

Energy UK Response to the BEIS Consultation on a RAB Model for Nuclear

14th October 2019

About Energy UK

Energy UK is the trade association for the energy industry with over 100 members spanning every aspect of the energy sector – from established FTSE 100 companies right through to new, growing suppliers and generators, which now make up over half of our membership.

We represent the diverse nature of the UK's energy industry with our members delivering almost all (90%) of both the UK's power generation and energy supply for over 27 million UK homes as well as businesses.

The energy industry invests over £13.1bn annually, delivers around £85.6bn in economic activity through its supply chain and interaction with other sectors, and supports over 764,000 jobs in every corner of the country.

Introduction

Energy UK welcomes the opportunity to respond to the Government's consultation on a Regulated Asset Base (RAB) Model for Nuclear. In 2018, low-carbon electricity's share of UK generation hit a record high of 52.8% driven by renewables (33.3%) and nuclear (19.5%)¹. This provided evidence of the positive transition that has occurred in the UK power sector in recent years, however, this is only the beginning of the story. If the UK is to comply with the newly legislated target of net-zero emissions at 2050, the Committee on Climate Change has identified that electricity demand may double due to electrification of heat and transport, which in turn would require a four-fold increase in low-carbon electricity generation with an important role for firm power². Energy UK believes that the UK should pursue a mix of low-carbon technologies in this expansion of the electricity sector, with strong growth in renewables supported by a replacement of the ageing UK nuclear fleet, new technology solutions such as hydrogen and Carbon Capture Usage and Storage (CCUS), all complemented by increased system flexibility and storage.

Nuclear power was pioneered by the UK with the emergence of the world's first commercial nuclear power station in 1956 at Calder Hall. Nuclear has played a key role in the UK electricity system since this date with the addition of 18 further power stations providing a safe and reliable source of low-carbon electricity to the system. Seven out of the eight remaining operational nuclear power stations are due to reach their end-of-life by 2030 creating a capacity deficit of ~7.5GW. The Government has gone some way to plugging this gap with the announcement of support for the construction of the first new nuclear power station in 20 years at Hinkley Point C (3.2GW), however, additional projects have since failed to attract the necessary public and private finance as developers have been unable to agree terms with the Government.

Energy UK supports the move from BEIS to consider alternative financing models to support the deployment of new nuclear in the UK as part of a diverse generation mix. The Nuclear Sector Deal has

¹ BEIS (2019), UK Energy Statistics, 2018 & Q4 2018. Available [here](#).

² CCC (2019), Net Zero: The UK's contribution to stopping global warming. Available [here](#).

targeted a 30% reduction in the cost of new build projects by 2030 and the next project in the pipeline, Sizewell C, expects to achieve a significant reduction in construction cost and risk by replicating the design of Hinkley Point C. Beyond this, the most important driver of cost reductions is to reduce the cost of capital, an area where the RAB model could play a significant role.

A RAB model would reduce the cost of capital for new nuclear projects in the UK and widen the pool of potential investors to include institutions such as pension funds by enabling projects to provide a return to investors during construction, by sharing certain risks between investors and end users, and by providing targeted protection for investors against low probability but high impact risks (where it would not be efficient for investors to bear those risks). Energy UK believes RAB funding, if deemed appropriate, should only apply to large capital intensive, long life assets with a risk profile for which institutional funding is proven to not be available, but are deemed necessary to meeting our 2050 net zero emissions target. A CCUS Transport and Storage (T&S) network (we note that a RAB model is being consulted on this elsewhere) and tidal power are examples of assets that also match this description.

The RAB model has been successfully used for many years for the electricity and gas networks, the water sector and large airports. Recently the model was successfully used to secure low cost financing at the Thames Tideway Tunnel (TTT) project which, like nuclear projects, is a discrete construction project with a lengthy build time. We do note, however, that this would be the first time that a RAB model has been used in the competitive generation market and great care needs to be taken to ensure that competition is not distorted. There must be checks and balances on how RAB financed assets are able to compete in the merchant market, with the clear objective of avoiding distortions.

