

Written evidence submitted by the British Standards Institution to the Ofgem consultation on Forward Work Programme 2020-22

Introduction

1. BSI (the British Standards Institution) is making this submission as the National Standards Body for the United Kingdom. We bring together stakeholders (including government, industry and consumers) and facilitate the development of “what good looks like”.
2. BSI is a Royal Charter organisation and operates in accordance with an MOU with the UK Government. This sets out our public function in support of the UK economy and recognises our role as the UK member of the international and European standards organisations (ISO, IEC, CEN and CENELEC).
3. Our robust standards development process is based on full stakeholder involvement, open public consultation and consensus outcomes. This provides the credibility to support the work of government and regulators.
4. As the UK’s National Standards Body, BSI has a responsibility to support the delivery of public policy objectives. We would like to offer our support to Ofgem in delivering its Forward Work Programme. We believe that standards can play an important role in delivering the strategic narrative set out in the consultation.

Protecting Consumers

5. Consumers are a key stakeholder in the development of standards. BSI’s open, consensus-based standards process ensures that their views are considered alongside those of industry and other stakeholders.
6. BSI’s Consumer & Public Interest Network (CPIN) represents the views of UK consumers. Funded by BSI, with additional support from BEIS, it provides an independent consumer voice in the development of standards. CPIN members are volunteers, trained in consumer issues, who represent UK consumers in standards developing committees. CPIN also represents UK consumers in European committees, through the European organization ANEC, and in international committees, through ISO’s (International Organization for Standardization) Committee on Consumer Policy.
7. BSI’s CPI Strategic Advisory Committee (CPISAC) is formed of senior representatives from key UK consumer and public interest organisations, such as CPIN, Which?, Citizens Advice, National Consumer Federation, the Ombudsman Association, Electrical Safety First and the Energy Saving Trust. The Chair of CPISAC sits on BSI’s Standards Policy and Strategy Committee to represent the consumer and public interest voice. CPISAC guides CPIN’s work in terms of broad priority setting.
8. There are good practice examples of regulators using standards to improve outcomes for consumers. For example, *BS 18477, Inclusive service provision. Requirements for identifying and responding to consumer vulnerability*, is referenced by a number of regulatory bodies to support vulnerable consumers and many of the existing DNOs (Scottish and Southern Electricity Networks, SSE, UK Power Networks, Wales & West Utilities and Western Power Distribution) were among the first organisations to implement the framework and achieve verification. The standard focuses on the provision of inclusive essential services, including energy, water,

telecoms and broadband to enable equal access to all consumers. This standard combined with accredited conformity assessment can give a high degree of confidence of compliance to all parties.

9. An ISO international standard is currently being developed by ISO/PC 311 working group 1 on *Inclusive service – Identifying and responding to consumers in vulnerable situations*, based on the British Standard. The standard lays out good practice guidance to identify consumers in vulnerable situations, including those with physical and mental disabilities, mental health, geographical or temporary challenges such as bereavement or redundancy. It is recognised that the definition of a 'vulnerable consumer' will benefit from common international understanding, as many services are being offered cross-borders either directly or through a distributor. For more information on the role that standards play in improving outcomes for vulnerable consumers, please see the CPIN protecting vulnerable consumers leaflet¹.
10. Ofgem has been at the forefront of protecting vulnerable customers and has recently launched its revised Consumer Vulnerability strategy² requiring greater responsibilities for DNOs and Energy suppliers on how they treat and protect vulnerable customers. It is essential that in the transition to DSO that customers in vulnerable situations - such as those who are digitally excluded – are supported and protected. BSI believes that the existing standards framework can provide the necessary guidance to ensure this happens.
11. BSI is encouraged to see that Ofgem will continue to focus on helping consumers assess and share data in a safe, convenient way. This will enable new products and services to emerge to improve lives – particularly for the vulnerable – and reduce bills and carbon emissions.
12. We believe that unlocking data is essential to derive value from the system and reduce cost. Standards are essential to supporting the transition from a system where data is closed to one that is 'presumed open' to ensure consumers are protected, particularly those most vulnerable. BSI has extensive experience in developing privacy and security standards around critical national infrastructure, especially against the backdrop of wider international access. BSI is already exploring energy data standardization needs with key stakeholders (government, the DNO community, the low-carbon products manufacturing sector, etc.), and would be interested to have a separate conversation with Ofgem on how we can help support the development of a framework for safe and secure energy data exchange and access.

