RIIO-2 Draft Determinations

Response on behalf of the Solar Trade Association

About us

Since 1978, the Solar Trade Association (STA) has worked to promote the benefits of solar energy and to make its adoption easy and profitable for domestic and commercial users. A not-for-profit association, we are funded entirely by our membership, which includes installers, manufacturers, distributors, large scale developers, investors, and law firms.

Our mission is to empower the UK solar transformation. We are paving the way for solar to deliver the maximum possible share of UK energy by 2030 by enabling a bigger and better solar industry. We represent both solar heat and power and have a proven track record of winning breakthroughs for solar PV, storage and solar thermal.

Respondent details

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Would you like this response to remain confidential?	No

Introduction

We welcome the opportunity to respond to this consultation. We are committed to ensuring that the investments committed over price control period align with the best assessments of what will be necessary to achieve net zero by 2050. Multiple independent analyses, including those undertaken by the Committee on Climate Change[1] and the National Infrastructure Commission[2], have concluded that roughly 40GW of solar will be needed by 2030 to stay on track with the Government's net zero ambitions.

We are principally concerned that the draft determinations as currently set out will undermine the ability of the system operator and network operators to make the necessary anticipatory investments in the network to allow for the increased levels of distributed variable renewable energy generation on the grid that will be required to achieve net zero.

The latest figures from BEIS show that **large-scale onshore renewable energy projects are the lowest cost option** for achieving net zero, markedly cheaper than other energy technologies, with large-scale solar delivering the lowest Levelised Cost of Electricity (LCOE) of any technology.[3] The BEIS forecast shows that the cost reduction trajectory of renewable technologies will continue for decades to come, with the LCOE for solar PV potentially reaching £28/MWh by 2040.

Given the significant structural changes needed to transition to a low carbon economy and the barriers to renewable energy deployment created by the constrained state of the network in many parts of the country, when assessing how

[1] https://www.theccc.org.uk/wp-content/uploads/2019/05/CCC-Accelerated-Electrification-Vivid-Economics-Imperial-1.pdf
[2] https://www.nic.org.uk/wp-content/uploads/Final-Renewables-Recovery-Reaching-Net-Zero.pdf
[3] https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/911817/electricity-generation-cost-report-2020.pdf

to best deliver value for money for consumers the RIIO-2 framework should place a greater emphasis on enabling the deployment of renewable generation as this will deliver the greatest long-term value to the nation.

Executive Summary

1. We are concerned that as drafted the RIIO-2 framework will undermine the ability of network companies to invest in grid infrastructure. We feel that the level of upfront funding proposed specifically for connecting additional renewable generation is out of step with what will be required. The approach taken to load related capex allowances, and the high bar set with regards to anticipatory network investments are at odds with the clear needs case for increasing network capacity.
2. We are surprised to see that the Impact Assessment (IA) concludes that the net effect of the proposed reforms on consumer electricity bills is essentially negligible (Table 28), despite the dramatic reductions proposed for totex allowances for network companies. The IA also appears not to have taken into account the benefits to consumers presented by different generation mixes and specifically the lowest cost LCOE that can be delivered by large-scale onshore renewables, according to the latest BEIS figures.[4]
3. We note that Ofgem has not presented a central forecast for potential load-related investment needs. Thus, we would question the approach taken to moving a significant amount of requested capital allowance into uncertainty mechanisms, which could undermine the ability of network companies to make necessary anticipatory investments in the electricity network.
4. We feel the net-zero reopener mechanism is promising and in general we agree with this approach to boost funding for innovation, achieving net zero, and benefiting consumers. However, the precise parameters for triggering the net zero re-opener would benefit from additional clarification. We would also recommend that there be a more significant role for other relevant parties and stakeholders to determine whether and when the re-opener is triggered.
5. Technological progress and costs in PV and Energy Storage Systems have fallen significantly faster than regulations have been able to adapt. This is expected to continue throughout the RIIO2 price control period. It is therefore more fundamental than ever before for Ofgem to design a system that is responsive in commercial timescales and to ensure that it is technology neutral.

Response to Questions

Core Questions

Q7. What kinds of data do you think should comply with the data best practice guidance to maximise benefits to consumers through better use of data?

