

19TH FEBRUARY 2020

Ofgem - Forward Work Programme 2020-2022

ABB response

Introduction

ABB welcomes Ofgem's consultation and is pleased to submit the following response. Our submission responds to the aspects of the Forward Work Programme on which we can offer substantial insight, therefore it will not address every aspect. The response is organised according to the Programme's three strategic priorities, with a focus on priority three, decarbonising to deliver a net zero economy at the lowest cost to consumers.

About ABB

ABB is a pioneering technology leader in electrification products, robotics and power grids serving customers in utilities, industry, transport and infrastructure globally. We innovate and produce technologies from electric vehicle chargers, to power grids and digital solutions which both enhance energy efficiency and user experience. ABB provides products, systems and service solutions that not only enhance our customers' businesses, but also lessen their environmental impacts, through improved energy efficiency and increased industrial productivity. We operate in 22 sites across the UK, from Aberdeen to Andover, where products are manufactured, sold, serviced or engineered. During 2020 ABB plans to divest its Power Grids business to Hitachi.

Consultation response

1. Enabling competition and innovation which drives down prices and results in new products and services.

A whole-system approach

ABB believes that innovation is essential in protecting consumers' long-term welfare and welcomes the focus on innovation in Ofgem's Forward Work Programme. As Ofgem works to identify how regulation can get in the way of innovators, it is noteworthy that the system currently treats different utilities very independently, making it difficult to see how cross-sector interaction can be developed and promoted effectively. Even within Ofgem, separate sectors are treated very differently. If the UK is going to benefit from innovation across all sectors, ABB believes that greater consideration, research and investment needs to be given to treating the whole energy system as one, especially as we move towards a new energy transition challenge. A whole-system approach offers a more secure, more flexible and considerably lower cost path towards a net-zero energy system. The approach must combine the government's ambitions, such as the net zero target, with industry-led expertise and advice on how the government's direction can manifest practically.

Ensuring sufficient funding for innovation

Whilst driving down prices is an important aspect of the Forward Work Programme, Ofgem needs to safeguard enough funds for investing in innovation. ABB believes that Ofgem has become increasingly focused

on short term cost reduction to be passed onto customers; an approach that does not effectively allow for investing in the innovative approaches necessary to decarbonise the whole energy system and lay the foundations for the lowest total cost solutions over the long term. By its very nature, innovation should fail more often than not, making it risky and costly in the short-term but, when successful, ground-breaking and cost-cutting in the long-term. ABB would therefore welcome a less risk averse approach to be taken by Ofgem. We would also welcome greater industry dialogue with Ofgem so that it is better aware of upcoming developments. Increased discussion with diverse parts of the industry would encourage and facilitate more multi-vector solutions.

Value for money for network projects

ABB welcomes Ofgem's expectation of the increasing importance of offshore wind and its recognition of the financial and environmental benefits of developing an 'offshore grid'. Another benefit from an offshore grid would be the shorter timescales it would allow for the deployment of future offshore generation, an important factor in the race to net zero. We see the offshore grid as a critical development to accelerate and reduce the cost of decarbonised generation and would like to see a specific milestone in the Work Programme to advance its realisation. We welcome the suggestion to develop this strategy with a cross industry group of stakeholders and would welcome the opportunity to be involved in this development.

2. Protecting consumers, especially the vulnerable, stamping out sharp practice and ensuring fair treatment.

System stability and security

With regards to full and partial shutdowns to the transmission system, ABB welcomes Ofgem's plan to '*assess the cost incurred by the ESO in regard to the delivery of value for money to customers*' but believes this assessment should have a broader scope than the implications for customer's costs. We would encourage a more thorough assessment of the impacts of shutdowns, one which considers consequences for infrastructure, costs to suppliers, and learnings for the future. The power outage in August 2019 demonstrated the scale of investment that will need to come forward if the UK is going to move to a net zero energy grid that is both resilient and future-proof, and the findings of a thorough investigation into shutdowns would be instrumental to ensuring that investment is targeted in the right places. Ofgem's investigation into the August outage is a great start, particularly the focus on improving system stability and security; Ofgem's Forward Work Programme should better reflect the findings.

ABB welcomes the Forward Work Programme's promise to support '*flexible cross-border electricity market arrangements*' and to '*work with European partners to ensure that congestion and consumer costs are minimised, and that security of supply is protected*'. With energy security becoming an increasingly critical issue, interconnectors with other countries will provide additional security of supply to the UK, ensuring that we are not overly reliant on any single source of generation and protecting the UK from shutdowns no matter what the future energy mix might be.

3. Decarbonising to deliver a net zero economy at the lowest cost to consumers.

Approach to decarbonisation

ABB looks forward to Ofgem setting out its approach to decarbonisation in 2020. To successfully decarbonise the UK's energy system, the grid networks need to undergo a significant transformation to adapt to the increasing level of low carbon energy on the system. This transformation will only be possible with a smarter grid, one that recognises the vital role of digital technology in coordinating the interplay between renewable energy sources, the increased demands from smart appliances and electric vehicles, and the capabilities of the central grid.

