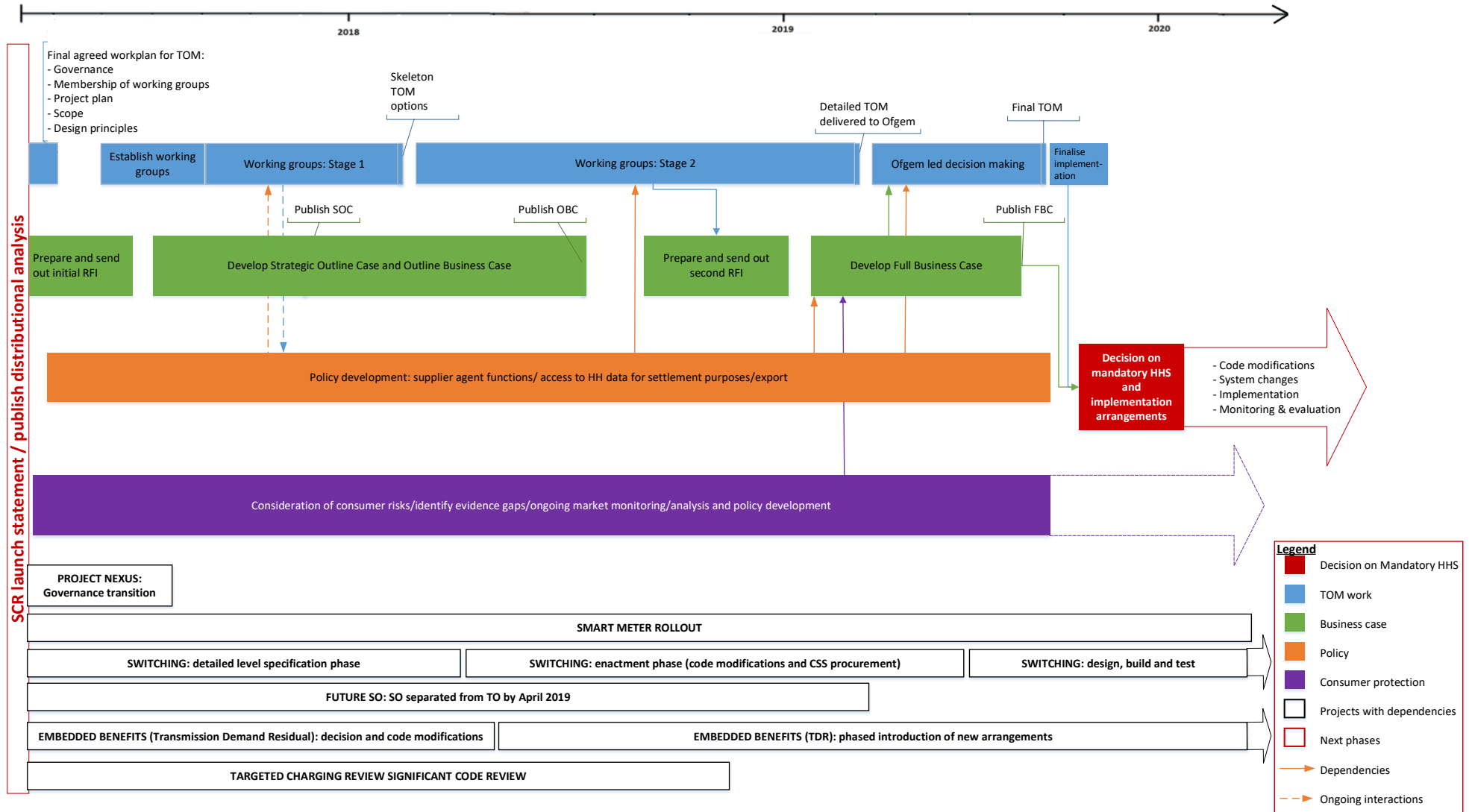


Appendix 1A: Project timeline



Appendix 1B: Opportunities for consultation and engagement

The table below sets out our current plans for consultation with stakeholders and engagement opportunities. These are our best estimate based on the information we currently have, but may change over time based on the policy and design decisions that are made and the impact of any unforeseen external factors. Where appropriate, consultations listed here may be issued together, to increase efficiency and reduce burdens on stakeholders.

