Flexibility First: How the UK's network companies can facilitate clean, affordable energy for all

A response to Ofgem's RIIO-2 Framework Consultation, April 2018

Executive Summary

The UK's energy landscape is changing at an unprecedented pace. We're moving away from fossil fuels and large-scale centralised supply side solutions towards a consumer centric, distributed system in which everyone can participate. As identified in the Government's Clean Growth Strategy, transitioning to this smart, flexible energy system of the future could unlock savings of up to £40 billion to 2050.

At OVO, we believe that the energy networks, and in particular the electricity transmission and distribution companies, are central to facilitating change. They are integral to both enabling timely transition to a secure low carbon energy supply, and via the establishment of robust and competitive markets for flexibility, creating an intelligent energy system that achieves whole system outcomes for consumers.

The network companies in the UK are privately owned monopolies, regulated by Ofgem on how much they charge customers. OVO believes current incentive structures ought to do much more to accelerate change in the energy system, and fail to recognise and prioritise the procurement of flexibility services over alternative options such as investment in new network infrastructure. We believe that this market failure is the root cause of many barriers that are slowing the adoption of energy storage and demand-side response.

OVO's consultation response therefore calls on Ofgem and the network companies to adopt a **Flexibility First** approach. This approach focuses on capitalising on emerging technologies such as artificial intelligence and storage to address the complex challenge of providing reliable, affordable and renewable energy at scale and create a system that is fit for the 21st Century.

The **Flexibility First** approach centres on six key principles:

1. **Flexibility services procured first:** Network companies should be obligated to tackle network constraints by procuring flexibility services as a first measure, rather than by building expensive new network infrastructure.

2. **Targeting 'whole-system' outcomes**: Rather than focussing on benefits to themselves, network companies should be incentivised to help us achieve our carbon reduction targets at the lowest possible costs for consumers (as set out in the Government's Smart Systems and Flexibility Plan).

3. **Rewarding grid utilisation:** Network companies should be rewarded for making better use of the existing network, rather than building new infrastructure. One mechanism to achieve this is to make the ratio between maximum capacity and the average load on a network ('load factor') a primary metric for adjusting network company revenues.

4. **Facilitating renewable energy adoption:** The cost and availability of new connections for renewable generators should become important output

categories for network companies, given their central role in supporting renewable energy adoption. Network companies should also be incentivised to prioritise flexibility from zero-carbon sources, rather than from fossil-fuel based thermal generators.

5. **Promoting entrepreneurialism**: Network companies should be able to make genuine financial gains and losses based on their performance on whole-system outcomes. This will encourage companies to implement innovations into business as usual, rather than simply conduct pilot projects with no follow-on. We recommend that any returns above a base return of 2-3% should be based on achieving whole-system outcomes.

6. **Continue to separate network operators from users:** Ofgem has rightly established that network operators may not own and operate energy storage. Similarly, Ofgem should clarify that network operators may not directly control other distributed energy resources such as electric vehicles and instead use price signals to manage and encourage flexible resources.

By implementing these changes, Ofgem and the Government can play a major role in facilitating the transition to a smart, flexible energy system that will not only enable deep decarbonization of our power, heat and transport sectors, but also represents significantly better value overall for consumers.

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About OVO
OVO is the UK's largest independent energy technology company and supplier. Across the group, OVO serves nearly one million customers with intelligent energy services. Founded in 2009 by Stephen Fitzpatrick, OVO has redesigned the energy experience to be fairer, greener and simpler for all. Today OVO is no longer simply an energy retail business: it is group of innovative, dynamic companies, all striving to harness technological advances with great consumer propositions to deliver affordable, clean energy to everyone.