Code modification

'Through our ongoing code modification and charging decisions, we will continue to consider how the electricity and gas markets can work efficiently to deliver a fairer market price for consumers and a level playing field for shippers, suppliers and other market participants'. ABB welcomes these considerations as Ofgem continues its ongoing work on industry codes, in particular the focus on securing a level playing field for suppliers. This could be further improved by simplifying the industry codes, which are currently overly-complex and inaccessible to both current and potential market participants. Simplifying the codes will not only ensure compliance from existing participants but also encourage new entrants into the market, which will have a positive impact on competition, variety of offers for consumers, and price.

In addition to these considerations for code modification, ABB believes there should be a greater focus on grid resilience. While reducing energy costs for consumers is essential, resilience of the network cannot be under-prioritised as the government develops its energy codes and moves toward net zero emissions. As the 9 August 2019 blackouts demonstrated, there is room for improvement to ensure that the network is resilient and can respond appropriately to unexpected conditions, such as adverse weather. The energy codes must take a whole-system approach that is able to comprehend the complexity of building an energy system fit for the future. This approach should follow a comprehensive strategy, led by government, to bring the UK towards net zero emissions by 2050.

Decarbonising heat

ABB agrees that decarbonising heat is one of the biggest challenges facing the UK energy system and an essential part of reaching net zero carbon emissions. As Ofgem works with BEIS to *'develop their thinking on heat network regulation'*, we are proposing that both bodies consider the funding gaps currently facing regulated utilities and develop solutions with this in mind. For example, ABB is involved with new solutions such as district heating and integrated demonstrations in Europe, but they would be difficult for a regulated utility in the UK to fund. The Energy Lab project in Copenhagen demonstrates how a fully developed city-scale energy network can be constructed, building on years of developing district heating and smart grids. In a UK context, a system of locational energy efficiency incentives could provide a workable solution. In an area where it would be expensive and/or more difficult to accommodate additional energy demand through the provision of new energy infrastructure, government could provide locational benefits for putting in place energy efficiency measures in buildings. For example, in the centre of London subsidised energy efficiency measures would be more cost effective than large-scale, new infrastructure projects. In summary, as Ofgem works with BEIS on regulating heat networks, ABB is calling for a flexible approach that can work for the whole of the UK.

Decarbonising transport

ABB agrees with the Forward Work Programme's recognition that '*a widespread switch to electric transport could increase electricity demand by 19 TWh by 2030, [...] a significant increase to required network capacity*'. To be ready for this transition, there needs to be truly national coverage of electric vehicle charging supported by an energy system prepared for the demand. Given the majority of users will have similar patterns of charging habits, the grid is going to have to deal with peaks in demand on an unprecedented scale, requiring the reinforcement of power grids and the deployment of smart technologies. Government must demonstrate strong leadership to ensure that charging networks are prepared for the rapid growth of EVs and are fit for the future. The market currently offers numerous solutions, but for consumers to feel confident enough to buy an EV and alleviate range anxiety, Government must provide a clearer strategy for consistent charging infrastructure across the country. This will need to be supported by strategic investment in transmission and distribution grid upgrades to ensure power is available and responsive to demand. As the world's largest provider of rapid EV chargers, we know that the technology exists and is ready to deploy - we just need the grid capacity to support it.

Consumer education

ABB welcomes Ofgem's plan to '*encourage consumers to make choices that support decarbonisation*'. Ofgem should not underestimate the scope and impact of general lack of awareness surrounding energy efficiency. For example, one of the most cost-efficient solutions energy consumers can implement is simply improving loft insulation, yet few people undertake this home improvement. Therefore, Ofgem should consider lack of awareness on the part of the consumer as a barrier to improving energy efficiency. At the same time, however, financial incentives should also be offered to consumers. With human behaviour being one of most difficult things to change, ABB believes that if financial incentives are prioritised first, large-scale behaviour change will follow. Like other industries that offer immediate and tangible benefits - for example tax credits for purchases of electric vehicles - ABB believes that the electricity sector should consider grants and financial rewards for investments in energy efficiency.

Data

ABB welcomes Ofgem's intent to develop guidelines to the crucial issue of cybersecurity, as any concerns or vulnerabilities in this area will hold back the delivery of the benefits that flow from digitalisation of the network. We also welcome the recognition of the value of data in supporting all three of Ofgem's strategic objectives. Given the importance of data availability for planning and delivering smart energy services we feel there should also be a milestone in the plan covering data availability. This could be to set out Ofgem's initial strategy of making relevant data available to the providers and potential providers of flexibility services and infrastructure.