Workstream	Consultation and engagement opportunity
Summer 2017	
Target Operating Model	Significant Code Review (SCR) launch , including consultation questions on the format of the SCR, the structure and governance of the Target Operating Model (TOM) Design Working Group (DWG) and Design Advisory Board (DAB) and the design principles and Terms of Reference to guide these.
	TOM design teleconferences will take place each month during the TOM design phases. They will be open to all industry stakeholders and will be organised and led by Ofgem. The teleconferences will be a chance to provide feedback on DWG meetings (which will begin in Autumn 2017) and for stakeholders to provide input.
Business Case	Voluntary Request for Information (RFI) to develop the Impact Assessment, which will form the economic case of the Business Case. This is intended as an initial RFI which will be sent to a wide variety of stakeholders to gather a base of evidence on the costs that you could face as a direct consequence of settlement reform and investigate what is driving those costs, as well as the potential scale of the costs when compared. A further RFI will follow later in the process to gather more detailed information.
Policy	Initial evidence gathering to inform consideration of whether or not to centralise functions currently performed by supplier agents . This will include a voluntary RFI to supplier agents in relation to a number of specific areas. We will also share this request with suppliers, and would welcome any input from them. We will also seek views in bilateral discussions with interested stakeholders.
	Evidence gathering to assist with a Privacy Impact Assessment (PIA) to support assessment of options for access to half-hourly data for settlement purposes. As our work progresses, we will be seeking views from consumer groups and industry stakeholders through bilateral meetings and workshops.
Autumn 2017	
Consumer Impacts	Initial evidence gathering on consumer impacts . This will be informed by the distributional analysis (published alongside this SCR) and cover both risks to consumers and barriers to realising benefits of half-hourly settlement (HHS). We welcome input from stakeholders on consumer issues more broadly and will seek views via bilateral meetings and workshops as our work progresses.
Policy	Seeking views from stakeholders on the question of whether or not to centralise functions currently performed by supplier agents . We will decide how best to do this in light of our initial analysis and the evidence received via the voluntary information request to supplier agents. We would be particularly interested in views from supplier agents and suppliers.

Workstream	Consultation and engagement opportunity
	NB, there will be a formal consultation on the question of whether or not to centralise functions currently performed by supplier agents before the final TOM decision is made but timing for this will not be known until after initial evidence gathering and informal consultations have been completed.
Winter 2017/2018	
Business Case	Strategic Outline Case publication. This will set out the strategic context of the project and the case for change. It is not intended to be a formal consultation.
Target Operating Model	Regular engagement with stakeholders will continue throughout Stage 1 of the TOM design work. ELEXON will communicate regular updates from the DWG and provide opportunities for interested parties to input. This will include reports of DWG meetings being provided on the ELEXON website. In addition, Ofgem will communicate with stakeholders and receive their input to the design work. This will include through regular Ofgem-led teleconferences, newsletters and meetings with stakeholders.
Spring 2018	
Target Operating Model	ELEXON will conduct a formal consultation on Stage 1 skeleton TOM options and fully consider feedback received from stakeholders.
Policy	Following the period of evidence gathering and completion of the draft PIA we plan to consult stakeholders about access to data for settlement.
Consumer Impacts	Following our evidence gathering phase we will consult further on consumer impacts to inform our thinking on whether or not any new measures are required to address possible consumer issues or barriers to realising benefits.
Summer 2018	
Business Case	Outline Business Case publication. This will set out the initial economic case following the RFI, and consult on this. We will engage regularly with stakeholders in the period between the RFI and the Outline Business Case publication as the analysis develops.
Target Operating Model	Engagement with stakeholders throughout Stage 2 of the TOM design work. ELEXON will communicate regular updates from the DWG and provide opportunities for interested parties to input, including through impact assessments and consultations. In addition, Ofgem will communicate with stakeholders and receive their input to the design work.
Autumn 2018	
Business Case	2nd RFI for the economic case. This will gather more detailed cost information once policy and design decisions from the TOM work have become clearer.
2019	
Business Case	Stakeholder engagement and consultation will continue to inform the development of the Full Business Case during 2019.
Target Operating Model	Stakeholder engagement and consultation will continue to inform the development of the Full Business Case during 2019.

