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Dear Jeremy,

Thank you for providing us with an opportunity to comment on the Helm review of energy costs.

The review, and its recommendations, are extremely broad-ranging and in the interests of brevity we have concentrated on a small range of issues and recommendations where we think there is most scope for consumer impact rather than seeking to exhaustively respond to every recommendation or issue that it raises. None of the recommendations in the review have been subject to detailed cost/benefit assessment or detailed design work, so in many instances it is too early for us to reach a definitive view on whether we would support or oppose reform, but we have tried to set out the design principles and considerations that should be taken into account were the recommendations to be taken further.

We structure our response around the three core areas of activity covered by the review: generation, network infrastructure and supply.

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Electricity generation

We agree with many of the review's criticisms of past approaches to decarbonising the power generation sector. The review ably articulates how vulnerable the arrangements have been to capture by lobbyists, the difficulties in administrative price setting, and the lack of focus on value for money. Other bodies have been similarly critical of some of the deals that have been struck. The NAO has expressed major misgivings about both the uncompetitive deals struck while the Electricity Market Reform bill was being passed, and of the Hinkley Point C deal.¹ The CMA, in its energy market investigation, suggested that the former projects would cost consumers around £250-310m/year more than they would have needed to had they been competitively auctioned.²

¹ 'Early contracts for renewable electricity,' 27 June 2014 and 'Hinkley Point C,' 23 June 2017, both NAO.

² 'Energy market investigation: final report,' CMA, 24 June 2016.

The introduction of auctioning for low carbon contracts has been a success and we would like to see BEIS build on this success by removing the discriminatory aspects of current auction design and concentrating on procuring power at the lowest price. At present, technologies are allocated to different auction pots depending on whether they are classed as being more or less established. Discrete funding is available for the different pots, with BEIS currently only choosing to fund the less established pot which includes offshore wind. Some technologies where there is a very restricted pool of projects, such as nuclear and tidal lagoons, have been subject to separate bilateral negotiations.

We recognise that BEIS cannot simply focus on the cheapest short term options, and that there can be longer term benefit in backing a technology that is expensive now in order to bring its costs down and retain options for the future. Indeed, in some areas those calculated gambles on the future are clearly paying dividends; for example, the sharp falls in the strike prices needed to bring forward new offshore wind. However such choices do involve trade-offs between the interests of current and future consumers. They also necessitate assumptions on the 'option value' of having that technology choice in the future, that it is needed (and it may not be), that it will come down in price to a point where it is economically viable in the future (and it may not), that over a longer period it is a better option than the many other options on the table (and it may not be). With the Levy Control Framework spend approaching £10bn/year, the scale of the decarbonisation challenge means that these choices can be very expensive.

As a stakeholder, we are not aware of BEIS, or its predecessor DECC, ever having published or otherwise articulated a clear rationale as to why it chooses to fund some auction pots and not others, or of how it has calculated the trade-offs when it has chosen to promote a less established technology when cheaper short term options are available. That absence is hugely concerning to us, and in our view, has a negative effect on the department's accountability to the public. Even where impact assessment is available, it is often too little too late. For example, the department's published impact assessment on the Hinkley Point C deal was not published until after the deal was legally binding, and only stretches to three pages, despite the NAO estimating the public subsidy associated with that deal at £30bn.

If BEIS is to continue its current policy of picking winners, and not simply enabling a level playing field for all technologies, then it simply must improve its processes for communicating how it is making these trade offs.

We would prefer to see a presumption in favour of a level playing field in all future procurement decisions by BEIS. Such a framework would have the following features:

Firstly, the ban on onshore wind should be lifted. Onshore wind is one of the most cost effective scalable low carbon generation technologies. Its current preclusion from new CfD contracts appears to have been justified on the view that it is either unpopular and/or expensive, but neither view is sustained by the evidence.

On public acceptability, the government should pay regard to BEIS's own Public Attitudes Tracker. In its most recent polling³ this shows that 74% of people either support or strongly support the use of onshore wind while only 8% of people either oppose or strongly oppose it - a net approval rating of +66%. When the focus of the question is changed to one of proximity, 58% of people would either agree or strongly agree that they would be happy to have a large scale renewable energy development in their area while only 16% would either disagree or strongly disagree - a net approval rating of +42%. Clearly, there will be locations where onshore wind is unacceptable and/or unpopular and we would support local planning processes continuing to give communities a veto on unwanted onshore wind developments. But the policy presumption that it must be unwanted everywhere because it is unwanted somewhere is unsustainable.

