

FAO: Jonathan Brearley, Senior Partner Networks, Ofgem
By EMAIL to: RIIO2@ofgem.gov.uk
RE: FPSA - RIIO2 Consultation Response

1st May 2018

Dear Jonathan,

FPSA response to Ofgem's RIIO-2 Framework Consultation

Thank you for the opportunity to comment on Ofgem's RIIO-2 thinking. You know from our interaction with you on the FPSA programme how central we believe the design of RIIO2 will be to all our aspirations for a smarter energy system.

The Future Power Systems Architecture (FPSA) programme was established to provide a framework for the development of a smart, flexible power system. It has established a widely accepted framework of 35 Functions that a future power system needs to be able to deliver and is now working on the innovation and change management processes needed to enable the capabilities embodied in the 35 functions.

The FPSA programme sees it to be imperative that consumers' future interests are given equal importance by Ofgem throughout RIIO-2.

The key points we wish to make are:

- RIIO-2 will be operating during the 2020s, a time where innovation will be key to enabling GB's energy transformation. The RIIO-2 framework, together with proactive governance and change management processes will be essential parts of the framework that enable or inhibit the energy transformation.
- The decarbonisation of transport and heat are likely to create large-scale new electricity demands that will reverse the recent downward demand trends. Also, we expect radical change on the consumer side of the meter with the growth of domestic and business level generation and storage, and smart demand.
- Whole System solutions need to consider interactions across the energy vectors and beyond the meter. We would expect a much greater integration of what happens on networks with what consumers (of all classes) choose to do. This will create opportunities and challenges to current network company business models. RIIO-2 should anticipate these by enabling sufficient freedom of action to allow network companies to evolve and thrive in this environment, whilst protecting consumers and promoting potential new entrants. RIIO-2 output measures should be focused on consumer outcomes and the efficient use of networks in supporting these.
- The pace and unpredictability of change, and the proliferation of new solutions brought forward by new and often innovative organisations, will be a major challenge for the RIIO-2 period. RIIO-2 needs to be agile to address emergent opportunity and risk, and set up to enable rather than inhibit these new solutions. FPSA has put forward possible mechanisms by which this could be delivered¹.
- We see digital markets driving this transformation, and it is important that RIIO-2 develops much more consumer participation in the energy system. Whether this

¹ Section 5 of FPSA2 Synthesis Report http://es.catapult.org.uk/wp-content/uploads/2017/08/FPSA2-Synthesis-Report-WEB_Locked-ESC-version-1.pdf


succeeds in enabling a world of new services and lower costs, or instead a world of consumer frustration and high costs, will depend significantly on how RIIO-2 is structured.

- RIIO-2 should explore and enable the transformatory power of digital to empower consumers and other third parties, improve asset management, maximise asset utilisation and manage uncertainty. A significant part of this is developing open data.
- It will be important that Ofgem enable emerging energy service providers to engage with and shape the objectives for the RIIO-2 business plans and we generally support Ofgem's proposals for increasing stakeholder engagement.
- Innovation will be essential for network companies to adapt and enable the energy transition. Ofgem must ensure that RIIO-2 supports the development of an innovation culture within the network companies, and as well as supporting specific programmes.
- In an ever more integrated energy system many of the innovation opportunities are likely to emerge outside the network environment. Ofgem should consider ring-fencing part of the innovation support funding to enable this, encourage network companies to support it and allow consumers to benefit accordingly.
- We believe that the FPSA's framework of 35 functions for the future power system² provides a good independent basis for assessing the development of smarter, more flexible networks and their innovation needs as part of RIIO-2.

Where we are able we have provided a comprehensive response to the specific questions in the attachment.

We would be delighted to engage, explain and elaborate on the answers provided in our response. We would like to reiterate that the FPSA project is committed to helping shape the institutional reform necessary in Great Britain and looks forward to supporting Ofgem's development of the RIIO-2 framework. Please do not hesitate to contact me at the address on this letter.

Yours faithfully



Simon Harrison CEng FIET (FPSA Chair)

² Section 3 of the FPSA2 Synthesis report http://es.catapult.org.uk/wp-content/uploads/2017/08/FPSA2-Synthesis-Report-WEB_Locked-ESC-version-1.pdf

Appendix – Response to Ofgem’s Questions

Chapter 3 - Giving consumers a stronger voice

Q1. How can we enhance these models and strengthen the role of stakeholders in providing input and challenge to company plans?

➔ What are your views on the proposal to have Open Hearings on areas of contention that have been identified by the groups?

Ofgem’s proposals for strengthening the stakeholder challenge to companies’ plans represent a sensible evolution of the RIIO-1 arrangements. The membership of the groups must adequately represent both current and future customer interests, and should seek to include not only end user consumers but also other parties such as disruptive innovators who seek to bring consumer value through innovation and need to engage with the network to do so.

Ofgem’s proposals, particularly for distribution, do not emphasise the role of those innovative energy service providers (including suppliers) that currently or may in future represent the end use customers as providers of services to them. Ofgem must start to consider better ways of involving these organisations in setting the objectives network business plans should be delivering. We would encourage Ofgem to think widely in identifying these organisations as there is every possibility of radical change in this area during the time between now and the likely end point of RIIO-2

Ofgem should ensure that their own challenge group includes representatives that can assess the business plans against a framework for developing a smarter, flexible energy system, and can hold Ofgem to account in ensuring that the final proposals balance the need to invest in the transition with affordable energy supplies.