Appendix 1C: Stakeholder feedback from the November 2016 consultation

In November 2016 we published a consultation seeking views on our aims and the timetable for mandatory half-hourly settlement (HHS)¹. We received 34 responses and published the 32 non-confidential responses on our website. We then held a workshop² in January 2017 to discuss the key themes from the consultation responses and our approach for the next phase of work. We are grateful to the range of suppliers, industry bodies, supplier agents, technology firms, consumer representatives and other stakeholders who were involved in this consultation process and for their contributions to our work.

The following section covers the questions we asked, the key themes we identified from responses and how we propose to address the issues and suggestions raised.

1. Proposed Approach

In Chapter Two we asked for stakeholders' views on our proposed approach to use our Significant Code Review (SCR) powers for mandatory HHS, and if stakeholders have initial views on the costs and benefits which will form part of the Impact Assessment.

Respondents broadly agreed that we should use our SCR powers to progress mandatory HHS. We are now launching an Ofgem led end-to-end SCR process.

1.1 Costs and benefits of mandatory HHS

The overall theme was that there will be significant investment costs in the short-term but significant benefits to the entire electricity system in the long term. The short-term costs will be driven by changes to IT systems for ELEXON, suppliers, supplier agents and other industry parties. Respondents noted the uncertainty of trying to measure the potential benefits, but acknowledged that mandatory HHS could help to avoid significant future network costs in the long term.

Several respondents said that it would be hard to quantify costs and benefits before a Target Operating Model (TOM) has been developed. Many suppliers said that they would face significant costs of changing their business operations including IT systems. There were also a range of responses that commented on the potential costs and benefits of any change to the arrangements for data collection and data aggregation activities.

A few respondents mentioned the costs of running two settlement systems to cover HHS and the transitional and remaining non half-hourly settled customers. One supplier said that SMETS1 meters should be enrolled in the Data and Communications Company (DCC) before HHS is mandated to avoid duplicating systems for settlement.

Respondents said that specific measurable benefits to consumers are difficult to determine at this stage. Several suppliers encouraged Ofgem to publish the distributional impacts research we have commissioned and include it in the Impact Assessment. Respondents also said that increased availability and take up of smart tariffs will be key drivers of demand-side response and domestic storage, which should offer benefits to consumers.

We recognise that the costs and benefits of mandatory HHS are not fully understood at this stage, particularly without a defined TOM,, and we welcome stakeholder views to develop our thinking in this area. The timeline in Appendix

¹ <https://www.ofgem.gov.uk/publications-and-updates/consultation-mandatory-half-hourly-settlement-aims-and-timetable-reform>

² <https://www.ofgem.gov.uk/publications-and-updates/mandatory-hhs-workshop-summary-note-and-slides-19-january-2017>

1A shows that work to develop the TOM and the Business Case (including Impact Assessment) will be progressed concurrently and iteratively, so that the Business Case can be informed by the design work as it develops but doesn't depend on progress on the TOM.

We will be requesting detailed information from suppliers through Requests for Information (see Appendix 1B) as well as inviting other relevant stakeholders to contribute any specific and detailed information they have to ensure that our analysis is robust and based on all available evidence.

We have published the report prepared for Ofgem by CEPA on the distributional impacts of time of use tariffs alongside this document.

2. Proposed Plan

In Chapter Three we asked about areas of reform that need to be considered to enable the transition to mandatory HHS.