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?	The appointments to the Customer Engagement Group (for Distribution), and the User Group (for Transmission) and the RIIO-2 Challenge Group are critical. In order that these groups have credibility, it is essential that they incorporate representatives from all segments of the energy system value chain. These should include representatives from independent generators, suppliers and consumers, and importantly from technology companies developing new technologies, such as smart grid or 'non-wire' alternatives, in order to get the widest possible range of views. We support the proposal to have Open Hearings, however the hearings should not be restricted to cover issues that have been 'pre-identified' as being contentious. Open Hearings should enable challenges to be raised on any areas. For this to happen, we are calling for the full publication of network company business plans at the Open Hearing stage. This will enable full and proper scrutiny of the business plans by the industry.
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**	Agree with 5-year term
	- What type of cost categories should be set over a longer period?	We believe there should not be exceptions for large-scale infrastructure investments. This would create a shareholder incentive for NOs to lobby for these types of interventions over flexibility as they create greater shareholder value from long-term guaranteed income
	- How could we mitigate the potential disruption this might cause to the rest of the framework?	See above
	- What additional measures might be required to support longer-term thinking among network companies?	Ofgem should set-out desired whole-system outcomes at intervals from 2020 to 2050. This could be achieved for instance throught the use of reference energy system models in 2020, 2030, 2040, 2050 with the target level of decarbonisation and flexibility uptake. Clarity around the direction of travel would allow NOs to think longer term. The RIIO framework should also recognise the role that NOs play in decarbonisation of heat and transport, and reward performance on these topics.

	- 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?	
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?**	Last year, BEIS and Ofgem set-out a clear vision for the future energy system in their Smart Systems and Flexibility Roadmap (July 2017). Our position is that we want Ofgem to set-out a desired future energy system scenario based on this vision which can be used by the network companies to inform their business plans. Incentives can then be based on network companies' performance to achieve this scenario. E.g. if that scenario has lots of EV smart charges, then network companies should be incentivised to accelerate the adoption of smart chargers.
	If there are barriers, how do you think these can be removed?	Under the current framework, there are significant barriers to network companies supporting the development of the desired whole system outcomes as set out in the Smart Systems and Flexibility roadmap. This is because permitted revenues are still linked to network costs, which means that network companies remain incentivised to build network capacity. We are calling for a 'flexibility first' approach, where network companies are heavily incentivised to employ flexibility approaches and dis-incentivised to build network infrastructure. Incentives should be based instead on whole system outcomes.
	What elements of the price control should we prioritise to enable whole system outcomes?	- The 6 categories of the Primary Outputs should be overhauled to reflect the 'Smart Systems and Flexibility,' whole-system outcomes, such as network utilisation factor and support for renewable energy connections - The efficiency incentive should be amended to target 'whole-system' efficiency as opposed to simply network company costs. This should include network utilisation factor as a major incentive - Ofgem should consider alternative methodologies to setting baseline revenues based on business plans. For example, an 'allowed revenue per connection' point method could be used. This could reduce reliance on the uncertainty mechanism. If the business

		plan methodology continues to be used, a broader, more impactful set of KPIs.
	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?	- No strong opinion, however OVO believe it is important to ensure alignment of 'whole system incentives'
	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?	The definition of 'whole system' should be based on whole system energy modelling that demonstrates the lowest overall cost for the consumer whilst meeting carbon-reduction objectives. At this point it is feasible to look at the power, heating and transport sectors. For example, BEIS and Ofgem have already worked with Imperial College to identify multi-£bn savings through employing smart systems and flexibility. Network companies should be incentivised to accelerate of appropriate pricing signals and market places to procure flexibility services that support this system approach.
	- Are there any implementation limits to this definition?	Start with a long term desired or 'target' whole energy system model (e.g. based on Imperial college analysis) and identify pathways to getting there including an interim outcome at the end of the RIIO2 period.
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?**	Yes, this separation is important so that flexibility services can compete directly with more traditional network solutions such as reinforcement. We have concerns however, regarding the effectiveness of this separation if the shareholder structure of the SO and TO remains the same - this would be a competition issue. Also, the argument to separate the SO and the TO applies equally to separation of the DSO and DNO. Is this also being considered? Similarly, network companies should not be able to directly own and manage distributed energy resources such as electric vehicle charging infrastructure. This has been established for batteries but clarification should be extended to all behind-the-meter assets.
	Q7. Do you agree that we should be considering alternative remuneration models for the electricity SO?	Yes, see above recommendations for changing the Primary Outputs and incorporating a network utilisation factor and renewable energy incentive.