The panel should have an understanding of customer interests, innovation needs, the technical issues faced by the networks and their commercial behaviour. FPSA and the Energy Systems Catapult would be well placed as independent bodies to support Ofgem’s Challenge Group on the smart grid transformation, the technical challenges faced and innovation needs to support this.

Chapter 4 - Responding to how networks are used

Length of price control

Q2. Do you agree with our preferred position to set the price control for a five-year period, but with the flexibility to set some allowances over a longer period, if companies can present a compelling justification, such as on innovation or efficiency grounds?

➔ What type of cost categories should be set over a longer period?

➔ How could we mitigate the potential disruption this might cause to the rest of the framework?

➔ What additional measures might be required to support longer-term thinking among network companies?

➔ Do you instead support the option of retaining eight-year price controls with a more extensive Mid-Period Review (MPR)?

➔ What impact might the alternative option of an eight-year price control with a more extensive MPR have on how network companies plan and operate their businesses?

The incentive based price control regulatory framework Ofgem has developed is widely considered to be world-leading. Ofgem should continue to develop its incentive package to address uncertainties which will persist throughout the 2020s. We see the major challenge going forward as a large increase in the extent and nature of unpredictable change, as the energy transition gathers momentum.

The challenge remains in determining the funding requirements for additional capacity in the existing networks, where new technologies such as batteries, PV and V2G make historic demand per customer unreliable as a planning assumption. Ofgem should further explore developing better self-correcting mechanisms for those elements of the price controls that are less predictable, particularly reinforcement needs driven by the decarbonisation of transport during this period, rather than relying on periodic reviews of allowances and delivery. These mechanisms may provide more enduring solutions to managing the energy transition.

Ofgem should incentivise the creation of improved data (availability and visibility) and forecasting (a key thread through the 35 FPSA functions) across the industry to enable more accurate forecasting for both developing markets and investment in networks.

Long run maintenance and renewal allowances may be better set over long periods of time to minimise any incentives to defer work driven by price control resets. This would set the right framework for network managers to develop long term sustainable management strategies aligned with the developing needs of the energy system, with costs balanced between current and future customers.

Longer term strategies may also suit the deployment of smart grid technologies for monitoring and controlling distribution networks, where stable long term programmes of work could drive efficiencies in procurement and delivery.

Whole system outcomes

Q3. In what ways can the price control framework be an effective enabler or barrier to the delivery of whole system outcomes?

➔ **If there are barriers, how do you think these can be removed?**

➔ **What elements of the price control should we prioritise to enable whole system outcomes?**

Ofgem should be clear that whole system outcomes reflect the ability of the energy system to deliver customers heat, transport and power needs. The definition of whole system should encompass generation and demand side developments as well as those in the transmission and distribution networks. It is important that whole system outcomes are defined and how these are reflected in the RIIO-2 transmission and distribution system outputs.

Price control allowances are by their nature organization specific and therefore potentially create barriers to whole system solutions.

Electricity, Heat and Transport Interactions

The RIIO-2 period through the mid 2020s could be a critical period as the decarbonisation of transport grows and key decisions are made about the decarbonisation of heat and the role of gas. It is unlikely that there will be a 'one size fits all' solution and it will be important to ensure that the RIIO-2 framework can adapt to allow appropriate solutions to emerge.

To address uncertainty, Ofgem should look to develop more agile, flexible approaches to setting allowances within the RIIO-2 framework. Ensuring equal incentives exist to invest or buy in demand side services is important and should encourage network operators to explore novel solutions.

Transmission and Distribution Interactions

It will be important to define the benefits of improved transmission and distribution coordination, such as increased renewable generation output or better transmission voltage performance to ensure that suitable outputs and allowances can be provided in both transmission and distribution controls.

There should be a clear process for how cross systems funding decisions are to be made. Solutions could include solutions being:

- Identified at a price control by the network operators and included in allowances;
- Identified by the system operator, and funded by them; or
- Identified through an uncertainty mechanism, triggered by any party.

It is often cited that the SO or TO could pay DNOs to invest in wider system solutions and vice versa. For interactions between asset owners where the costs can be included in an asset base, this may be workable, but further thought is needed in the case of the SO which is intended to be an asset light organisation.

Ofgem should concentrate on developing a process for explicitly funding whole system cost reduction initiatives, as they are identified. This could include:

- identification of opportunities to stakeholders;
- consultation on solutions, costs and benefits;

agreement of an allowance for such works to the appropriate parties (this could be allowances for SO to pay third parties for services or to NOs to invest in assets).

Such a process could be undertaken annually as part of joint long term planning processes.

Q4. Do you agree with our minded-to position to retain the current start dates for the electricity transmission and electricity distribution price controls, and not align them?

We recognise that aligning transmission and distribution control is complex and would create potential downsides for customers from prolonging the existing controls. There are two forms of misalignment, economic and technical.

It is most important that a coherent set of incentives is developed, and this would help minimise economic misalignment.

However technical misalignment is a potentially significant issue that could hamper better whole network and whole system solutions. A more flexible approach to identifying and providing funding for cross network and whole system investment that is not reliant on the specific controls may reduce technical alignment issues.