2.1 Scope of reforms

We asked if we had identified the correct scope of issues for the TOM. Respondents agreed that we had covered most of the issues, with only arrangements for unmetered supplies identified as an issue to add to the scope. **We intend to include unmetered supplies in the scope, as set out in the Launch Statement.**

Several respondents suggested that the structure and process for network charges (including Triad, DUoS and capacity costs) should be reviewed and that the arrangements for settling export and feed-in-tariffs need consideration.

We acknowledge the link between network charging and HHS but making changes to network charging and feed-in-tariff arrangements is outside of the scope of this project. We will work with colleagues responsible for network charging issues to ensure that our policy goals align. Settlement of export is included in scope, although this will be dependent in part on Government policy development.

Most respondents emphasised that the HHS arrangements should be future-proofed to enable future innovation. Respondents also reminded us that we need transitional and potentially enduring arrangements for consumers without smart meters.

Respondents encouraged us to consider the needs of consumers. One stakeholder said it might be necessary to put protections in place if the expected outcomes of HHS are realised to ensure that consumers can understand and compare tariffs, receive clear information from suppliers to understand tariffs and their bills, access real time information about their usage, and are informed how to change their behaviour. Another stakeholder said that mandating HHS would require changes to the smart metering Data Access and Privacy Framework but that changes should be drafted as narrowly as possible to protect consumers' interests. More detail on the range of responses that covered consumer facing issues including access to data for settlement, and our response, are in section 3.4.

Supplier agents highlighted their current role in providing competitive and bespoke data collection and aggregation services and cautioned against centralising those functions as part of the move to mandatory HHS. Alternatively, some supplier respondents thought that centralisation would result in cost savings.

We are considering options for access to consumers' half-hourly data for settlement purposes only. We will also be working to identify risks to consumers that may emerge from HHS. See section 3.4 for more details.

We will be carefully considering the best model for data collection and aggregation functions under mandatory HHS and will shortly issue a voluntary Request for Information to supplier agents and other interested parties to inform this work.

2.2 Expertise

We asked about the expertise required to deliver mandatory HHS.

Respondents suggested that the participants of Electricity Settlement Expert Group and Profiling and Settlement Review Group would be a good place to start, and that utilising industry working groups would be an effective way to harness the required expertise. We were encouraged to ensure working groups include diverse representation from across electricity suppliers, supplier agents, code administrators, network operators, DCC and consumer organisations. Most respondents highlighted ELEXON as a key player in developing the settlements system for HHS.

As set out in the Launch Statement, we are proposing that ELEXON will lead and deliver the development of a recommended TOM to Ofgem through a Design Working Group (DWG). Ofgem will retain overall oversight of the SCR process and decision-making authority. We are seeking feedback on the governance of this approach through a questionnaire provided as a supporting document to the Launch Statement.

Stakeholders cautioned that work required to develop HHS will need the same or similar industry expertise to that involved in other industry reform programmes already underway including the Faster and More Reliable Switching Programme. It was suggested that this overlap of work will stretch resources, especially for smaller suppliers and stakeholder organisations.

The plan that we have developed for the project recognises the constraints on industry resources with these overlapping change programmes. We are grateful to the respondents who offered the time, resources and expertise of their organisations to participate in the development of mandatory HHS.

2.3 Dependencies

The consultation outlined a number of interdependencies between different work areas in the SCR, notably our approach to data access, network charging, the role of supplier agents, and settling export as well as the development of the TOM and Business Case.

Respondents recognised these interdependencies in their responses. Other dependencies suggested for inclusion by respondents were to consider the impacts of the Faster and More Reliable Switching Programme, the smart meter roll-out and enrolment of SMETS1 meters in the DCC.

These factors will be considered at a technical level by the DWG and at the strategic level when final decisions are made by Ofgem.

Respondents sought clarity on the process for managing these interdependencies and where there would be consultations and decisions made on key issues, as well as how we would incorporate learnings from P272 and elective HHS into the development of the TOM and the Business Case. Respondents noted that the diagrammatic representation of

the dependencies in the consultation does not show the possibility of revisiting or further development of issues once more is known as the SCR advances.

Appendix 1B outlines the opportunities for consultation and engagement throughout the SCR.