	- If so, do you have any proposals for the types of models we should be considering?	
	Q8. Should we consider alternative remuneration models for the gas SO?	No strong opinion
	- If so, why and what models?	
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?**	Within this consultation response, we are calling for a **Flexibility First** approach to network capacity including a **temporary moratorium on the build out of new network capacity**. Evidence from Imperial College (Strbac, 2016) shows that the current network is oversized and without intervention utilisation rates will continue to decrease. There is a large opportunity to improve utilisation of the existing network through the use of smart systems and flexibility including storage. However, the current framework does not go far enough to prioritise procurement of these flexibility services over network reinforcement. As recent frequency response tenders have demonstrated, the market is ready to rapidly deliver significant amounts of storage and demand response flexibility at low cost. What is missing however are the clear pricing signals required to enable investment in these technologies. We are calling for network companies to tender for flexibility services first, in place of network upgrades. Only where a tender has not delivered suitable, cost-competitive flexibility may network companies build new assets. We are also calling for **network utilisation** (or **capacity factor)** to be a primary metric for setting network company incentives. In addition, by cultivating competitive market forces the whole system and consumers can achieve greater long term benefits via the innovation and entrepreneurialism market forces typically stimulate.
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?**	Network companies have a key role to play in the development of energy efficiency technologies. What is required however is the definition of 'whole system' energy use. In addition, network charging should be used to incentivise reduction in energy use. For instance a shift to capacity-based charging in place of volume-based charging would be counterproductive to encouraging energy efficiency. The flexibility first approach can also play a key role in supporting Smart Electric Heat

		(electric heating systems coupled with energy storage - see VCharge white paper). Our calculations show this is the cheapest and most pragmatic pathway to deep decarbonisation of the heating sector.
	- What could the potential scale of this impact be?	The Flexibility first approach will drive decarbonisation of power generation, transport and heat. Energy system modelling from Imperial shows this could be achieved whilst saving over £40bn to 2050.
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?**	We agree with the need to retain dedicated innovation funding, however under the Flexibility First approach, the core RIIO-2 framework should be capable of supporting a wide variety of innovative flexibility and storage projects without the need for innovation funding.
	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)?	Yes, we agree with all 3 areas, in particular with iii) increased third party engagement.
	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?	Previous innovation projects have naturally tended to be aligned to the specific needs and interests of the DSO rather than the wider energy system benefits. Future funds should be awarded in-line with 'whole-system' benefits.
	(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	Appoint an independent, public sector body to oversee all RIIO2 innovation funding aligned to existing funding streams and a uniform application and selection process.

	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?	We believe that allowing direct access to RIIO innovation funding is important. Under RIIO2, innovation funding will be focussed towards measures which cannot be otherwise funded under the RIIO2 framework. By definition, this implies that these innovations will be measures that are not aligned to network company incentives. As a result, an independent third party without conflicts of interest would be better placed to administer this funding.
	Q14. What form could the innovation funding take.	
	- What would be the advantages and disadvantages of various approaches?	
	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?	- by increasing the portion of revenues that are outcome based to make their behaviour more dynamic and enterprising. - Network companies should have the opportunity for greater upside potential by hitting whole system output targets so they will be incentivised to act more innovatively and entrepreneurially - by setting targets for the energy system at the end of the RIIO-2 system based on whole-system outcomes network companies will be incentivised to actually use innovations to achieve these goals - by using load factor as a key metric on which to adjust network company revenues
Competition	**Q16. Do you agree with our proposal to extend the role of competition across the sectors (electricity and gas, transmission and distribution)?**	- It depends, see below
	- What are the trade-offs that will need to be considered in designing the most efficient competitions?	- if the competition is focussed solely on the tender process for the building of new infrastructure this could lead to fragmentation of the ownership and operations of the network that could add unnecessary complexity. It also could also conflict with the Flexibility First approach, since once a competition process had begun, non-network infrastructure solutions may be overlooked. - alternatively, genuine competition whereby the right to continue to operate the network is dependent on how well a company does at