On costs, because it is (in competition with solar) the cheapest scale renewable technology the consequences of banning new onshore wind will be to force the procurement of more expensive alternative technologies to deliver the same overall level of decarbonisation. The implications of this become rapidly expensive. In 2015, we commissioned NERA Economic Consulting to model the impact of excluding onshore wind from CfD auctions.⁴ While technology costs will have moved on from that time, this modelling is still useful in illustrating just how material these kinds of choices are. That modelling found that, set against a baseline model that sought to run Pot 1 and 2 auctions with the same budgets and eligible technologies as in 2015, a 2017 two pot auction that excluded onshore wind would cost consumers an additional £0.5bn in order to deliver the same volume of low carbon power. Because only a one-off auction was modelled, the likely impacts of an onshore wind ban would implicitly be much higher, as a series of auctions are likely over a number of years. Such figures are not loose change, and the purposeful exclusion of low cost options will push up consumer costs. This would

³ Wave 23 on the question regarding onshore wind. Wave 21 on the question regarding support for local projects.

⁴ 'Modelling the GB renewable electricity CfD auctions - the cost of excluding onshore wind and maintaining separate pots,' October 2015, NERA Economic Consulting. <https://tinyurl.com/zwr4o5n>

be inconsistent with the government's stated aim that we should have the lowest energy prices in Europe.

Secondly, we would like to see BEIS move to a single pot auction model. The case for separating offshore wind into a 'less established' pot is now untenable when projects are being brought forward for £57.50/MWh. There are also significant consumer costs associated with protecting high cost technologies from competition with low cost ones. NERA's 2015 modelling for us also looked at the potential outcome of moving from a two pot to a single pot model and found that these were significant - that it could reduce consumer costs by around £1bn in a single auction round. Again, this may understate the total savings achievable to consumers as it simply models a one-off auction whereas in practice there may be a number of auctions over a number of years.

In practice, we expect that objections to a single pot auction model approach will likely come from advocates of high cost technologies that may struggle to win capacity under such an approach. Historically BEIS has been sympathetic to such arguments - as DECC, it introduced banding under the RO and then a multiple pot auction approach under CfDs. But it is important to be mindful that generation technologies are tools, not outcomes in their own right. If we can meet our desired public policy outcomes - meeting our decarbonisation targets and keeping the lights on - with a cheaper toolkit we should be doing so.

In keeping with this presumption in favour of open competition, we would also like to see BEIS desist from entering into bespoke bilateral contracts with technologies where only one bidder exists. This approach is hampered by informational asymmetries and by the absence of competitors - that if you want the project, there is only one seller. The NAO and CMA's criticisms of the Hinkley deal should be learned from. If such projects cannot compete through an auction model, the conclusion that seems to have been taken - that the auction is not fit for purpose, because it would not see that project built - is actually far less convincing than an alternative conclusion - that the auction is fit for purpose *precisely* because it would not see that project built, because it is poor value for money.

Noting that the NAO suggested that alternative financing models could have significantly reduced the cost of the Hinkley Point C deal, and that Brexit may provide some relaxation or alteration in State Aid rules as they apply to the UK, it may be timely to look again at whether CfD structures are the most cost effective approach to bringing forward new nuclear projects, if the government remains committed to doing so. We note that the government appears very committed to

new nuclear, eg that it is entering into a sector deal with it, despite the headline cost (strike price) of such projects appearing unfavourable when compared to many scale renewable technologies. If this remains the case, we would encourage BEIS to publish the thinking and evidence that underlies this commitment, as to an external audience this decision currently appears sub-optimal if it is seeking to keep down consumer costs.

Moving to a firm equivalent capacity auction

The review suggests that a preferable approach would be to move towards a unified auction model that procures both capacity and decarbonisation through a single instrument. CfDs would be abandoned, and the incentive for low carbon plant to be procured would be provided instead through the introduction of a much stronger carbon price. This carbon price would then be internalised through the bids into the auction, and the costs of intermittency would likewise be so through a requirement for bids to be for firm power, such that intermittent generators would effectively pay for the costs of their own back up. To prevent carbon leakage, some form of border tax would be adopted that would discourage simply importing power from over our borders.