The RAB model should in theory offer value for money because the lifetime customer benefit that results from a lower cost of capital should significantly outweigh the impact of the increase in customer risk exposure. Analysis by the NAO in their report on Hinkley Point C³ and more recently by the Energy Policy Research Group at Cambridge University⁴ concludes that customers are better off under a model which achieves a lower cost of capital and is robust to a very wide range of scenarios, including remote risk scenarios with very high construction cost over-runs.

However, whilst the concept of energy customers paying during the construction of a project should result in lower overall project cost, we do note that it nonetheless still passes a significant risk to customers, who might, in the most extreme case, end up paying for something which has no guarantee of delivering. Cost overruns and delays during the construction phase could be significant, as evidenced by recent nuclear projects across Europe, with a risk of part of these costs being added to bills. In order for customers to feel the benefit of a RAB model for nuclear, it is crucial that they are appropriately protected against the remote high impact risks and prior to any specific project being granted a RAB, it is essential that Government consults on the detailed operation of the model to ensure that it will indeed protect customers as expected.

More generally, Energy UK believe a holistic framework to guide energy policy decisions is needed. Decisions around the long-term future of carbon pricing, network charging reforms, heat decarbonisation, renewables deployment, support for nuclear and CCUS, and reforms to network infrastructure are inter-related. We call for government to provide a view on how existing and proposed policies interact and hope the expected Energy White Paper will offer clarity on a future holistic policy approach. It is also crucial that future policies are backed by robust and transparent value for money (VFM) assessments to ensure that decarbonisation is delivered at the cheapest possible cost to customers.

Should you have any questions regarding this consultation response then please do not hesitate to get in touch via the details below.

³ NAO (2017). Hinkley Point C. Available [here](#).

⁴ Energy Policy Research Group University of Cambridge (2019). Financing low-carbon generation in the UK: The hybrid RAB model. Available [here](#).

I can confirm that this response may be published on the Department's website.

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Response to Questions

1. Have we identified a model which could raise capital to build a new nuclear power station and deliver value for money for consumers and taxpayers?

A RAB model certainly has the potential to raise capital to build a new nuclear power station or other forms of generation with similar characteristics by reducing financing costs. These costs are a major component of the price of new nuclear power plants and thereby, in theory, a RAB model should reduce the cost to customers. However, we note that there exists the potential for cost overruns, project delays, as well as the remote risk of project non-completion, and therefore, we stress the importance of ensuring that appropriate consumer protection is central in the design of the RAB model. We agree with the potential benefits of the RAB model as stated in the consultation, however, without further clarity on the design of the different elements of the framework, it is not possible to determine whether the potential cost savings justify the risk taken on by customers.

To enable the model to succeed in delivering value for money for customers, it is important to get the detailed design of the model right. One such design element will be determining an appropriate risk sharing arrangement between the project company, the supply chain, investors, taxpayers and energy suppliers and customers. It will also be important to select the right projects to minimise the risk of project non-completion. We call for significantly more detail on the Government Support Package (GSP) and the protection that this mechanism will offer to customers.

While the RAB approach does involve sharing of risks with customers, the model should in theory offer value for money because the lifetime customer benefit that results from a lower cost of capital should significantly outweigh the impact of the increase in customer risk exposure. Analysis by the NAO in their report on Hinkley Point C and more recently by the Energy Policy Research Group at Cambridge University concludes that customers are better off under a model which achieves a lower cost of capital and is robust to a very wide range of scenarios, including remote risk scenarios with very high construction cost over-runs.

Energy UK believes the RAB model should only be applied to projects where the risks are remote and the GSP can effectively mitigate those risks. However, we are concerned that the proposed protection provided by the GSP is not balanced as it proposes discontinuation payments to investors, without any mention of the protection or compensation that would be provided to customers. Energy UK would welcome more detail on how the GSP would work for customers.