Ofgem should be mindful of the differences in cost of capital and real price effects that were observed between the RIIO-1 T and ED price controls (and even between the ED1 fast and slow track settlements). Ofgem's proposals to set allowances linked to indices would mitigate these issues.

Q5. In defining the term 'whole system', what should we focus on for the RIIO-2 period, and what other areas should we consider in the longer-term?

➔ **Are there any implementation limits to this definition?**

Ofgem should be clear that whole system outcomes reflect the ability of the energy system to deliver customers' heat, transport and power needs, across vectors.

By "whole system" we mean not only the system elements traditionally forming part of the power system (generation, transmission, distribution and supply) but also everything that happens on the consumer side of the meter up to the point of energy end use.

The right frameworks must emerge to ensure that whole system outcomes are defined and how these are reflected in transmission and distribution system outputs.

For RIIO-2, the immediate need is to establish appropriate mechanisms for cross network solutions to emerge between transmission, distribution and production within the electricity sector as this is the area where the most significant constraints exist.

In developing solutions, Ofgem should be mindful of ensuring these are robust to cross vector interactions with gas, heat, transport and developments that extend interactions beyond the meter.

System Operator price controls

Q6. Do you agree with our view that National Grid's electricity SO price control should be separated from its TO price control?

It seems self-evident that the SO price control should be separate from the TO price control.

Q7. Do you agree that we should be considering alternative remuneration models for the electricity SO?

➔ **If so, do you have any proposals for the types of models we should be considering?**

The SO is an asset light entity and it is not obvious that return on a regulated asset base is the right way to fund an entity that seeks to reduce whole system costs.

An RPI-X type control could be used to incentivise ongoing SO control over its overhead costs combined with suitable incentives to invest in improving whole system outcomes.

It is evident that financial incentives on system balancing costs should be maintained. As the Energy Systems Catapult commented in the response to the SO Incentives consultation, setting a target independently should be considered. The ESC response also suggested simplifying the SO incentives.

It will also be important to ensure that incentives to manage outage impacts on whole system costs are aligned across the SO, TO and DSOs. This is a key area where setting parameters across timing of price controls requires care.

Ofgem might also consider what role the SO should have in reporting on the use of energy flexibility and the opportunities for reducing current and future whole system costs.

Ofgem should consider how SO incentives should also apply to DSO activities.

Q8. Should we consider alternative remuneration models for the gas SO?

➔ **If so, why and what models?**

We have no further comment to make on the gas SO.

Network utilisation, stranding and investment risk

Q9. What options, within the price control, should be considered further to help protect consumers against having to pay for costly assets that may not be needed in the future due to changing demand or technology, while ensuring companies meet the reasonable demands for network capacity in a changing energy system?

For electricity assets with operational asset lives regularly exceeding 50 years (the current 45-year regulatory depreciation period is broadly representative of the weighted average financial 'book' life of network assets) the risks of stranding in the long term would appear to be lower than for gas, given the trend towards electrification of transport and heat.

Ofgem must balance the risk of 'stranded' costs with the risks of networks failing to deliver the expected capacity to meet future demands. The marginal costs of installing larger assets when they are upgraded or renewed is often relatively small and can have benefits such as lower losses and improved power quality. Where the costs of intervening are high and the marginal difference in capacity costs are low it will be important to ensure that network companies have considered future needs such as the electrification of heat when proposing reinforcement and renewal of assets.

A key challenge is that customers (and their service providers) have little involvement in identifying capacity that may be needed in the future. If consumers and those supplying their energy needs have new options about how those needs are met, including storage and flexing their demand, it would seem reasonable for Ofgem to consider who is best placed to understand and set out those needs.

Ofgem could explore alternative means of suppliers/customers purchasing additional future capacity (including future contracts or options contracts that could be traded). A market mechanism may provide incentives to develop and share better forecast information about customer needs, and how much generation and network capacity is likely to be needed. Such an approach may provide incentives to better align customers representatives with the whole system costs including generation and network capacity. This could also give alternative flexible options, eg domestic storage and V2G, a value ahead of need arising and may reveal better willingness to pay for the capacity against the value of the service/convenience it enables.

Ofgem have suggested that some investments could have a different risk treatment (4.88) and this has certain appeal for separable transmission assets, but is potentially more problematic with some distribution assets. Many separable distribution network extensions are already open to competitive provision, which allows for third party development of network extensions to support vehicle charging, and therefore inherently differing risk treatments.

Moreover, DNOs are increasingly going to the market using an RFP approach to seek innovative solutions from 3rd parties, for example to address emerging network constraints, and should not be discouraged from seeking innovative solutions that have higher risk profiles.

End-use energy efficiency

Q10. In light of future challenges such as the decarbonisation of heat, what should be the role of network companies, including SOs, in encouraging a reduction in energy use by consumers in order to reduce future investment in energy networks?

➔ **What could the potential scale of this impact be?**

The major impacts on networks from the decarbonisation of the energy system are likely to come through strategic decisions on the electrification of heat and the efficient use of transport. Whole system efficiency incentives of such scale need to be driven more broadly than through individual regulatory approaches.