		achieving desired outcomes by the end of the period, would align all behaviours.
	Q17. Do you consider there are any reasons why our new, separable and high value criteria might not be applicable across all four sectors?	Flexibility based solutions (e.g. energy storage or DSR) may not fit these criteria for electricity distribution. In these scenarios a long-term service delivery contracts are required, rather than capital expenditure. This would then encourage the lowest cost technology option.
	- If so, what alternative criteria might be suitable?	
	Q18. What could the potential models be for early stage competitions (for design or technical solutions)?	No strong view
	- What are the key challenges in the implementation of such models, and how might we overcome them?	
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?**	- In general, we agree with the proposed approach to specifying outputs and setting incentives. There must be, however, a significant revision of the specific outputs and incentive metrics themselves, and a full review of the output categories used in RIIO-1 should be conducted. During the last price-control period, dramatic developments in technology have occured with the advent on energy storage and flexibility technologies, and the continued fall in renewable energy costs. As a result, research has shown (REF Strbac Imperial College) that transitioning to a more flexible, renewable energy based system is not only beneficial to the environment but can also save consumers £bns compared to an inflexible, network capacity based approach. Updated output categories should include the utilisation factor of the network (ratio of maximum capacity to average capacity), % of renewable energy carried on the network, cost and availability of new connections for renewable generators. These outputs should be aligned to the Smart Systems and Flexibility roadmap published by BEIS and Ofgem. We believe that network companies should be heavily incentivised to achieve these outcomes, since achieving them will minimise costs to consumers.
	- When might relative or absolute targets for output delivery incentives be	Both are appropriate depending on the metric. For example, an absolute metric may be used to set a minimum performance standard, and a relative

	appropriate?	improvement measure may be used to create incentives.
	- What impact would automatically resetting targets for output delivery incentives during a price control have? Which outputs might best suit this approach?	- no strong opinion
Our approach to setting cost allowances	Q20. What views do you have on our general approach to setting cost allowances? Q21. What views do you have on our intention to index RPEs?	- Whilst we agree with the general approach to setting cost allowances in a broad sense, we are calling for significant overhaul of how upfront baseline allowances are accepted. Rather than setting the baseline solely through network companies' business plans, we are calling for Ofgem not to automatically accept *any* new network infrastructure investments in their business plans. Companies should be first required to demonstrate that they have explored all flexibility options, and should also be incentivised heavily to maximise their network utilisation rate. Under this measure, network companies will be dis-incentivised to build new network infrastructure and correspondingly incentivised to procure new flexibility services from the market. - An alternative approaches to setting cost allowances should be considered, for instance setting a standardised allowance per connection point - We agree with indexing RPEs and agree with CEPA's recommendations
	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?	- It could facilitate competition and the spreading of best practices.
Information-revealing devices	**Q23. Do you agree with our assessment of IQI?**	
	Q24. Do you agree with our assessment of fast-tracking?	
	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?	
	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)?	
	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?	
	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?	- We would like Ofgem to consider the **Flexibility First** approach, and to make network load factors a key part of the overall incentive structure. Thereby network companies are incentivsed to deliver low cost solutions that make best use of existing network infrastructure rather than incur unnecessary infrastructure costs which ultimately result in increased energy bills for consumers. In principle, an upfront financial reward for high quality (low cost) business plans may be appropriate, however this should not be the primary incentive. Utilisation factors, cost of grid connections and use of renewable energy should become the primary levers of incentives.
	Q29. Do you have any views on our proposal to remove fast-tracking for transmission?	
	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?	- We agree with placing greater reliance on network use and consumer engagement strategy. However we disagree with the concept that company business plans, once approved, should set the allowed revenues for the entire period. Alternative models for setting allowed revenues should be employed. A cost plus approach will generally incentivise network companies to incur more costs.
Annual reports/reporting	**Q31. How can we best improve the suite of annual reporting requirements to be as efficient and useful as possible?**	

	Q32. How can we make the annual reports easier for stakeholders to understand and more meaningful to use?	
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?	
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?	Yes but it should be set at a low level
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?	
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?	
	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?	
	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?	
	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?	
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?	
Chapter 8 – Next Steps		
	Q47. Do you have any views on the interlinkages and interactions outlined in this	- the gas and power markets (and therefore their distribution networks) are becoming increasingly interlinked. It is important that sector specific

	consultation and those that we will need to consider as we develop our sector- specific proposals?	proposals consider wider system benefits above benefits of each individual sector. For instance, if a better system outcome can be achieved through a shrinking of one sector relative to another (e.g. as a result of electrification), then the RIIO2 framework should enable that transition to happen and incentivise the network companies' participation.
	Q48. Do you have any views on the issues highlighted that we will consider as we develop our sector-specific proposals?	
	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?	The 6 outcome categories must be reviewed and updated to reflect the Smart Systems and Flexibility plan published by BEIS and Ofgem and to incentivise efficiency.
	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?	