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Submission by the Energy Policy Group (EPG) of the University of Exeter to the BEIS Call for Evidence on the Helm Review.

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Summary

The table below (Table 1) sets out the issues that the EPG agrees with in the Helm Review, and the issues we do not agree with. On some issues, we semi-agree with Helm. In these cases, we tend to agree with the problem but not with his solution.

The IGov and EPG websites have multiple blogs / papers / working papers on all of these issues. We would welcome the opportunity to discuss this further with you.

ISSUE	EPG DOES NOT AGREE WITH HELM	EPG AGREES WITH HELM
Definition/focus of cost of energy review	Bills not unit prices are what matters – Helm does not spend enough time on energy efficiency. We argue that a domestic energy efficiency programme should be the priority focus for Government if they wish to reduce domestic customer bills. Energy efficiency across the economy would also keep costs down via reduced infrastructure costs etc	
Whole system	Energy is a whole system. Helm does say that the energy system is changing fundamentally but his solutions do not fundamentally alter the energy system in terms of markets and institutions. Whilst we recognise his ToR was set up to think linearly in terms of electricity generation; T and D; and suppliers, we do think he could have argued that such a view is distorting GB energy economics and system value, and hence costs to customers.	

Political economy of policy	On the one hand he does appear to recognise that political economy matters within the energy system – as we also argue. However, Helm mainly blames lobbyists for subsidies and the complexity of energy policies; R and D problems for renewables; Ofgem and the regulatory mechanism. We do not necessarily agree with his arguments but his overarching solution of a system with ever more sophisticated competition, is something we certainly disagree with. We argue it is necessary to confront the political economy inherent in trying to transform a highly capitalised industry and to put in place a policy making process which is legitimate and transparent and which tries to address those political economy issues	
Competition and Delegation	IGov argues that we need to move to a governance framework where there is more legitimate decision-making and a new balance between regulation and markets. This then enables more direction via regulation and less reliance on markets. Ironically, the IGov framework is, in some ways, more market based than that put forward by Helm.	
Market design and market power	We disagree with Helm's analysis of the wholesale market and solutions: ie essentially the wholesale market continuing as is but in a diminished importance, alongside a capacity market and a RSO which may have competitive tenders. We argue a new market design is needed [a 2 market structure – a pool at national, wholesale level with effectively priority access for variable renewables via a must take wholesale market combined with local balancing and coordinating markets]	Semi-agree on market power – hence IGov argument for market monitor, local markets, new market design
Renewable energy and R&D	We do not agree with his arguments about renewables, and innovation.	Semi-agree with issues around 'subsidy for everything' hence our argument for new governance framework to get rid of need for subsidy in many situations. However, Helm's solution is much too complicated and anyway seems to continue with subsidies
Innovation	We disagree with one of GB's underlying principles that somehow research projects are always better with industrial or industry partners. Whilst often positive, our experience can also be that those partners are less keen on real investigative work and more supportive of outcomes which fit short term, political realities; their self interest or the status quo.	Semi-agree with issues about a very complicated innovation picture, and we agree it should be streamlined. However, our worry is not with renewables per se, although generally useful to have more money.

	This is undermining of our definition of innovation.	
Equivalent Firm Power and Legacy costs	The arguments for a move from FITs and CfDs to Equivalent Firm Power (EFP) to counteract subsidies and legacy costs – is much too complicated. 'Firmness' is a system function – and should be delivered via distribution service providers (DSPs, see below); the national independent and integrated system operator and markets. An appropriate market design makes a separate legacy cost mechanism redundant.	
Uniform carbon price	We do not agree with the argument that getting economy-wide uniform carbon prices is fundamentally important from an analysis point of view – although we think that having a carbon price is one dimension of a successful energy policy. However, we think it is probably politically impossible to implement effectively, but anyway does not help investment	
Default service / price caps	We do not agree with a **relative** price cap – if we have to have a default tariff then they should be absolute, temporary and include a rising block tariff function	Semi-agree about default tariffs – we understand it is a political issue which has arisen because of the lack of a market monitor, and because of the overly lax GB regulation. However, whilst Ofgem could have done more, this is primarily the responsibility of the Government. Having got to the situation we are in, we are supportive of either a temporary default tariff or one-off levy ([1]). In principle, we do not like price caps. Most US States have a 'default' tariff – and GB should learn from them.
Capacity market	We do not agree with the need for a capacity market[2]. We think the ability to tender for particular capabilities – not necessarily capacity – should be a function resting with the SO via targeted, tendering and via the DSPs via targeted tendering or markets. It makes no sense to argue for an RSO and to have a capacity market. This point links to our arguments for integrated alterations to market design, network charging and tariffs.	
The role of Ofgem	Unlike Helm, we continue to see Ofgem as an important institution with an important function. We absolutely do not agree that somehow 'RSOs' and the 'NSO' will need less	We semi-agree that the role of Ofgem needs to change: we argue that it should be returned to being an economic regulator.