On face value, we find this an elegant and logical model though we do not underestimate how difficult it would be to introduce. While the carbon floor price appears to have been very effective in pushing old coal off the system, it does not appear to provide a business case for new low carbon generation in isolation - the wholesale market price, which should internalise the carbon floor price, remains at a level that would see very little (if any) merchant plant built. While the review does not suggest what carbon price would be needed, the implication is that it would need to be much, much higher than the existing carbon floor price. For obvious reasons, this may be politically difficult as it would involve higher taxation of a public good and essential service - electricity.

The net effect on electricity consumers is not wholly clear. It should not alter the consumer cost in relation to CfDs already struck as their strike price would remain unchanged. Indeed, from an accounting perspective it should decrease existing CfD liabilities because a higher carbon price should inflate the (market) reference price. In relation to other existing plant that is not backed by CfDs it would likely result in an increase in the wholesale market price (as a higher carbon cost is internalised) that should in theory be partially or wholly offset by a decrease in the rents that generators need to seek through this new unified auction model. Because both CfD and capacity mechanism payments are grandfathered it is possible that there will be

some contractual instruments overhanging the market, and therefore influencing the market price, that distort bids into the new mechanism and/or the wholesale market price. But nonetheless a plausible case can be made that we could transition to this model without incurring material new costs in relation to contracts already struck.

Whether new contracts are cheaper for consumers under this new model would principally depend on the bankability of the carbon price that underpins it - would investors be sufficiently confident that they would invest off the back of it, and would the cost of capital derived from it be as low, or lower, than it currently is. It would also depend on whether government could adopt a genuine commitment to stop picking winners and therefore avoid taking steps that would distort the new auction model (such as the exclusion of some technologies, or preferable treatment for others) and drive its cost up.

The bankability of carbon prices remains lower than it should be, both in the UK and overseas. The EU ETS has delivered a consistently low and volatile price, both through oversupply and through political expediency resulting in large volumes of credits being given away and suppressing the price. While the UK has stayed the course on retaining its own unilateral carbon price floor, it has frozen its level in several budgets despite introducing it with an expectation that it would escalate year on year. At the time of EMR, DECC opted for CfDs over stronger carbon pricing on the basis that contracts are enforceable in law while tax commitments are not, implying that it thought the cost of capital would be lower, and the volume of investment forthcoming would be higher, through a contract based stimulus package than a tax based one.

While we strongly share Helm's desire to see an end to policy makers picking winners, as reflected in our earlier recommendations around moving to single pot auctions and removing bans on cheap technologies, we also recognise that this is something that governments of all political hues are likely to find fundamentally difficult to do, because it affects jobs, industrial strategy, and by implication, votes. While this does not alter our desire to see CfD auction reform, it does make the case for completely scrapping the current arrangements and replacing them with a new unified auction less attractive in practice than the review makes it sound on paper. This is because we suspect it would require primary legislation, with the several years of uncertainty that would cause, without any real certainty that its aims would not be undermined by an unwillingness to commit to a strong enough carbon price and/or a desire to tinker with the design to promote or inhibit certain technologies for political reasons. We would have more confidence in the value of commencing

primary legislation to produce this new technology neutral model if the government could first modify the existing CfD auction model to be technology neutral - because the latter is easier than the former, it should form a natural stepping stone.

Refinancing CfDs

The review recommends that past financial commitments entered into in relation to low carbon generation should be ring-fenced from new contracts that are entered into, that 'industry' should be exempted from the legacy costs, and that they should be refinanced.

We consider the recommendation that 'industry' should be exempted from legacy costs in the later section on electricity supply.

In relation to refinancing, we think the review makes a very strong point but that it may be easier to enact in relation to new CfD contracts than in relation to old ones. New low carbon assets, whether renewables or nuclear, tend to have a much higher ratio of fixed to variable costs than the fossil fuel assets that they replace. In particular, renewables are characterised by nil fuel costs resulting in low operational costs. Because of this, the bulk of the commercial risk associated with new low carbon projects tends to be in the build stage, not the operate stage. This makes refinancing debt at the point a build is complete a very attractive commercial opportunity, and one we understand as being frequently pursued.

