threshold declines quite sharply but at the 20% threshold the rate of decline moderates but continues to fall.

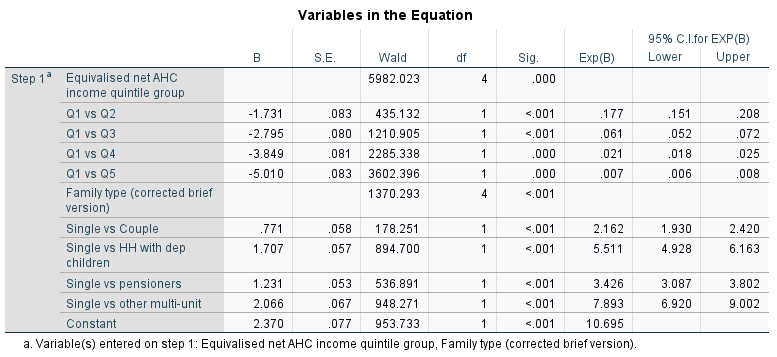
**Figure 3: Fuel poverty rates and fuel expenditure (right axis) by quintile group**

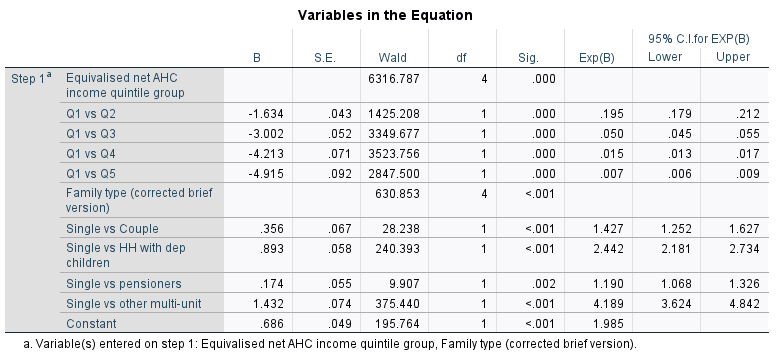
Figure 4 adds household type to the mix. Over 90% of all household types in the bottom quintile are in fuel poverty. In the richest quintile there are still nearly 30% of households with children in fuel poverty.

**Figure 4: Fuel expenditure (median) and fuel poverty rates by income quintile and household type**

Another approach to observing the interacting influence of household type and income on fuel poverty is presented in Tables 5 and 6 using logistic regression. The beta coefficient (or odds ratio) is significant for all quintiles and for each household type in explaining the odds of fuel poverty at both the 10% and 20% threshold.

**Table 5: Logistic repression of fuel poverty at the 10% threshold by equivalised income quintile and household type**



**Table 6: Logistic regression of fuel poverty at the 20% threshold by equivalised income quintile and household type**

1. <https://www.gov.uk/government/publications/energy-bills-support/energy-bills-support-factsheet-8-september-2022> [↑](#footnote-ref-1)
2. https://www.gov.uk/government/news/400-energy-bills-discount-to-support-households-this-winter [↑](#footnote-ref-2)
3. Bradshaw, J and Keung, A. (2022) Rising fuel poverty, Poverty 173, 16-18, <https://askcpag.org.uk/content/208471/rising-fuel-poverty>

   See also estimates from the Legatum Institute (2022) Rising costs projected to push 2.75 million into poverty https://li.com/reports/energy-costs-to-push-1-45million-into-poverty/ [↑](#footnote-ref-3)
4. https://fairbydesign.com/wp-content/uploads/2022/07/2022\_Solving-the-cost-of-living-crisis\_v02-4.pdf [↑](#footnote-ref-4)
5. Bradshaw, J. and Huby, M. (2013) Water poverty in England and Wales, Journal of Poverty and Social Justice, 21, 2, 137-148

   Bradshaw, J. R. & Keung, A., (2021) WATER POVERTY IN ENGLAND AND WALES, Water Consumer Council, 12 p. <https://www.ccwater.org.uk/wp-content/uploads/2021/04/1.-Jonathan-Bradshaw.pdf> [↑](#footnote-ref-5)
6. https://www.gov.uk/government/news/cheaper-broadband-for-struggling-families-14-august-2022 [↑](#footnote-ref-6)
7. Sometimes described as a rising block tariff. [↑](#footnote-ref-7)
8. Morris, C.N. (1981) Note on restructuring energy tariffs, DHSS, unpublished, March. [↑](#footnote-ref-8)
9. Bradshaw, J.R. and Hutton, S. (1983) 'Tariff tilting', pp 143 154 in Bradshaw, J.R. and Harris, T. (eds), Energy and Social Policy, Routledge and Kegan Paul: London

   See also Room, G. (2022) The cost of living and domestic fuel - a proposal https://blogs.bath.ac.uk/iprblog/2022/09/08/the-cost-of-living-and-domestic-fuel-a-proposal/?subscribe=success#subscribe-blog-1 [↑](#footnote-ref-9)
10. See also Resolution Foundation (2022) A chilling crisis: Policy options to deal with soaring energy prices, https://www.resolutionfoundation.org/publications/a-chilling-crisis/ [↑](#footnote-ref-10)
11. Alice Lee, Ian Sinha, Tammy Boyce, Jessica Allen, Peter Goldblatt (2022) Fuel poverty, cold homes, and health inequalities. London: Institute of Health Equity https://www.instituteofhealthequity.org/resources-reports/fuel-poverty-cold-homes-and-health-inequalities-in-the-uk/read-the-report.pdf [↑](#footnote-ref-11)
12. Webb, M. (1978) Policy on energy pricing, *Energy policy*, March. [↑](#footnote-ref-12)
13. The Centre for Sustainable Energy have developed a model that translates spending into annual consumption but in the time we have for this analysis we have not been able to adopt it. It will be included in future work. https://www.cse.org.uk/downloads/file/dimpsa\_data\_notes\_and\_guidance.pdf [↑](#footnote-ref-13)
14. Multi-unit households without pensioners. [↑](#footnote-ref-14)
15. Not including Pension Credit [↑](#footnote-ref-15)
16. And now mortgage costs. [↑](#footnote-ref-16)