[1] http://projects.exeter.ac.uk/igov/wp-content/uploads/2017/11/EPG-submission-to-BEIS-SC-Price-Cap-Inquiry.pdf
[2] http://exeter.ac.uk/igov/working-paper-the -development-of-the-capacity-market-for -electricity-in great-britain

	oversight or regulation. On the contrary, we think GB history has shown that privatised and 'competitive' functions need legitimate, transparent and clear regulation.	
NSO		We support a state owned independent and integrated system operator, which is wholly separated from National Grid Group. Helm calls this a national system operator (NSO).
RSO	We may disagree with the RSO concept if Helm envisages that they are too big a scale for local coordination. A regional system operator which either does not balance or coordinate energy and the system together at the local level or balances at a higher level would not add sufficient benefits of granularity of value for markets or services, nor particularly improved coordination.	Semi –agree with regional system operator but, importantly, our agreement depends on what scale Helm considers a RSO operates at. We think the important point is that there is coordination and balancing market, effectively under and at, the current grid supply points. Different balancing and coordinating areas will obviously link.
System and energy interaction	Helm argues that there is a need to separate out the wires from the system operator. We do not necessarily agree with this at the distribution level. There are substantial differences in operation and regulation of DNOs compared to the TSO; including the greater link between energy and system services; the ability to develop markets and tenders for both energy and services; for linking electricity with heat and mobility; and for linking network operation to fulfil government goals	
DNO transfer to RSO – or not	Helm is unclear whether he sees the DSO arm of the DNO transferring to being a RSO or whether the RSO is a new entity. We see value in the DNO transferring to being a DSP (see below) because of public service obligation issues.	
RIIO	Most importantly – and not mentioned by Helm - we argue there needs to be a much greater proportion of network company revenues related to performance on delivering outputs and complementing public policy goals.	We agree that RIIO2 needs restructuring ; we think price control length should be shortened and aligned in time with easier rules for opening up reviews and alterations to business plans.

Table 1 EPG Assessment of Helm Recommendations

Introduction

We, the Energy Policy Group (EPG) of the University of Exeter, welcome this chance to make comments on the Helm Review, and to provide our views on the matters that the Government should take into account when considering how to reduce the cost of energy in the longer term.

The EPG broadly works on issues related to innovation and governance within the energy system, and is very practice based – meaning we are interested in what actually is happening as a result of governance[3] – and we try to bring as broad an international, evidence-based perspective into our arguments as possible.

One of the EPG projects is Innovation and Governance for a sustainable economy (IGov Phase 1, 2012-2016) and Innovation and Governance for Future Energy Systems (IGov Phase 2, 2016-2019)[4]. IGov has covered rather similar ground to the Helm Review, and we have developed our own Fit-for-Purpose governance framework[5].

IGov argues that there are various drivers of, and challenges for, the GB energy system. These drivers and challenges are mainly deriving from energy system decarbonisation via increasingly decentralising and cheaper renewables; via the falling price, and understanding of, storage possibilities; and via digitalisation which is enabling new players, assessments of new economics, new services, new system operation possibilities and so on.

This means that the sum of the rules and incentives within the market design, for network regulation and charging, and alongside tariffs[6] are increasingly being viewed together by companies trying to work out what services they could provide from what stacked value[7] , and whether to enter the market. In addition, incentives on network companies via the regulatory mechanism should take account of this greater integration and Ofgem should ensure (1) markets, networks, tariffs and institutions work positively together for the good of society; (2) that the total cost of running the networks for customers is minimised; and (3) that the payments for running the networks go to outputs which are wanted by customers and society rather than continue to be given to the network companies in the way they want, and the way they have always been

Thus, we agree with Helm that the current governance structure in GB is not fit-for-purpose, although we do not always support his arguments. GB requires an energy governance system which keeps costs down and which suits the new challenges and drivers of the energy system. This governance framework has to be inherently different from that in place now because the system characteristics, system operation, societal needs and customer preferences - and hence energy economics - are either completely different now or are needed to be encouraged to a pathway to being completely different. The current governance system is set up to suit the current conventional energy system. The cost of energy is as it is in GB because the governance is maintaining the 'old' system in the face of change. An essential prerequisite for minimising the cost of energy to customers whilst meeting Government goals is to match governance to desired societal outcomes.