In the case of the Hinkley Point C CfD, an explicit gain-share agreement was included that will require the developer to share the benefits with consumers in the likely event that it can refinance its debt obligations more cheaply once it is up and running. But the standard template for non-bespoke CfDs does not include gain-sharing arrangements.

It is possible that this opportunity to pocket the proceeds from refinancing later may flow through to lower upfront bids being made, in an 'averaging out' effect, but this is far from guaranteed. On balance, we find it plausible that the approach Helm suggests of allowing for different levels of return at different stages of the project lifecycle could reduce total consumer costs. As an incremental change to the CfD approach, rather than a complete replacement of it, it may also be easier to implement than the abolition of CfDs that is implied by the proposed move to a single equivalent firm power auction. We therefore recommend that BEIS give consideration to including refinancing gain-share provisions in all future CfDs.

In relation to existing CfDs, we see the refinancing point as much harder to deliver. One of DECC's core arguments in favour of the introduction of CfDs was that they

are binding in contractual law - that they would deliver a lower cost of capital because investors could be sure that current or future governments could not wiggle their way out of their commitments to honour their terms. Because of this, it is not clear to us that there really is any way to try and renegotiate existing instruments - we cannot see why investors would want to agree to this. For the avoidance of doubt, this should not be interpreted as opposition to trying to claw back any windfall gains that developers have achieved through financial engineering at consumers expense - we would fully understand and support government in any desire to do so.

Other issues

Under the CfD approach, consumers policy cost liabilities are more volatile than they would be under a fixed or premium feed in tariff approach, because they are exposed to price forecasting risk as well as volume forecasting risk. This particularly matters because the track record of even highly respected bodies in forecasting power prices is poor - even over short time horizons. In the summer of 2015 we saw the consequences of this as unexpectedly low gas prices (among other things) contributed to an estimated overspend under the Levy Control Framework (LCF). The government acted quickly to try and curb inflationary pressures in the LCF by cutting its spending commitments. But it could recur in future. Indeed, given the poor track record of price forecasting and the long lifespan of many of the CfD contracts, it seems more likely than not that there will be periods where we may appear to be significantly over, or under, forecast spend in the coming years. This may create investment and affordability problems in terms of boom/bust cycles, by encouraging short term hacking back of new contracts (or entering into a flood of them) based on a short lived perception of feast or famine.

Electricity transmission and distribution

We welcome the recognition within the Helm review that networks have been granted excessive returns at consumers expense. It chimes with our own findings, most recently in the report 'Energy Consumers Missing Billions: the profits gifted to energy networks,' which we append to this submission.

Windfall gains to energy networks

Our central estimate in that report was that consumers will pay £7.5bn in excess profits to electricity and gas transmission and distribution companies over the course of their current 8 year price controls. These overpayments are driven by a

range of ex ante calibration errors, principally, though not exclusively, in how the Weighted Average Cost of Capital (WACC) of the firms have been calculated.

The first of these errors relates to the risk free rate embedded in the WACC. Ofgem estimated this as being between 1.7% and 2.0%, depending on the price control. However, throughout the price controls thus far, the actual daily real return on 10 year government bonds, which can be used as a proxy for the risk free rate, has never been as high as 0% and has sometimes been lower than -2%. The consequence of overestimating the risk free rate has been to inflate the WACC, increasing investor returns.

The second of these errors relates to the equity beta, also embedded in the WACC. The equity beta is intended to compare a company's share price volatility with that of the wider market. The intention is to capture the market's view of how risky a business is - and by extension, in setting price controls, to deliver a level of return that is commensurate with that level of risk. Ofgem chose to set an equity beta of 0.9, implying that investing in networks is almost as risky as investing in the wider market, despite a wide range of evidence that a lower figure was merited. Its own consultants suggested a range of 0.5-0.8% would be more appropriate and the two year averages at the time the price controls were set suggested a range of 0.4-0.6%. Again, the consequence of overestimating the level at which this parameter is set has been to inflate the WACC, increasing investor returns.