The key products needed for mandatory HHS will be developed iteratively such that development of one can feed into development of another as the project progresses. Our proposed design for the overall project governance including the interaction between the DWG and the Design Advisory Board (DAB), and broader stakeholder engagement by both Ofgem and ELEXON is planned to ensure that our decision-making is robust, and informed by relevant information.

Respondents had a number of specific suggestions relating to the design of the TOM. These included a suggestion that the timetable include a step for design, development and implementation of arrangements to migrate SMETS1 meters into DCC registration. We note that the DCC is currently developing plans for enrolling SMETS1 meters into the DCC. **These suggestions will also be passed on to the DWG for their consideration when developing the TOM.**

2.4 Timeline

We asked about our proposed timeline for making a decision on mandatory HHS and arrangements for implementation by the first half of 2018, with the central systems in place to facilitate it by this point as well.

All respondents highlighted significant challenges associated with this timeline, largely due to the amount of industry change already underway with the smart meter rollout and the Faster and More Reliable Switching Programme. These will both affect industry capacity to engage with mandatory HHS and the capacity for IT changes to enable central systems changes. Other key considerations highlighted were:

- timing of the roll out of smart meters;
- the need to thoroughly test systems before implementation; and
- the implications of any changes that may need to be made to the roles of central industry bodies, such as the DCC.

We have considered this feedback and reflected it in re-planned timelines for the project, set out in the Launch Statement and Appendix 1A.

3. Policy Scope

In Chapter Four we explored the scope of work for the SCR in four areas:

- Roles and responsibilities: Considering the arrangements for the institutions that support settlement through data collection and aggregation, data estimation and metering.
- Settlement process design: Considering changes needed to how the settlement process works in order to enable HHS for domestic and smaller non-domestic consumers and optimise the enduring efficiency of these arrangements.
- Policy enablers: Changes to policy needed to facilitate the transition to mandatory HHS.
- Consumer-facing issues: Consideration of how to engage and protect consumers in innovation enabled by HHS.

Respondents broadly agreed with the work examined by previous working groups in these areas, but cautioned that some issues may need to be updated or examined to reflect current industry arrangements and developments since 2014.

The DWG will review the key conclusions of the Settlement Reform Advisory Group, Electricity Settlement Expert Group and Profiling and Settlement Review Group as a basis for the TOM design to ensure that recent changes in the industry are reflected.

3.1 Roles and responsibilities

Most respondents agreed that these roles and responsibilities should be considered thoroughly and carefully. Responses from supplier agents provided arguments against centralising the functions they currently perform while some suppliers said that centralisation was worth considering and could represent savings and efficiency for them. A number of respondents suggested the DCC as a potential candidate to undertake centralised functions but said that their current role, responsibilities and future capacity should be carefully examined when considering this issue. Several respondents also said that customers who cannot (or do not want to) have smart meters will require data collection and data aggregation arrangements and alternatives may mean that some existing functions of supplier agents are required.

We will carefully consider the role of supplier agents in the SCR, so that we can make an evidence-based decision about the right way forward.

3.2 Settlement process design

Respondents agreed with our starting points on settlement process issues. Respondents thought that the settlement timetable could be shortened once half-hourly data is available, with a couple of respondents suggesting that a shorter settlement timetable could benefit smaller suppliers by helping them manage risks and lowering the amount of credit cover required under the Balancing and Settlement Code.

Respondents highlighted the allocation of Group Correction Factor (GCF) as an issue that would need reviewing. We note that since the consultation period the change introduced through Balancing and Settlement Code modification P339 has changed the way GCF is allocated to half-hourly and non half-hourly customers. Respondents also agreed about reviewing the profiling arrangements for the remaining non half-hourly customers.

Several respondents highlighted that the performance assurance process needs to be reviewed with one suggesting a change from self-reporting assurance to an independent, central reporting mechanism based on a common standard utilising real industry data. Respondents said that the Change of Measurement Class process needs to be reviewed and simplified for the migration of millions of meters.

These issues will be covered by the DWG.