It is also important that network companies are involved in architecting the technical and market solutions that support consumers choosing outcomes that are efficient for networks and the whole system. For example, the design of consumer offerings on how to recharge an EV may result in lower costs through lower generation and network infrastructure investment (through smarter automation of charging using price signals) even where the relative costs compared to the vehicle costs may not be sufficient to change consumer behaviour directly (today vehicle leasing / running costs are typically upward of £200/month with fuel costs of £50³/month compared to electricity network costs of approximately £10/month).

It would therefore seem sensible for network operators to engage more widely in the strategic debate about energy efficiency and its potential impact in enabling the energy transition at the least cost. This could be encouraged through the stakeholder engagement incentive.

Network companies could be encouraged to work with third parties, suppliers and community groups, to support or even invest in energy efficiency or demand side management, particularly in areas where reinforcement is needed or there are initiatives to move from gas to electric heat.

Chapter 5 - Driving innovation and efficiency

Innovation

Q11. Do you agree with our proposal to retain dedicated innovation funding, limited to innovation projects which might not otherwise be delivered under the core RIIO-2 framework?

The energy transition will continue to need innovation by the major industry participants and Ofgem must ensure that innovation as part of BAU activity is supported by the RIIO-2 framework. The original IFI allowances were introduced as other price control incentives only drove investment into short term initiatives, with few if any DNOs investing in innovation.

FPSC has concerns about Ofgem's proposals for innovation funding, especially when combined with proposals for anchoring or restricting returns. A recent study by the

³³ Licence bureau stats. Third level income 5,194mls / annum, assuming 40mpg and £5/gallon

Oxford Institute for Energy Studies⁴ indicates that this is likely to lead to a focus on shorter term, more certain outcomes. The conclusions of this study indicate that a mix of allowance and competition for innovation funding remains a good approach.

A return to shorter control periods, and a focus on lower, restricted returns in RIIO-2, does not appear to support increased or even maintained support for BAU innovation that does not provide short term returns.

RIIO-2 will be the period in which a concerted approach to developing smart grids will be needed, and this should become business as usual. Ofgem must therefore ensure that allowances adequately support investment in technology to support the development of a smarter energy system, such as network monitoring technologies and open data platforms, if these are outside of the bound of innovation funding whilst ensuring sufficient innovation funding to develop and maintain a pipeline of innovative solutions.

Q12. Do you agree with our three broad areas of reform: i) increased alignment of funds to support critical issues associated with the energy transition challenges ii) greater coordination with wider public sector innovation funding and support and iii) increased third party engagement (including potentially exploring direct access to RIIO innovation funding)?

We agree with the three areas of reform identified by Ofgem.

Ofgem may want to consider, with stakeholder input, where separate innovations funds should be directed to ensure the networks remain engaged in the wider energy system transformation.

Ofgem should consider how best to lower barriers to accessing innovation funding. Innovation funds raised from customers would have to be funded through the licencees, but there could be a licence requirement to establish a joint funding mechanism, potentially run independently, in a manner that is compatible with this being matched funding for wider public sector innovation.

A particular challenge for energy entrepreneurs is gaining the necessary support to develop a low TRL solution to the stage where it can be tested as a prototype on a network. Solutions at low levels of TRL often require an extensive development period and carry a higher level of risk of failure. Ofgem should ensure that innovation funding is available, so that DNOs will feel incentivised to support such innovation which might ultimately result in new opportunities.

Ofgem should liaise closely with innovation promoters such as InnovateUK and Energy Systems Catapult on the best ways to co-ordinate with wider energy system innovation.

⁴ <https://www.oxfordenergy.org/wpcms/wp-content/uploads/2017/12/Electricity-Networks-Technology-Future-Role-and-Economic-Incentives-for-Innovation-EL-27.pdf> - December 2017

Q13. What are the key issues we will need to consider in exploring these options for reform at the sector-specific methodology stage, including:

- (i) What the critical issues may be in each sector and how we can mitigate the bias towards certain types of innovation through focusing on these issues?**
- (ii) How we can better coordinate any dedicated RIIO innovation funding with wider public sector funding and support (including Ofgem initiatives such as the Innovation Link and the Regulatory Sandbox)?**
- (iii) How we can enable increased third-party engagement and what could be the potential additional benefits and challenges of providing direct access to third parties in light of the future sources of transformative and disruptive innovation?**

Ofgem should not seek to identify the specific critical issues now, but establish a process where issues are identified that are in need of innovation support, with ongoing oversight of where investment is being, and not being undertaken. This could be undertaken independently of the regulated companies and cover wider public sector innovation. Network companies could be obliged to demonstrate how their use of innovation funds are supporting the development of innovative solutions within this framework.

Phase 4 of the FPSA work has started to assess the complex innovation landscape against the 35 Functions that FPSA has identified. FPSA has grouped the 16 innovation areas identified in Phase 2 of its work into 6 Innovation Themes that identify priority areas:

- Data Arrangements – what data is critical, who holds it and how is it made visible?
- Modelling, forecasting and planning – what tools are needed and how can these be developed?
- Market Arrangements – what could future markets look like and are there key architectural design decisions that can support innovation?
- Multi-Vector – how can whole system interactions be managed?
- Cyber Security – what are the risks and how do we control them?
- Emergency Arrangements – how do you build in resilience and the ability to recover from worst case scenarios?

The Energy Networks Association has also recently published its Innovation Strategy for the development of a smart energy system, which is complimentary to the FPSA framework.