The third of the WACC errors relates to the cost of debt. This is indexed, which we agree with in principle, but over an inappropriately long period. For example, ED1 indexation will incrementally extend to 20 years meaning that it will not reflect current market conditions. A by-product of the 2008 global financial crash is that debt financing has been available at historically low cost levels in recent years, but the indexation extends back before this period to capture an era when it was much higher. Again, this is likely to have the effect of unnecessarily inflating the WACC at consumers' expense. In other publications, Dieter Helm has argued that 'any index less than five years will improve... arrangements. It could be an annual adjustment... it could be monthly, or even weekly or daily'.⁵

Away from the WACC, there is also evidence that networks are being over-compensated under their incentive regime to improve operational performance.

In setting the allowances for networks total expenditure, Ofgem forecast how industry-specific costs for things like material and labour would change over the

⁵ 'Utility Regulation, the RAB and the cost of capital,' Dieter Helm, 2009.

course of the price control and included that forecast in the allowed expenditure — what they call Real Price Effects. But it's now clear those forecasts weren't correct: Ofgem's analysis suggests prices for electricity transmission and gas distribution are expected to be around £1.9bn lower and the companies will be taking around £0.9bn that in profit.

Finally, the range of other quality of service incentives set for the networks appears fundamentally skewed in their favour. In theory, this framework of payments and penalties should reward good performance and punish bad performance, with scope to both increase or decrease the networks baseline return. But in practice, every network seems to outperform almost all the time.

Our work has led us to six key recommendations, which we recommend the Government should consider as part of its response to the Helm Review.

Firstly, these overpayments should be refunded. We argue that in the first instance network companies should voluntarily return excess profits to consumers. Helm recommends that Ofgem consider this as one of three options. In our view if network companies do not do this then government should step in.

Secondly, that future price controls should rely on indexation rather than ex ante forecasts of key parameters. In particular, we recommend that:

- The risk-free rate is indexed to yields on 10 year Government gilts, at either a 20 year or 10 year indexation rate
- That the cost of debt index is reduced from 10 years to 5 years, so that the cost of debt that determines the WACC matches actual market conditions more closely
- That Ofgem develop a custom inflation measure for industry specific costs, as it considered doing for the electricity distribution price control, so that it does not have to rely on its own forecasts of real price effects.

Thirdly, that a more justifiable equity beta is used. Currently a figure of around 0.6 would appear appropriate.

Fourthly, that Ofgem transition from using RPI to CPI as its inflation measure, in line with other regulators and functions of government.

Fifthly, the recalibration of performance incentives. In particular, we recommend that:

- Ofgem should dynamically benchmark incentives, so that all companies are held to the standards set by the best performers. This will lead to sharper

incentives to perform excellently, as it increases the likelihood of financial penalties which have been relatively rare in the price control thus far

- incentives should be bankable - once network companies' have been incentivised to achieve a standard, it should be treated as business as usual and companies should face penalties if they fail to achieve it.

And finally, new powers for consumer bodies. At present, there are provisions that allow networks to ask for their ongoing price controls to be reopened if they consider them to be too harsh, but there are no equivalent provisions that allow network users to ask for them to be reopened if they are too generous.

Other issues

We agree with Helm on the need for greater competition in network activity. Ofgem has already been seeking to introduce this for discrete projects above a £100m threshold and it may be appropriate to consider whether this threshold can be reduced. The example of the Thames Tideway Tunnel demonstrates that significant savings can be shaved off the WACC of major infrastructure projects where multiple bidders are involved⁶, and we have also seen sharp falls in the costs of renewable generation projects as BEIS has moved from administered to competitive pricing. If competition *in* the market is difficult for network activities, competition *for* the market should be attempted where it is possible.

We also think the review is correct to highlight that the role of distribution networks will need to evolve, particularly in the area of balancing services. Traditionally, large scale balancing activity has been conducted at national rather than regional level, but as the balance of transmission versus distribution connected assets progressively tilts towards the latter it is reasonable to challenge if that model remains the most cost effective one for consumers.