- Distributed Energy Resources (DER) deployment data
- Connection costs data, including Assessment and Design (A&D) fees and reinforcement costs
- Tariffs and half-hourly settlement data

Q12. Do you agree with our proposed common approach for re-openers?

We generally agree with the proposed common approach to re-opener mechanisms. However, we have some concerns about the proposed modifications to application windows. We disagree with Ofgem's assessment that reducing the application window from one month to one week will not significantly impact the ability of licensees to submit applications. As the re-opener uncertainty mechanism is one of the main tools designed to allow for additional network investment to achieve net zero, we feel that Ofgem should be making it easier for the relevant parties to participate. Allowing one week for re-opener applications is an incredibly short window and will likely lead to network companies being unable to bring forward cases where there is clear need for additional expenditure allowances.

[4] https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/911817/electricity-generation-cost-report-2020.pdf

We support the proposal to include additional requirements for re-opener applications, specifically the requirement that applications are made publicly available.

Q20. Do you agree with our overall approach to meeting Net Zero at lowest cost to consumers? Specifically, do you agree with our approach to fund known and justified Net Zero investment needs in the baseline, and to use uncertainty mechanisms to provide funding in-period for Net Zero investment when the need becomes clearer?

We have concerns with the approach taken to identifying and providing for investments in network upgrades. We agree in principle with the approach of providing allowed revenue only for those network investments where there is a clear needs case, as this should minimise stranded assets and provide flexibility to address future uncertainty. However, we would argue that there is already a clear case that significant reinforcement will be needed to achieve net zero, alongside the electrification of heating and transport.

The NGESO, amongst others, has warned that the draft determinations will significantly reduce their ability to make progress towards net zero over the price control period. While we understand Ofgem's responsibilities to consumers, now is the time to accelerate the energy transition, and likewise the economic recovery in the wake of COVID-19. We are concerned that as set out the draft determinations could lead to delays to critical network infrastructure projects and increase the risk that the energy sector misses key government targets for renewable energy deployment.

The risk of Ofgem's proposed approach is that, by the time projects pass the high certainty hurdle proposed, it may already be too late for physical network upgrades to be deployed to accommodate changes in demand, as these projects can often take years. This could result in networks themselves being a barrier to decarbonisation, particularly in a scenario of rapid increases in peak electricity demand, as has been projected by the latest National Grid Future Energy Scenarios (FES2020).[5]

This is of particular concern for solar and storage projects, which operate on much shorter timescales than other energy technologies, and multi-year delays resulting from a lack of network capacity can quickly undermine project viability.

In our view, the draft determinations appear to be prioritising lowest short-term cost to consumers above delivering greatest long-term value to the nation. Given the significant structural changes needed to transition to a low carbon economy and the constrained state of the network in parts of the country, Ofgem should focus more on ensuring this price control period evolves the network's capacity and flexibility to be capable of operating in a radically different flow environment than has been the case before. Curtailing investments in general will not represent "value for money" to the nation. Further, as set out in the Impact Assessment (IA)[6], the net effect this will have on consumer electricity bills is calculated as essentially negligible, and in Table 34 it would seem that the base case being proposed by Ofgem will have a net negative impact. Given the strategic changes that need to be made to the UK transmission system, the proposed base case does not seem to be in the national interest.

BEIS has now officially recognised that large-scale solar is the most affordable of all power generation technologies over their lifecycle, and delays to the critical network upgrades needed to allow more variable renewables onto the grid will also result in undermining the regulator's obligation to deliver the transition at least cost to consumers. The latest National Infrastructure Commission analysis concludes that achieving a highly renewable electricity system will deliver net zero at the lowest cost.[7] Their modelling shows that even the lowest renewable penetration scenario, 60% by 2050, will require over £37 billion in investments in networks over the price control period to support the connection of additional renewable generation capacity.

However, Ofgem is proposing less than 10% of this in upfront funding allocated to upgrading the grid and connecting additional renewables. The level of investment as currently set out is dramatically out of line with what is needed. According to the SSE's RIIO-T2 business plan, their central projections, in line with the investment trajectory set out in the draft determinations, will result in significant shortfalls in the level of connected generation capacity needed over

[5] https://www.nationalgrideso.com/document/173821/download
[6] See Table 28, Figures 1 and 2
[7] https://www.nic.org.uk/publications/renewables-recovery-netzero/

the price control period to meet net zero targets.[8] The result is a gap of potentially over 5GW in just the north of Scotland operational area. The present proposals will therefore prevent utilities from realising the full potential of renewable generation capacity to which they are otherwise committed.