Establishing a sectoral framework to reveal projects and levels of innovation funding would allow innovators to identify gaps and make proposals for innovation. This would be a useful development of innovation reporting.

Ofgem should make use of the capabilities of independent bodies such as the Energy Systems Catapult to facilitate the co-ordination of funding by administering wider funding competitions and providing expert insight into innovation needs, leading to more coherent programme of innovation projects.

Q14. What form could the innovation funding take.

➔ What would be the advantages and disadvantages of various approaches?

Funding is needed for riskier 'ahead of need' projects that are addressing longer term issues but need significant development and testing. This can be delivered through allowances or competition calls for funding. Each have their strengths.

Allowances provide greater freedom for licensees to make choices to invest in innovation without the administrative burden of bidding for funds. Ofgem could provide allowances with conditions, for example that a proportion is used in a central fund to prevent duplication and that a proportion is used to fund third party innovators.

Licence requirements and reporting could be used to ensure that innovation is being directed at key issues. As discussed above, innovation suitable for allowance-based funding could be independently identified and therefore readily distinguished from BAU innovation focused on reducing the costs of operating and developing networks that are funded through normal returns and incentives.

Innovation competitions can be more directly focused on key issues, but impose greater administrative burdens in developing partnerships and submissions. It may be appropriate for larger projects to maintain something comparable to the NIC.

Q15. How can we further encourage the transition of innovation to BAU in the RIIO-2 period? How can we develop our approach to the monitoring and reporting of benefits arising from innovation?

It may be appropriate to define areas where innovation is expected to be BAU by default (including for example network performance, condition monitoring and life extension, diagnostics).

To move smart grid transition innovation into BAU allowances would require appropriate output measures / deliverables, and may need acceptance of a longer term approach and the risk of early asset 'stranding' where the need does not arise as expected and a greater degree of technology obsolescence.

Ofgem must be mindful that allowances benchmarked on historic costs, combined with lower costs of capital, could limit increased investment where there is insufficient impact on output incentives (particularly reliability and service incentives) during a control period to create a return on investment.

Competition

Q16. Do you agree with our proposal to extend the role of competition across the sectors (electricity and gas, transmission and distribution)?

➔ What are the trade-offs that will need to be considered in designing the most efficient competitions?

The proposals Ofgem put forward seem reasonable for transmission related issues, but Ofgem's proposals are unclear as to how they might apply to distribution (see response to Q17).

The benefits of competition proxies in Transmission is particularly valuable in the absence of readily comparable projects to benchmark costs against.

Q17. Do you consider there are any reasons why our new, separable and high value criteria might not be applicable across all four sectors?

➔ If so, what alternative criteria might be suitable?

The £100m threshold is appropriate for transmission but most DNO projects are far smaller than this. Ofgem increased the distribution threshold for high value projects between DPCR5 and RIIO-ED1 from £15m to £25m reducing the number of projects considerably.

It is also worth noting that most separable distribution networks are already contestable under competition in connections. DNOs are increasingly going to the market using an RFP approach to seek innovative solutions from 3rd parties, for example to address emerging network constraints.

Q18. What could the potential models be for early stage competitions (for design or technical solutions)?

➔ What are the key challenges in the implementation of such models, and how might we overcome them?

Ofgem have clearly identified the potential issues with early stage competitions. Developing improved forecasting and planning capabilities, identified as key issues in the FPSA functional requirements, would support the reduction of uncertainty associated early stage competition risks. Early stage models need to address outcome requirements in order to allow alternative approaches to be compared.

Ofgem may also want to consider developing market based approaches involving energy service providers in determining future system capacity needs as part of considering early stage models, particularly for distribution, where alternative approaches to providing capacity that may be more cost effective are able to be revealed.

Chapter 6 - Simplifying the price controls

Our approach to setting outputs

Q19. What views do you have on our proposed approach to specifying outputs and setting incentives?

Outputs should be customer focused and be reported by all networks; existing reliability and service measures should be supplemented by measures of the ability to meet the transport and heating challenges. For example:

- EV customer satisfaction – as the offering and service to customers switching to EVs is being developed, a means of surveying end users would allow innovation in the delivery of consumer outcomes as they become accustomed to new mobility solutions.
- Customer satisfaction with services is likely become a more important output as the impacts of service failures become more complex to value, for example the impact of prolonged interruptions will become more complex, on one hand affecting the ability to charge EVs or heat homes, but on the other hand vehicle to grid technology and home storage could reduce some customers reliance on networks for a period of time .
- Utilisation of assets – higher utilization of low carbon generation resources and delivery assets would result in lower costs for consumers. Networks should have an output measure of the impact they have on generation output.
- Time to connect for low carbon technologies, eg EV charging infrastructure (here Ofgem should give consideration to the implications of non-discrimination between services and the measures should be reported by all providers)

➔ **When might relative or absolute targets for output delivery incentives be appropriate?**

Relative targets, such as the approach that was used for the Broad Measure of Customer Satisfaction in DPCR5, whilst being simplistically appealing as a proxy for competition and to drive continuous improvement, can be problematic.