Notwithstanding this, we are not yet convinced of the need to physically unbundle regional system operation from regional network asset operation in the way envisaged by the review. It envisages 14 new, wholly independent and publicly owned system operators ('SOs') being carved out of the existing distribution networks into new entities. The regulation of the physical asset base left behind with the network owners is unclear, although the review seems to suggest their revenues would now be regulated by the regional system operators rather than than the national regulator, Ofgem. In order to give these new entities freedom, the

⁶ 'The Thames Tideway Tunnel: returns underwater?' Oxera, September 2015.

prohibition on SOs from undertaking generation or supply activities would be removed.

These are dramatic changes to the accountability and ownership framework of the sector that appear likely to require primary legislation and many years to implement even if they come with a tail wind - and they may not do so. In particular, were these proposals to be progressed, we would wish to understand what the implications were for network asset regulation were Ofgem to be stripped of this role, with it given to the networks. We would need to understand why SOs needed to carry out generation or supply activities themselves and could not simply subcontract work needing those licences to those who already have them. We would wish to understand how the value in the current businesses would be apportioned between the new publicly owned entities and to the old privately owned asset owners. While the review only covers electricity, reforms of this type to that sector may suggest gas reform is needed too. It would be necessary to keep the existing system of regulation functioning during the transition period which creates questions as to how cleanly (or not) such a transition would map onto existing price control timetables. So, for example, would the RII01 settlements need to be curtailed? Or, if the timeline suggested implementation during what would otherwise have been the RII02 period, does this mean either short RII02 price controls or the extension of existing RII01 price controls? These are all substantive issues, and a far from exhaustive list. So, if BEIS is minded to take forward the review's unbundling proposals, we would recommend it publishes a roadmap and timetable for how it would deliver this scale of system change. On balance, we are more convinced that quick, big, wins for consumers can be delivered through our own network proposals, outlined in the previous section.

As smart homes become more normal, and increasing numbers of households have electric vehicles or onsite microgeneration, the sustainability of current charging methodologies is likely to come under increasing pressure. The balance of fixed versus variable charges that are applied at household level may become untenable if semi-off-grid users are able to largely escape the latter despite benefitting from the security of supply that a network connection offers. For these and other reasons, Ofgem has initiated a distribution charging review. Because of this, we do not think that BEIS needs to initiate its own network charging work at this time.

Electricity supply

Exempting industry from policy costs

We do not support Professor Helm's recommendation that 'industry' should be exempted from historic policy costs. The review contains no cost/benefit assessment of this proposal whatsoever, but implicitly it would push up household bills as the avoided costs of industry would need to be recovered from other users. The review does not define what 'industry' means and who would be eligible. It does not set out why 'industry' is in need of this kind of financial assistance either. The existing exemptions from policy costs for energy intensive industries are implicitly based on need and exposure - that those eligible industries are ones where energy is a major input cost that hampers international competitiveness. But Helm appears to be advocating that all 'industry' receives exemptions, regardless of whether energy is a major input cost or a trivial one, and regardless of whether it materially impacts their global competitiveness or not. Some of the assertions used to substantiate this policy recommendation are very questionable. For example, it is asserted that 'all businesses are affected by potential and actual international competition, although they might not realise it.' How is a corner shop affected by international competition? How is a regional rail network, or a power distribution network, affected by international competition?

The review contains factual errors on the breakdown of policy costs between households and businesses. For example, Helm asserts in paragraph 32 (page 40) that households are exempt from the costs of the carbon floor price. They are not. The carbon floor price affects the input costs of fossil fuel fired power stations and will flow through to the wholesale price component of household bills in exactly the same way that it affects industrial and commercial users.

It appears to us that there are several other flaws in the thinking around exempting industry from policy costs. Firstly, Helm appears to distinguish between carbon prices, which he appears to consider that industry should pay for, and past policy costs, which he thinks that they should not pay for, on the basis that only the former would internalise the cost of carbon into the power price and 'force emitters to pay the full cost of their activities.' This implies that a carbon price is a form of polluter pays, but that existing decarbonisation instruments such as CfDs and FITs are not. In our view, that is a false distinction. While we share many of Helm's criticisms regarding the profligacy of some past low carbon procurement decisions, and note that existing exemptions for heavy industry have worked to undermine polluter pays principles, it is nonetheless the case that suppliers generally recoup existing

policy costs on a per unit basis, rather than a per supply point basis. And those policy costs have been incurred in the context of successfully, if expensively, reducing the carbon intensity of our generation mix. Because of this, there is a polluter pays aspect to the current regime: the more power you use, the greater the amount of policy costs you pay, and the greater your contribution towards the costs of low carbon transition. Helm may well be correct that society has paid more than it needed to in delivering decarbonisation to date, but there is no logical argument that can be made that it is entirely the fault of domestic consumers and that it is therefore entirely their responsibility to pay for it.