We are also concerned that the significant reductions in allowed returns Ofgem has proposed will reduce the ability of network companies to attract the capital needed for future investments in the network. Coupled with a nearly 75% reduction in incentives for the System Operator, we are concerned this will undermine commitments to accelerate low carbon connections at a time where we need to be doing just the opposite.

The framework should also place a greater emphasis on the role of flexibility in reducing the upfront costs of network reinforcement. As our recent research has shown, enabling the deployment of solar and storage technologies, particularly in domestic applications, can play a central role in reducing the anticipated strain on the network from a rapid uptake of EVs and low carbon heating.[9] By generating electricity where it's needed, and allowing consumers to store that electricity and time-shift their demand profiles, the synergy of domestic solar and storage could potentially eliminate the evening demand peak.

Q21. Do you think the package of cross sector and sector-specific UMs provides the appropriate balance to ensure there is sufficient flexibility and coverage to facilitate the potential need for additional Net Zero funding during RIIO-2?

It is essential to ensure that the design and operation of uncertainty mechanisms allows for appropriate investments to be made at the right times. Ofgem's Decarbonisation Action Plan states the intention to make, "the network price control regulatory regime more adaptive to deliver the most effective transition at lowest cost" by making the RIIO-2 price control flexible enough to inject the necessary funding at the right time.

However, we are concerned that the uncertainty mechanisms proposed are strongly biased towards large projects and in many instances may not be applicable even to large-scale PV projects that might require reinforcement or upgrades in places that the operator did not envisage. As set out, we are concerned the uncertainty mechanism will stymie the deployment of solar PV projects.

Q22. Do you have any views on our proposed approach to a Net Zero re-opener?

The precise parameters for triggering the net zero re-opener would benefit from additional clarification. Further, we feel that there should be a more significant role for other relevant parties and stakeholders to determine whether and when the re-opener is triggered. Placing this decision at the sole discretion of Ofgem does not afford investors and developers any clarity or predictability as to whether projects proposed in areas where reinforcement or upgrades are required will have access to the necessary investment.

We are also concerned that the current requirement for case-by-case evaluation by Ofgem will add significant delays to the development of any projects that would require this support. We would urge Ofgem to include a mechanism suitable for individual projects to apply to directly to access support within commercial timescales and provide specific guidance on what the criteria for access will be.

Q23. Do you agree with our proposals for the RIIO-2 Strategic Innovation Fund?

While we appreciate the logic of the approach of setting Strategic Innovation Fund (SIF) challenges for projects as issues are identified, here again we are concerned that moving away from the annual competition process used for the Network Innovation Competition will reduce certainty for investors and could undermine the competitiveness of SIF challenges.

Q27. What are your thoughts on our proposals to strengthen the RIIO-2 NIA framework?

[8] https://www.ssen-transmission.co.uk/media/3873/business-plan-summary.pdf
[9] https://www.solar-trade.org.uk/wp-content/uploads/2020/07/Smart-Solar-Homes.pdf

We are concerned that proposals to reduce the Network Innovation Allowance (NIA) and totex allowance will make it more difficult for PV projects to compete in a post-subsidy environment. The costs of connecting new large-scale PV generation are now almost always being affected by transmission capacity, fault levels, lack of connections or system complexity. Solar PV developers now often must pay significant costs not just for distribution studies but also for transmission studies and reinforcements. In many instances, this can double grid access timescales and increases the upfront costs and risk for developers. The consequence of this in a subsidy-free landscape is to stifle investment and bias development towards the very largest projects. Reducing the totex allowance and the NIA may worsen this situation for large-scale PV projects.

Our members have also raised concerns that historical innovation incentives have failed to reach their full potential because the penalties to operators if the innovation was not completely successful exceeded the possible benefits. The NIA should recognise that deploying innovation is not risk-free, and that there are risks of Ofgem undermining potentially successful innovations coming forwards through the conditions it establishes under this determination. Any associated risk mitigation or penalties to operators in the interest of maintaining lowest cost should be balanced with a view towards not stifling innovation by being overly punitive.