A key challenge for relative performance measures can be when performance differentials are small or are generally acceptable. For example, 2016/17 Electricity Distribution customer service scores were in the range of 80-90% with an average of 87% against a target of 8.2; the impacts on customers of below average performance may not be significant and a significant penalty incentive for below average as would have resulted from the DPCR5 approach performance may not be appropriate.

However relative performance incentives can be of interest where data does not exist to set minimum standards or targets, as was originally the case with customer service in DPCR5, but incentive rates should reflect the uncertainty.

Absolute targets are easier to understand, both setting clear expectations of accepted performance and allowing for inherent differences to be recognised (eg between urban and rural networks). They are potentially better for delivering specific outcomes, such as ensuring minimum standards are met, rewarding good performance across the whole sector and provide a sound basis for funding investment for output improvements.

Ofgem could set out more frequent reviews of targets throughout a price control period, or even implement rolling target adjustments. Rolling target adjustments, based on relative performance could be used as an alternative to relative targets, incorporating the best of both approaches.

➔ What impact would automatically resetting targets for output delivery incentives during a price control have? Which outputs might best suit this approach?

The resetting of targets should be intrinsically linked to the cost and volatility of delivering performance against the target (for better or worse), and the period over which investments in output improvements are paid back.

Automatically adjusting targets is best suited to incentives where the investment needs are low and performance risks can be managed. This was a logical approach for planned interruptions in RIIO-1 where a rolling target mechanism was established and could be extended to customer service and potentially SO balancing incentives (with due regard to what is within the control of the SO).

Where there are greater performance risks, and where investment is driven by performance against targets then greater stability can be beneficial. It would be possible, for example, for the RIIO-1 Interruptions Incentive target process to be run annually. The process would have to address inherent weather-related performance variability and would have to allow for phased improvements associated with additional allowances funded through the controls. It would be debateable if the overhead of such a process was worth doing within a five-year control.

In some areas it may be necessary to have a more responsive approach to adjusting output targets where externalities are rapidly the output target becomes ineffective. This may equally be linked to a need to revisit allowances through uncertainty mechanisms.

Our approach to setting cost allowances

Q20. What views do you have on our general approach to setting cost allowances?

Cost allowances need to capture historic efficiencies but also recognise the inherently different needs that will emerge during the 2020s, especially the need to develop a smarter more flexible power system.

Ofgem's historic approach of setting overall allowances against overall upper quartile performance, whilst using average performance to build the benchmark, remains a sensible approach. Ofgem must avoid creating a benchmark that does not represent a sustainable model during an important period of transition.

Price controls are set on both actual and forecast expenditure. Clearly, forecast increases in unit costs and volumes over actual costs must be well justified, eg the additional costs for installing additional control and monitoring for developing smart grids as part of standard LV equipment.

The funding of replacement assets installed in RIIO-2 will extend over a period to 2070.

It is important therefore that Ofgem drives whole life investment justification rather than simply delivering RIIO-2 outputs at the least cost, and that investment in RIIO-2 is not

unnecessarily duplicated in later price controls (eg subsequent reinforcement of assets replaced in RIIO-2).

In that regard, Ofgem should further develop its CBA methodology to ensure that investments that will deliver benefits over a longer period are properly assessed on a NPV basis, considering the value of smart solutions

An additional output category of smart energy transition may be needed to support the roll out of active network technologies where existing output changes may only occur in the long term, or the technology may be required in order to set future outputs; eg network monitoring to allow better measures of utilisation.

Network companies should also have to set out how the deployment of smart network technologies is expected to impact information for making improved decisions and how targeted roll out can be turned into output measures.

Q21. What views do you have on our intention to index RPEs?

Indexing RPEs could be a better process, avoiding the risks of under / over recovery.

Careful selection of RPE indices will be needed to ensure that future RPEs are not unduly influenced by the costs incurred by network companies but are reflective of cost pressures experienced by the industry; for example increased demand for energy sector resources could drive up energy sector costs in a way not seen by a general construction sector labour index, or alternatively higher prices paid in the energy sector could feed through to a high sector specialist labour index, diluting efficient incentives.

Q22. What impact would resetting cost allowances based on actual cost performance (eg benchmarked to the average, upper quartile or best performer) during a price control have? Which cost categories might best suit this approach?

Ofgem needs to ensure that any reduction of allowances during a price control, especially a short 5-year control, drives suitable investment decision making. It is vital, during an important phase in the energy transition, that Ofgem ensures that network companies develop sustainable business models that can support the energy transition.

Ofgem needs to develop appropriate tools to assess the risks against the allowed costs and ensure that its incentives are calibrated appropriately (eg the % value returned to customers through totex) rather than seeking to further complicate 5-year controls (unless it reverses its decision and sets longer controls).

The principle of an overall control giving companies control over interactions in expenditure through totex seems at odds with Ofgem suggesting resetting elements during a regulatory period. Ofgem must be careful not to create perverse incentives to reduce costs unsustainably in the short term.

The energy transition may not occur consistently across the network companies which would increase the complexity of any reset process.

The use of volume drivers to setting or adjust allowances where activity forecasts are uncertain requires greater sophistication than at present. This is a key area for Ofgem in setting allowances and Ofgem should focus on this in developing better mechanisms RIIO-2.

Lagging volume drivers are potentially problematic in creating the incentives to ensure networks proactively meet future needs and adjusting uncertain forecasts for actual data could create unhelpful volatility which undermines investment.