Secondly, there is an assumption that past policy costs can be explicitly ring-fenced and quarantined from the market price such that in future 'industry' could be exposed to a price that is wholly divorced from those costs. In practice, that logic is unsustainable. Past and currently ongoing policy instruments like CfDs and the RO fundamentally interact with the wholesale price of power, and will continue to do so for many decades to come, out to 2060 in the case of the Hinkley Point C deal. Those instruments enable significant revenue streams for those generation projects that impact on the revenues that they need to recoup from the wholesale market. Put simply, they will tend to deflate the wholesale power price. They also partially cover the cost of keeping the lights on, and not simply decarbonising - this is the reason why DECC (as was) decided that CfD eligible plant could not receive revenues from the capacity mechanism: because it considered that they are already being rewarded for the value of their capacity through the CfD strike price. The wholesale price of power has been stubbornly bounded in the £35-55/MWh bracket for a number of years now, despite this being a level that little or no new power generation could be brought forward for, precisely because of the existence of policy contracts that make good the difference needed to get power stations built and keep them running. And 'industry' will be benefiting from those contracts for many decades to come - just as domestic consumers will. So it is appropriate for 'industry' to be bearing its full share of costs for those plants. If they simply pay the wholesale price, even if it has been boosted by a stronger carbon price, they will not be meeting those historic costs.

Universal basic allocation of fixed costs

The review is correct to identify that the burden of policy costs is particularly hard to bear for lower income groups. The UK's decision to fund its low carbon transition through bill based rather than tax based policies is unnecessarily regressive as those in the lowest income deciles spend a higher fraction of their income on energy than those in the highest income deciles. While moving to tax based policy

funding may not reduce the total cost to society of decarbonising it would at least reduce the burden on the poorest in society, and we encourage the government to use this review as an opportunity to reconsider how it funds energy policies.

Recognising that moving the burden from bills to taxes may be politically difficult, it is reasonable to question whether there are any means in which detriment can be reduced if these policies are to remain bill funded. A universal basic allocation of fixed costs of the kind proposed by the review could be one means to achieve this.

Such an approach is unlikely to be cost reflective, but a cross-subsidy may be justifiable on social grounds. It may also be possible to justify such an approach on environmental grounds too, as it may increase incentives for lower usage.

In general terms, lower income consumers do use less power than higher income users, but it is important to be conscious that there are exceptions to this rule. Factors such as personal circumstances, long-term illness or residence in poor housing stock can all cause some low income users to have unusually high consumption. So, if a policy of this type is to be pursued, it will be important that BEIS carefully impact assesses the winners and losers in order to reduce the risks of unintended consequences.

In 2015, the Centre for Sustainable Energy produced a report for us, 'Energy tariff options for vulnerable consumers,'⁷ that considered a range of possible interventions to try and mitigate affordability problems for low income or otherwise vulnerable households, while ensuring overall revenue neutrality. Included among these options were several that have some similarities with what is proposed in this review: removing policy costs from an initial block of consumption for all consumers; removing policy costs from an initial block of consumption for only vulnerable consumers; or introducing rising block tariffs. The removal of policy costs from an initial block of consumption used made relatively little difference to the overall bills of either eligible or ineligible consumers and was not taken forward as other options such as a 'safeguard' tariff for vulnerable consumers appeared likely to more materially help consumers in need. However, in principle the two interventions are not mutually exclusive and could be combined if BEIS so chose. Rising block tariffs fared badly in the 2015 assessment on a range of administrative and regulatory cost grounds, see section 4.9.3 of the report.

⁷ 'Energy tariff options for consumers in vulnerable situations,' Centre for Sustainable Energy, May 2015. <https://tinyurl.com/q39stwa>

Price caps

We largely agree with the review's analysis of the problems in household retail competition. In particular, the review very ably highlights that the calculation of supplier retail margins based on the entire value chain will tend to give a misleading picture of profitability given how large a proportion of that value chain is outside suppliers control and is simply passed through to consumer bills.