We do not feel that the Helm Review recommendations sufficiently recognise this; nor do we feel that his suggestions hang together as a logical 'whole'. For example, Helm argues for RSOs but also for capacity markets, when only one is necessary; or he argues for RSOs but also puts forward the new idea of EFPs,

[3] policies, institutions, network rules and incentives, market design, customer involvement and regulations
[4] www.exeter.ac.uk/igov/
[5] http://projects.exeter.ac.uk/igov/paper-gb-energy-governance-for-innovation-sustainability-and-affordability-2/
[6] We use the term tariffs to describe the choices that energy suppliers give to customers. For example, one could imagine a supplier tariff which offered a special electricity rate to customers which installed an electric vehicle charger and which allowed the supplier to top up / draw down from the battery under particular situations.
[7] in other words, rather than expecting one payment from one source, now companies are beginning to try and obtain revenues from different sources which together they 'stack' to give a final value from a service

which again is doubling up on a function. Whilst we agree with Helm that political economy is central to energy policy, we do not agree he provides a sufficiently systemic, process to the problems[8]. In the end, his recommendations would not, in our view, lead to a logical, pragmatic energy system which would push down on costs whilst also fulfilling other Government goals.

Questions to be answered

As the Call for Evidence (CfE) says the Terms of Reference (ToR) of the Review asked Professor Helm to report on the full supply chain of electricity generation, transmission, distribution and supply, and consider the opportunities to reduce costs in each part. The CfE mirrors this structure. At the end of each of the CfE sections [on electricity generation, electricity transmission and distribution, electricity supply and cross cutting issues] there are three similar questions. Each section asks what are the longer term challenges facing that issue; what matters should the Government take into account when considering that issue; and what additional evidence should the Government consider to reduce the cost of the issue in the longer term? For example, for the electricity supply section the questions are: What are the longer-term challenges for electricity supply? What matters should the Government take into account in considering the longer-term operation of the retail market? What additional evidence should the Government consider to reduce the cost of electricity supply in the longer term?

We are choosing to answer those questions for all four sections together rather than separately for each section. This is because - as the Introductory Section of our Submission describes - the energy system can no longer continue as separate activities in a top down, linear manner. The energy system is moving from that linear system to a much more circular, interconnected buying from anyone (ie large generator through to Peer to Peer), selling to anyone system (via wholesale markets through to a local pool coordinating market or micro local platform)[9] , [10].

The challenges are broadly that (1) the energy system – electricity, heat and mobility – is changing dramatically because of new technologies – Supply, Demand, storage and operation – and their falling prices and altering system characteristics (ie more variable power); because (2) the system both needs to be, and can be, operated in new ways with new services because of IT and digitalisation. This is (3) leading to changing energy economics and (4) the old ways of doing things – traditional market design based on marginal cost pricing from large firm power resources; with top-down load following - with a base load - system operation; network charging; tariff design for passive customers is simply not fit for purpose. This is (5) turning traditional roles up side down; the relationships between stakeholders is also changing; and the conventional separation of generation from networks from markets from retail is simply part of the problem.

We need new ways to assess the economics of different energy services; new ways to assess the use of the system; and new ways to ensure the provision of customer choice, and which takes account of a 'real' customer proposition. We need new ways to provide incentives to deliver the outputs we want and for new market possibilities to be opened up.

This is leading to, in our view, three major long term issues: how to pay for networks (including whether we actually want them ie the gas network); how to deal with the 'losers'; and how to maintain a public service obligation. One of the reasons why GB energy policy has got into the situation it has, and why the cost and price of energy has become such a political issue, is because GB has not confronted the issue of the 'losers' (in other terms the politics of energy system transformation). Helm goes some way towards discussing these issues, but not sufficiently in our view and without adequate solutions.

[8] http://projects.exeter.ac.uk/igov/new-thinking-on-professor-helms-political-economy/
[9] http://projects.exeter.ac.uk/igov/new-thinking-distribution-service-providers
[10] http://projects.exeter.ac.uk/igov/wp-content/uploads/2017/10/SYS-Copengahen-27-October-2017.pdf

The ‘old’ convention of matching infrastructure capacity to generation capacity would be too expensive, and is now entirely unnecessary. There increasingly needs to be more flexibility (ie demand side response, storage, interconnectors etc) in the system to enable the increasing proportion of variable power to be used without constraint– and there has to be a means for that flexibility to be paid for. This could be available through markets, networks and tariffs. The current rules and market design of the centralised, bilateral wholesale market (BETTA) does not provide sufficient granularity of value down to the distribution level at all, and anyway only provides value for a few capabilities. New market design is required to enable granularity of value to be assessed and to be captured down to the distribution level. This market design should link with network charging rules; system operation possibilities; the regulatory incentive mechanism on networks; tariffs and so on.

Helm does introduce the new concept of RSOs – although it is unclear at what scale and granularity he means them to be. Nor is it clear whether he sees them as a local balancer and coordinator. He does not argue for certain regulatory changes for network charging; but he does not put forward useful suggestions on market design; nor on integration between network charging and markets and tariffs. In other words, he does not put together a comprehensive framework which covers all cost issues. Moreover, he does not argue sufficiently for the benefits of energy efficiency in reducing cost of energy to customers.