Ofgem could look at other means of determining future needs, such as forward markets for providing customer capacity from networks or other resources, that reveal needs ahead of time. It is important that the cost risks to consumers are kept in perspective to the cost v the value they enable, with electricity transmission and distribution use of system charges being in the order of £10 a month for typical domestic customers.

Information-revealing devices

Q23. Do you agree with our assessment of IQI?

IQI was introduced to give some incentive for companies to 'tell the truth' and not over inflate costs. Ofgem argue that this has not worked as expected.

Ofgem identifies the incentives under IQI as a combination of a one off reward/penalty and the sharing factor for future out performance. It could be interpreted from the observed outcomes that:

- companies may prefer the certainty of outperformance rewards to the uncertain IQI reward. Companies received 25% of the differences between Ofgem's calculated allowance and that submitted.
- The sharing factor produced excessive outperformance rewards or the calibration of the reward/penalty was not strong enough.

What is unknown is the degree to which IQI moderated any tendencies to over-inflate costs.

RIIO-2 will be different to RIIO-1 in that there will be greater uncertainty over future expenditure needs. It may be that an IQI type approach may be applied differently to more 'predictable' costs such as replacement, fault and maintenance costs than it is to say costs associated with more uncertain areas such as load related costs. This will depend on the approach Ofgem takes to dealing with more uncertain costs.

Q24. Do you agree with our assessment of fast-tracking?

There are merits in a two stage approach as it did place pressure on companies to lower their costs.

It is unclear whether any fast track company should benefit or suffer from changes in external factors such as RPEs or changes to cost assessment. Ofgem should set out these approaches clearly in advance and ensure that fast tracking benefits are the result of better business plans alone.

Q25. What are your views on the options we have described?

- ➔ **How might these apply in the different sectors?**
- ➔ **Should we retain the IQI, amend it or replace it entirely?**

A single business plan incentive may have merits especially if there are significant uncertainties that need to be explored. Strong IQI incentives could deter companies from exploring novel approaches or making proposals (eg smart grids) that are worth debating but are then rejected by Ofgem.

Fast tracking, that is allowing a company its proposed costs and volumes, may still be an appropriate incentive to submit a high quality well justified business plan, without additional rewards.

A single business plan incentive may be easier to implement consistently across transmission and distribution and drive whole system outcomes.

Q26. What factors should we take into account when assessing plans for example, under fast-tracking (option 2) or a single business plan incentive (option 3)?

In addition to cost efficiency, the approach to investing in smart grid capabilities, developing flexible energy opportunities and support for wider decarbonisation (eg electrifying heat, providing for EV charging) and proposals for improving whole system outcomes should be included in assessing overall business plans.

Q27. Do you have any views on the factors we should take into account when deciding how to differentiate efficiency incentives for companies if we do not use the IQI?

The underlying principle of an incentive based on the ratio of a company's view to Ofgem's view would seem to be a sensible part of any approach.

However, giving higher incentive rates based on lower cost plans alone may deter suitably efficient investment, for example efficient investment to reduce peak losses, building a smarter system, or making long term low regret investments.

Q28. Is an explicit upfront financial reward required to incentivise companies to submit high quality business plans, in addition to differential incentive rates or sharing factors?

Differential incentive rates or sharing factors may be strong enough.

Q29. Do you have any views on our proposal to remove fast-tracking for transmission?

Given the lack of comparators between the transmission companies Ofgem's approach seems sensible. However, a two-pass solution might have merit, in allowing an improved package to be submitted following Ofgem's initial assessment. This could also limit the risk that elements of Ofgem's final proposals are referred to the CMA.

Q30. Do you have any views on how we propose to incentivise better business plans from transmission companies, including removing the prospect of an upfront financial or procedural reward and placing greater reliance on user and consumer engagement and scrutiny?

The IQI mechanism was put in place to reduce the incentives to bid high, spend low, and an incentive mechanism to achieve this continues to have merit, as well as assessing the overall completeness and quality of business plans.

Annual reports/reporting

Q31. How can we best improve the suite of annual reporting requirements to be as efficient and useful as possible?

Defining key metrics for key stakeholder groups would allow simple statistics to be presented in an infographic or at the front of more detailed performance reports.

Ofgem's reporting requirements for RIIO-2 should be structured to address the low carbon transition:

- Cost efficiency – whole life cost reduction and investment in improvements
- Supporting renewable energy (connecting and reducing constraints)
- Supporting low carbon demand development (EV, heat and customer flexibility, reliability of supply and management of constraints)
- Improving system efficiency – making best use of assets, improving whole system outcomes

Innovation investment and transfer into business as usual should be a key part of all reports.

Q32. How can we make the annual reports easier for stakeholders to understand and more meaningful to use?

Simple infographics that are consistent and readily accessible could be created by industry and Ofgem.

The quality and usefulness of reporting should form part of ongoing stakeholder incentives, with Ofgem reducing the mandated requirements in favour of customer focused output.

Chapter 7 – Fair returns and financeability

Cost of debt

Q33. What are your views on the policy objectives that we have defined with respect to the cost of debt?

Q34. Which option might help to ensure that the approach to updating the cost of debt methodology delivers best value to consumers and why?

Cost of equity

Q35. Do you agree with our proposed methodology to estimate the cost of equity?