The right for households to choose their electricity and gas supplier(s) was phased in between 1996 and 1998, yet by 2015 over half of households had still never switched energy supplier.⁸ The CMA's energy market investigation found that the largest energy suppliers held market power in relation to the provision of standard variable tariffs, and that consumers were paying around £1.4bn/year more than they would under a well functioning market. It suggested that a profit margin of around 1.25% would be a fair return, but last year the Big 6 on average made nearly four times that amount, 4.8%.

The government is right to seek to tackle the detriment experienced by SVT consumers, and we also support Ofgem's separate work to bring in tariff protections for vulnerable consumers as an interim measure.

The review suggests the price cap could take the form of a margin cap. The explanation of how it would be configured is confusing, and it is not clear whether the intention is that the profit margin figure that is disclosed is the supplier's actual profit margin, or their nominal profit margin against a calculation of the baseline costs of a theoretically efficient supplier. We would strongly caution against the former, as there is a risk that it may confuse the advice that consumers receive and result in perverse outcomes. For example, a customer offered two tariffs, one that would cost £1,000/year from a supplier making a 5% margin and the other that would cost £1,050/year from a supplier making a 0% margin would, other things being equal, be better off choosing the first of those two tariffs. But if price comparison and messaging were built around actual margin, rather than actual cost, they might instead purchase (or stick with) the latter, to their detriment.

If the cap is based on a nominal margin against a baseline that is common to all suppliers that is likely to result in much more effective price comparison, although the deemed profit margin would then become purely theoretical - consumers might be told that the supplier is making an X% margin when the true figure is much higher (or lower) than X because they are much more (or less) efficient than the baseline calculation. Consumers might make more efficient price comparison

⁸ 'Appendix 9.1: CMA domestic customer survey results,' CMA, 24 June 2016.

choices, but this may come at the cost of reducing rather than improving public understanding of industry profitability.

In the round, these communication problems suggest that encouraging consumers to shop around on the basis of published notional or actual margins, may be sub-optimal. We agree however that any price cap should be an absolute cap, not a relative one, to constrain consumer detriment. The calculation of this absolute cap should, in turn, allow for a reasonable level of return for an efficient supplier.

Replacement of fuel duty

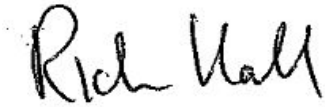
Most analysts expect significant uptake in the numbers of electric, or hybrid, vehicles in the coming years, and the electrification of transport is a key pillar in the UK's decarbonisation strategy.

Fuel duty is a significant source of revenue for the government, expected to account for £27.5bn, 3.7% of all tax receipts, in 2017/18. Electrification of transport may be expected to erode that figure over time, leaving the government with a tax gap to make up. It could choose to do this by hiking the rate on the smaller number of vehicles still exposed to fuel duty, by recalibrating the levels of other existing taxes, or through the introduction of new taxes. We have concerns that one option that may be considered may be to simply try and hike electricity taxes to make up the lost revenue, on the grounds that electric vehicles are substituting for petrol or diesel vehicles. While superficially logical, we think it would be hard to apply in practice without creating distortions. It would be hard to distinguish between those households using electricity to power their vehicles and those who still used petrol or diesel, or who did not have a vehicle at all. It may also undermine incentives to switch from petrol or diesel to electric vehicles.

Regardless of how fuel duty is replaced, the timing and scale of any changes to it may impact on the incentives around the uptake of electric vehicles. By extension, there is scope for significant knock-on impacts on the investment needed in electricity networks and generation. Because of this, we would strongly encourage government to develop and publish a roadmap for how it expects the system of fuel duty taxation to evolve with the increasing uptake of electric vehicles.

I trust that this response is clear, but would be happy to discuss any matter raised within it in more depth if that would be helpful.

Yours sincerely

A handwritten signature in black ink that reads "Rich Hall". The signature is written in a cursive, slightly slanted style.

Richard Hall
Chief Energy Economist

Patron HRH The Princess Royal

Chief Executive Gillian Guy

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