Enabling competition and innovation

13. Standards are an essential component of national innovation systems. Alongside intellectual property rights, regulations, measurement and accredited conformity assessment, standards are part of the governance framework that influences how innovations are developed, diffused and adopted. The latest edition of the OECD's Oslo Manual – the international reference guide for collecting and using data on innovation – has noted that standards play a vital part in enabling innovation and measuring innovative progress in an organisation or a sector. The Oslo Manual has pointed out that standardization is relevant to three aspects of innovation: knowledge flows, objectives and outcomes of business innovation, and external factors influencing business innovation. It is in the area of external factors that standards are most critical. As the Oslo Manual notes: 'In market environments, co-ordination through collaboration or standards plays an important role as an enabler and instrument of business strategy and activity. Standards play

¹ https://www.bsigroup.com/globalassets/documents/s19052_bsi_cpin-vulnerability-brochure_web.pdf

² https://www.ofgem.gov.uk/system/files/docs/2020/01/consumer_vulnerability_strategy_2025.pdf

an important co-ordination role in many markets and can influence the characteristics of product and business process innovations.³

14. Standards play key roles as effective, market-led delivery mechanisms for Government policies. Standards are increasingly used across a wide range of Government policy areas to support 'outcome-based' regulation including technical product safety, good governance, climate change, energy, fair markets and public confidence.
15. While regulation may be required to correct a market failure or to address an urgent consumer protection issue, standards offer a market-led opportunity that may provide better and more flexible solutions. BSI's standards offer the opportunity to achieve policy or regulatory objectives and provide the flexibility not afforded by the regulatory process. For more information on this see Standards and Accreditation: Tools for delivering better regulation⁴.
16. BSI is working closely with the Better Regulation Executive to help develop a strategic approach to how government uses standards in support of regulation. The Government's recently published white paper on "Regulation for the Fourth Industrial Revolution" notes standards as a valuable tool for policymakers to use alongside the future regulatory framework. As government shifts towards a more outcome-focused, flexible regulatory system that encourages innovation, standards can help provide clarity for business on how to achieve regulatory requirements.

Decarbonising at lowest cost

17. The UK was the first country to pass a Climate Change Act (2008) and the first to legally commit to a net zero carbon impact target by 2050. BSI is playing a key role in helping make this critical target a reality through its diverse, innovation-enabling standardization activities.
18. A substantial portfolio of standards already exists for the generation, transmission, distribution, use and storage of energy, smart metering and electric vehicles. We are revisiting much of this work to reflect the recent changes in the energy sector and the increased momentum driven by the decarbonisation imperative.
19. Standards play a key role in new and emerging markets, providing consumer confidence in developing technologies and business models to ensure that they are interoperable and do not place further costs on consumers.
20. In light of the fundamental changes transforming the energy industry, BSI is taking a more strategic approach to energy standardization to reflect UK and global decarbonisation objectives, and to capture opportunities brought about by digitisation, the development of smart technologies and the decentralization of the energy market place. Thus, we have established a number of strategic standards committees and joined influential government-industry groups to support the work of key stakeholders, and to monitor and coordinate the direction of travel in energy decarbonisation and the wider sector transformation.

BSI-supported standards committees and groups:

- [L/13, Smart energy systems coordination group](#)
- [ESSAC](#) - Electrotechnical Standardization Strategic Advisory Council
- EESHSG - Electrical energy storage health and safety group

Government-industry groups and taskforces of relevance to energy standardization:

³ See p. 153, available from: <https://www.oecd.org/science/oslo-manual-2018-9789264304604-en.htm>

⁴ <https://www.bsigroup.com/globalassets/documents/about-bsi/nsb/bsi-ministers-handbook-standards-and-accreditation-uk-en.pdf>

- EVET - Electric Vehicle Energy Taskforce
- EDT - Energy Data Taskforce – initial engagement in progress
- SSC - Senior (electro-technical) Sector Council

21. In line with its strategic approach, BSI is also intensifying its innovation-focused activity, exploring new innovation topics and standards gaps, and putting in place new initiatives in support of emerging markets:

- Energy storage is an area closely linked to renewable energy and decarbonisation where BSI has recently been active. It supports the work of the Electrical Energy Storage Health & Safety group - a Government-industry collaboration, facilitated by BSI, exploring energy storage standards gaps and standardization needs. Energy storage presents lots of impactful opportunities, such as taking full advantage of renewables. Improving and deploying existing technology and encouraging future storage technology innovations will answer some of the challenges posed by renewable electricity generation.
- Smart grids and the grid interaction with electric vehicles (EVs) and appliances in the home are another key decarbonisation topic and a subject explored by a number of BSI technical committees and PAS Steering Groups. BSI is a member of the CEN-CENELEC-ETSI Smart Grid Coordination Group and has launched a new Energy Smart Appliances implementation programme looking at addressing gaps and developing new standards to encourage innovation, consistency and interoperability in this very complex area (see ESA case study below).
- Much of transport decarbonisation will be delivered through the electrification of vehicles at scale. BSI has been involved in the work of the Electric Vehicle Energy Taskforce (EVET) which brings together the energy and automotive industries to plan for the energy market changes that will take place as a result of a rising electric vehicle use. The role of standards and BSI has been recognised in EVET's recent report and recommendations. Standards and relevant BSI work are well profiled in the report, with references to international standards (on the EV, data, cyber and digital topics), as well as the specific Publicly Available Specifications (PASs) under development as part of a BEIS-commissioned ESA standardization programme (see below). The report goes beyond these references to make recommendations for future standardization that will enable the interoperability and the sharing of data within the EV sector and with the electricity system.

22. We would like to highlight three programmes of work where standards are being used to support the decarbonising agenda and the development of emerging markets and innovation.

- **Energy smart appliances.** A BSI programme, launched in March 2019, is looking at the standardization of 'energy smart appliances' (ESAs), including EV smart chargepoints, and how these allow users to take advantage of 'demand side response' (DSR) services. An energy smart appliance is one that is able to respond automatically to price or other signals by modulating or shifting its electricity consumption. In this way, communication with ESAs can enable electricity networks to efficiently balance supply and demand, stabilizing the grid and potentially providing cost reductions for consumers. Two Publicly Available Specifications (PASs) are currently being developed: *PAS 1878, Classification for energy smart appliances (ESAs)*, and *PAS 1879, Framework for demand side response (DSR)*. Public consultation on these is expected to take place in June 2020.
- **The Faraday battery challenge.** There is growing demand for battery storage, with the market estimated to be worth £5 billion to the UK and £50 billion to Europe by 2025. In the UK, demand is driven in part by government's commitment to ban new petrol and diesel

vehicles by 2035. Through the Industrial Strategy Challenge Fund, the Government has invested in research and innovation projects and new facilities to scale-up and advance the production, use and recycling of batteries. BSI is working with Innovate UK and its wider stakeholder community on kickstarting an initial programme of standards in support of the Faraday Battery Challenge (FBC) to determine the wider standardization framework needed to help meet the long-term objectives of the FBC. A 2019 customer journey mapping exercise of the battery manufacturing process, carried out in 2019 by a number of key FBC stakeholders, has helped define pressing issues, regulatory and standardization needs from a battery manufacturing perspective. BSI has been commissioned to implement a programme of work encompassing the development of an initial cohort of three Publicly Available Specifications (PASs) intended to address key technical gaps and immediate market priorities. BSI will be developing three PASs that cover health, safety and environmental considerations in the manufacture of a) battery electrode and cell components b) battery pack and module; and in c) vehicle design. The three PASs will form the basis of a wider, long-term standardization approach to battery manufacturing - in the UK and internationally.

- **Heat and Decarbonisation - Hy4Heat.** With the 80% of UK homes that use natural gas for heating responsible for about a half of all energy consumption and a third of carbon emissions, there is great potential for decarbonisation through the use of hydrogen. BEIS has set up a partnership of industry stakeholders and experts with £25 million funding called Hy4Heat. Its mission is to establish the feasibility of replacing natural gas with hydrogen in residential and commercial buildings and gas appliances. The programme will also consider how hydrogen can be produced sustainably and with minimum carbon emissions. BSI is a partner in delivering a specific component of Hy4Heat and is developing *PAS 4444, Hydrogen-fired gas appliances – Guide*. Consultation on PAS 4444 finished in January 2020 with publication scheduled for March 2020. Standards will play a critical role in the future in establishing the wider quality infrastructure for hydrogen production and use and in reassuring consumers that hydrogen is safe to use.

Further Information

BSI would welcome the opportunity to explore with Ofgem how standards might support the delivering of the Forward Work Programme 2020-2022.

We would also like to reference BSI's recent response to Ofgem's consultation on the Key Enablers for DSO programme of work and the Long-Term Development Statement. This provides further detail around some of the case studies and work mentioned above, and outlines options for BSI and Ofgem to work together.

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