Q36. Do you agree it would be desirable to index the cost of equity?

➔ Do you have views on our proposal for indexation?

This is not an area that FPSA has expertise, but it is important that the returns support investment at a key point in the energy transformation. Whilst of less concern over a shorter review period (5-years) the potential for true cost of capital (especially debt) to vary within a review period needs to be considered. It would be unfortunate if customer outcomes were affected by constrained investment, but if Ofgem maintain investment grade credit ratings there should be no particular concerns.

Financeability

Q37. Do you consider there is merit in removing the indexation of the RAV and adopting a nominal return model in RIIO-2?

➔ What would be the benefits and drawbacks?

Q38. Should the onus for ensuring financeability lie with the network operating companies in whole, or in part?

Q39. Do you consider the introduction of a revenue floor, to protect the ability of companies to service debt, to have merit?

It is important to get the right balance between financeability and fair returns in ensuring investment is made in the networks to support the low carbon transition, and that incentives do not encourage early profit taking at the expense of creating challenging conditions for delivering customer outcomes later in the controls.

Corporation tax

Q40. Do you agree that Ofgem should review the causes of any variances between tax allowances and taxes actually paid to HMRC (including the treatment of group tax relief)?

➔ Which of the options described in this consultation may be worth investigating further to address any material variances?

FPSA has no comment

Other finance issues

Q41. Do you agree that we should move away from RPI for RIIO-2 (including for the indexation of the RAV if retained as a feature)?

➔ If yes, which of the two potential indices – CPI or CPIH – might be most suitable?

➔ **Is a phased transition between RPI and the chosen successor index necessary or desirable?**

FPSA has no comment

Q42. In the light of our proposal not to amend, at a price control framework level, our policies for depreciation and asset lives set in RIIO-1 do you have any views or suggestions that you wish to put forward?

FPSA has no comment

Q43. We propose to review the fast/slow money split at the business plan submission stage, do you have views that you wish to put forward at this stage?

FPSA has no comment

Q44. Do you think existing mechanisms for providing allowed revenue to compensate for the raising of notional equity are appropriate in principle and in practice?

FPSA has no comment

Ensuring fair returns

Q45. What are your views on each of the options to ensure fair returns we have described in this consultation?

Q46. Is RoRE a suitable metric to base return adjustments on?

➔ **Are there other metrics that we should consider, and if so why?**

Ofgem should seek to set allowances, outputs, incentives and uncertainty triggers in a manner that controls returns rather than introduce other protections that artificially limit performance. It is important that Ofgem's framework supports clear understandable decision making and investment in the low carbon transition through a key phase in the 2020s.

Ofgem should risk assess where potential out performance is likely to be achieved against its proposals and how this would be controlled through mechanisms such as automatic allowance adjustment mechanisms, tiered totex incentives or 'reopener' triggers (where companies would have the option to argue for keeping a share of efficiencies for expenditure, potentially overcoming the limitations that CEPA note for tiered incentives).

Ofgem could, under RIIO-2, limit allowances for uncertain needs, relying on volume drivers to increase allowances based on need, or using uncertainty mechanisms to adjust

funding ex-post. It will be important to ensure that these mechanisms do not compromise timely delivery of investment to support the low carbon transition

When assessing company RORE performance, it should be based on cumulative performance to date in correcting for output performance and likely uncertainty mechanism adjustments.

Chapter 8 – Next Steps

Q47. Do you have any views on the interlinkages and interactions outlined in this consultation and those that we will need to consider as we develop our sector-specific proposals?

Ofgem must develop the approach to addressing interactions between the separate controls; eg between transmission and distribution, but also between the SO controls.

This must include mechanisms to allow cross investment where efficient opportunities arise post business plan submissions.

Q48. Do you have any views on the issues highlighted that we will consider as we develop our sector-specific proposals?

We are concerned that Ofgem's RIIO-2 proposals need to be stronger in a number of areas in regards to the development of smarter energy systems:

- the value of information, and the need to make it visible through open, digital platforms;
- the development of 'Digital Twin' models to allow scenarios to be explored and more accurately signpost future system needs;
- the ongoing development and enabling of smart flexible networks to support digital markets for energy services; and
- the development of agile governance and change processes that allow the industry to adapt quickly and accommodate innovation and changes in the external environment.

The development of smarter, more flexible energy systems will also make benchmarking to historic costs more complex than in the past.

Q49. Are there any sector-specific issues or policy areas that we should ensure we review and consider as we develop our sector-specific proposals?

Ofgem should develop better approaches for funding areas of uncertainty, particularly in electricity distribution where there needs to be a balance between protection for consumers from stranded investments and sufficient flexibility to allow timely investment to meet the challenges presented by EV uptake.

The approach taken to the decarbonisation of heat in RIIO-2 needs to be considered, particularly in relation to the lifetime requirements of any significant distribution investments.

Q50. Do you have any views on our high-level proposals for timing of RIIO-2 implementation, and on our proposals for engagement going forward?

The development of the RIIO-T2 proposals should include the approach for developing cross networks issues and innovation funding for RIIO-ED2 to ensure consistency of incentives. Ofgem should also look at the framework for investment in RIIO-ED2 in determining its approach to funding to ensure the SO and TO control in RIIO-T2 are consistent and do not introduce barriers to efficient development of the system.