What matters should the Government take into account in considering a framework for energy policy which minimises the cost of energy to customers?

IGov argues that the building blocks of a fit-for-purpose energy system are the decision-making process; the pursuit of energy efficiency and reduced total energy use; sufficient direction within the energy system to enable reduction in greenhouse gases in line with the CCC budgets; the provision of services / resources by actors; networks regulated and incentivised to deliver desired outputs; system and service / resource coordination; market design; tariffs; customer preferences and choice; integration between heat, electricity and mobility; and policies.

IGov has put forward a governance framework to deliver a sustainable, cost effective and secure energy system based on these building blocks. We think there are fundamental principles of reform – and having decided on those it becomes a lot easier to see what should happen:

- Starting with, and centred on, end users
- Facilitating local markets
- Open and transparent access to data
- Greater coordination
- Long term political stability; and
- Transparent and legitimate policy making

The Helm Review spends a lot of time looking at policies for a decarbonised system but does not set out over-arching principles for reform. Neither does the Review explain the importance of integration as described above. As such, he puts forward arguments, for example for Equivalent Firm Power (EFP) which seem to us to be very complex.

In our view, sorting out governance will go a long way to getting rid of the need for subsidies through any mechanisms at all – and would be cheaper to customers. For example, market design should be altered from the two parallel bilateral wholesale and capacity markets to two levels of new local, balancing and coordinating markets, nested into a national wholesale market. There is much discussion about what market design should be but in our view the national market should return to be a pool, and should be split between a must take (or priority access) pool for renewable energy and another for firm power which is only used after the renewable electricity. Local balancing pool markets (also with must take priority for renewables) should be

nested into this wholesale market. If this occurred, then renewable projects would be financible through the must take markets. The regulatory mechanism replacing RIIO could incentivise networks meeting government policies and targets (ie instead of spending roughly a £1bn / year / per DNO on upfront agreed network charging) that £1bn could be given in lieu of desired outputs[11]; distribution service providers (DSPs) would be the local market facilitators (and it is not quite clear whether Helm's RSOs are the same as a DSP – but IGov is clear the DNOs are transformed into DSPs – as much for public service obligation requirements as market facilitation. This does not seem to be Helm's view); and tariffs (retail supply) themselves would provide incentives for other types of behaviours. Together, this governance (ie the IGov framework) is taking GB back to a market energy system.

Only when this has happened, does the government need to work out what additional policies need to be in place for encouraging the supply side decarbonisation, flexibility and security.

However, we clearly argue that the Government should be prioritising the demand side – particularly via domestic energy efficiency programmes. This is clearly an area where the Government has failed. The more energy efficient a home – particularly those that are vulnerable - the less energy will be needed and therefore the less total cost to customers. But an energy efficient economy also reduces costs for example via reduced infrastructure needs etc.

In addition, the principle / philosophy behind the way a change to the energy system is costed matters. Currently, the GB energy system is costed by Ofgem in a marginal cost, static way. However, the Government needs to make sure all stakeholders are working towards an energy system transformation in the most cost effective way and that means that Ofgem needs to start thinking about a costing methodology which both takes into account the getting from A to B[12], but also thinking about costs under different institutional frameworks – like the IGov framework – and in relation to 'real' customer propositions, as opposed to some unrealistic, theoretical, economic calculation.

Conclusion

There is much in the Helm Review which we agree with. However, there is also a great deal we disagree with as set out in Table 1. This derives from our view that energy systems around the world are, and the energy system in GB is, becoming more decentralised, decarbonised and digitalised. IGov is arguing that this momentum is moving the heart of the energy system to the more local level; and it is altering the energy system from being a top down, linear system to one which is more interconnected and circular. This has implications for governance of markets, networks, tariffs (ie retail supply), regulatory mechanisms, customer choice, preference and proposition and system operation – and all these dimensions have to be integrated together if costs are to be kept down for customers. Each dimension is essential and each has to have suitable energy governance to deliver cost minimisation – however, it is the integration which is the transformative factor. Because of this, we argue – as Helm does – that the current GB energy governance system is not fit for purpose. However, we do not believe Helm has delivered a workable or cost effective set of solutions to delivering the lowest cost energy for GB customers partly because he does not highlight the importance of integration of all these dimensions, but also because some of his solutions are not sufficiently 'new' energy, for example, EFPs.

The EPG and IGov website is full of blogs, papers, presentations and working papers on this topic. We would welcome the chance to discuss these issues with you further.

[11] http://projects.exeter.ac.uk/igov/comments-on-the-open-letter-on-the-riio-2-framework

[12] http://projects.exeter.ac.uk/igov/new-thinking -the-role-of-the-ccc-in-a-reformed-GB-institutional-framework