2. Do you have any comments on the components of the Economic Regulatory Regime as described?

Energy UK agrees that the Economic Regulatory Regime (ERR) is a key part of the RAB model to ensure the fair sharing of costs and risks between customers and investors. The ERR has drawn on previous approaches such as that adopted for the TTT project and this is the right starting point for developing an appropriate approach for relevant low-carbon generation. We acknowledge that further work is needed to develop the details and suggest future consultation is needed to confirm important specifics.

It will be important to consult carefully with potential investors to ensure that an investable framework is developed which delivers the lowest cost of capital, which is central to the value for money case for

a RAB approach. It will also be important to consult carefully with suppliers to ensure the design of the revenue stream complements the existing retail market. Energy UK's supplier members are keen to be involved in the design of how any funds are collected should the RAB model be used. At a similar point in the genesis of the Contracts for Difference (CfD) scheme, Energy UK had a working group of members which supported the Government in the detailed design of the CfD revenue stream, and this is something we would be willing to offer again.

We note that the consultation identifies an important role for an economic regulator (the "Regulator") within the framework. We believe a well resourced and knowledgeable independent regulator is a crucial part of the RAB structure and is needed both to protect the interests of customers and to provide reassurance to investors that regulatory decisions will be made in an impartial manner based on evidence and experience from similar RAB frameworks. We note that there are lessons to be learnt from network regulation in relation to determining the Weighted Average Cost of Capital and proposals for a GSP, and we believe that Ofgem as an existing independent regulator with experience of RAB frameworks is best placed to meet these requirements.

Of the two options proposed to govern how construction cost overruns would be accounted for and how a project would be incentivised to remain efficient, Energy UK supports an ex-ante approach. The ex-ante approach to allowed revenues under the RAB framework gives clarity on target construction cost to investors, customers and suppliers, and allows investors to understand and price their exposure. We believe that the existence of the additional tool within the ex-ante approach, whereby a reduction of investor returns in delay scenarios provides a key incentive for efficient project performance. We also note that this approach was adopted by the TTT project which to date has been a success.

Energy UK welcomes further discussion and consultation on the revenue model to find an approach which ensures that a project secures its allowed revenues, power is sold in a competitive and transparent manner and all suppliers are treated equally with long-term visibility on any cost exposures and timings. We also support the need for nuclear RAB and VFM assessment processes. Further clarity on these processes will be important and we welcome the proposal to include the socio-economic benefits of new nuclear within the VFM assessment.

3. Do you have views on how consumer interests are protected under the proposed approach? What else should be considered to protect consumer interests?

Energy UK believes ensuring consumer interests are protected under the proposed approach is the fundamental challenge in designing a successful RAB model for nuclear. We believe that there are two key questions that need to be carefully considered to ensure that customers are not detrimentally affected by a RAB model for nuclear:

1. What protection could be offered to customers in case of the project aborting before completion?

The appropriate treatment may depend on the reasons why the project is aborted, however, some example protection methods that could be considered:

- A discontinuation payment from government;
- Security to make customers / suppliers rank ahead of certain other creditors.

2. Who will be responsible for consumer protection and how will they influence how the project is being run to ensure this protection?

- One of the key functions of the Regulator will be to protect the interests of customers.
- In particular, the Regulator must monitor the project rigorously to ensure that it meets its obligations and that incentives on investors are set appropriately.

We note that this consultation is seeking views on the high-level design principles, including risk sharing arrangements, and thus would encourage further consultation on the specific consumer protection

elements of individual RAB models in acknowledgment of the fact that the cost and risk profiles of individual projects can vary.

As a more general point of principle, Energy UK does have broader concerns about the continued use of energy bills to pay for national social and environmental policies. We strongly believe that the fairest and most progressive method of funding social and environmental policies is through general taxation. Importantly, it would address the regressive nature of existing obligations and ensure that people on low incomes, households in or vulnerable to fuel poverty and those below the tax threshold are not required to contribute, but can still access and benefit from these policies. In addition to this, we note that encouraging customers to adopt time-of-use behaviour will be an important element of the transition to a future flexible system and that reducing the proportion of fixed costs on consumer bills is key to this challenge.

4. Do you agree that consumer risk sharing could be value for money for consumers if it achieves a lower expected overall cost for consumers compared to a Contract or Difference model?

Energy UK agrees that a RAB model for nuclear has the potential to deliver significant value for money for customers relative to a CfD for nuclear. The RAB model could potentially also deliver value for money if applied to other technologies. However, we note that the RAB model has the potential to impose undue costs on the customer if applied to an unsuitable project.

The design of a CfD, such as the bilateral contract agreed for Hinkley Point C, whereby payments from customers are only made once a project is operational is suitable to unproven technologies/designs where the probability of construction risks materialising is higher. The RAB model is specifically suited to projects with low probability, high impact risks, where it would not be efficient for investors to bear those risks, and Energy UK strongly believes that it should only be used in such circumstances.

We believe that each project seeking a RAB model should be subject to a rigorous independent assessment to determine that the risk profile is suitable for consideration. A public consultation process should follow on the proposed risk sharing arrangement between the project company, the supply chain, investors, taxpayers, energy suppliers and customers. Only at this point will it be possible to make an informed assessment of whether the consumer risk sharing would be value for money compared to a CfD.

5. Do you have views on the potential way to design the revenue stream for a nuclear RAB model that we describe, and are there alternative models we should consider?

Whilst the concept of energy customers paying during the construction of a project should result in lower overall project cost, we do note that this passes a significant risk to customers, who might, in the most extreme case, end up paying for something which has no guarantee of delivering. Delays and cost overruns during the construction phase could be significant, as evidenced by recent nuclear projects across Europe, with a risk of part of these costs being added to bills. We note that any cost recoveries from customers would be added to the RAB and recovered over the lifetime of the RAB model, which should mitigate any significant near-term impact on consumer bills. However, it is critical that the right incentives are placed on developers in the design of the ERR to ensure efficient performance.

We recognise that the inherent difficulty in forecasting costs brings additional risk. The arrangements for supplier cost recovery should not expose suppliers to significant risk of short term cost increases that cannot practically be recovered in customer tariffs or contracts. Foresight is key for suppliers, for example, a supplier would need to see costs fixed for two years ahead in order to price these into two year fixed deals. From a non-domestic perspective, the ability to flex tariffs to make up for these types of changes is even more limited as customers often agree prices in advance (sometimes years) and for longer periods of time.

There are clearly many challenges in designing the revenue stream for a nuclear RAB model and Energy UK's supplier members are keen to be involved in the design of how any funds are collected

should the RAB model be used. At a similar point in the genesis of the CfD scheme, Energy UK had a working group of members which supported the Government in the detailed design of the CfD revenue stream, and this is something we would be willing to offer again.

6. Do you have views on our proposed approach to assessing a new nuclear project under a RAB model and determining whether it is value for money for consumers and taxpayers?

Energy UK welcomes the recognition that it will be crucial for the Regulator and government to carry out a robust process of structured diligence to assess whether a new nuclear project should be granted a nuclear licence and GSP. We agree that this process will be key in ensuring that the projects risks are fully understood so that an informed decision can be made on whether a project is suitable for a RAB model and we encourage government to ensure this process is as transparent as possible.

We agree that the nuclear RAB assessment process should be a consistent and coherent process and be separate from, but informed by, the Development Consent Order (DCO) and Nuclear Site Licence (NSL). The proposal to introduce a number of decision gates which a project would need to successfully pass through in order to be granted a nuclear RAB licence appears sensible.

Energy UK strongly supports the notion that a project would not be granted a nuclear RAB licence and GSP unless it has proven its ability to offer value for money for customers and taxpayers, and we believe that a robust VFM assessment in combination with a thorough risk assessment is a prerequisite to ensure that consumer risk sharing represents value for money for customers.