3.3 Policy enablers

Ofgem identified several policy areas that enable mandatory HHS benefits to be realised while keeping costs proportionate. The issues we identified included the treatment of advanced meters, the settlement of export, and network charging

Respondents agreed that the three areas we identified do need to be considered as part of the work programme on HHS.

Respondents said that a process for enrolling advanced and SMETS1 meters in the DCC should be developed, as having customers with meters on various different communications networks adds complexity and costs to the settlement system.

Respondents also said that export should be settled and in scope of mandatory HHS. They said that the accurate settlement of microgeneration export would improve settlement accuracy and potentially incentivise the deployment of load-shifting technology. Respondents advised that before making changes to export metering the impact of changing the 'deemed export' payment system should also be examined.

DCC is developing plans for enrolling SMETS1 meters into the DCC. We will work with BEIS on policy related to the settlement of export. The design principles set out in Appendix 2B highlight our requirement that settlement arrangements need to be flexible to deal with future policies and initiatives.

Some respondents thought that the traditional TNUoS charging arrangements for HH settled meters, where charges are based on average half-hourly demand at the three annual Triad periods, wouldn't be appropriate for domestic and smaller non-domestic consumers when settled half-hourly. Other respondents noted that network charging arrangements are crucial for ensuring cost reflectivity and should incentivise suppliers and consumers to modify consumption patterns.

Some stakeholders said that mandatory HHS could provide an opportunity to review the appropriateness of the DUoS charging regime for half-hourly settled meters. A consumer group encouraged Ofgem to develop a charging approach that minimises distributional impacts, but cautioned that finding a simple model will not be easy. It was also suggested by others that this SCR could be used as an opportunity to consider if charging processes and mechanisms could be improved by the data resulting from HHS.

The DWG will bear these factors in mind when developing the TOM. We have shared these views with the Ofgem team carrying out the Targeted Charging Review and will continue to do so as both projects progress.

3.4 Consumer facing issues

Responses from suppliers and industry bodies highlighted the importance of access to half-hourly data for settlement purposes and emphasised that it was important to prioritise resolution of this question. Some responses highlighted other potential uses of the data in order to realise the benefits of HHS including for forecasting, pricing and identifying where a customer could save money.

A concern raised was that half-hourly consumption data could give energy suppliers the ability to profile individuals and to use those profiles to make decisions about that person, such as which tariffs to offer them. A stakeholder raised the concern that consumers who already have smart meters accepted them with the understanding that they would have a choice over whether to share their half-hourly data. They felt that existing consumer protections and rights should be preserved and said that eroding control over sharing data could mean suppliers have less incentive to offer consumer benefits in return for access to data.

We are considering options for access to consumers' half-hourly data for settlement purposes only. This work will include completion of a Privacy Impact Assessment. Our proposals will not impact wider access to smart metering data as set out under the Data Access and Privacy Framework.

Respondents encouraged Ofgem to continue to research the distributional impacts of smart tariffs to determine if particular groups are disadvantaged and to understand how

to protect them. One respondent pointed out that that some consumers who are currently vulnerable may be able to take advantage of savings which they are currently unable to realise without smart tariffs. However, the importance of protecting vulnerable consumers from unsuitable tariffs was also highlighted, as well as ensuring that consumers have access to clear information to enable them to understand their usage and time of use tariffs and compare these with other smart and non-smart products. One respondent welcomed Ofgem's proposal for a broad principle that suppliers must ensure that consumers are able to make informed choices. A number of stakeholders also highlighted the importance of ensuring that customers who either cannot or choose not to have a smart meter do not suffer detriment.

We will be working closely with consumer organisations throughout the SCR and will be taking forward work to identify risks to consumers that may emerge from HHS. As part of this, we will assess the extent to which such risks are covered by the existing regulatory framework and whether any additional protection, in particular for vulnerable consumers, may be required as a result of introducing HHS. We have set up a framework to monitor consumer experience of smart tariffs under elective HHS and ensure that we quickly identify any issues arising. We will also consider steps to reduce or remove barriers to realising the benefits of HHS for all consumers.

4. Stakeholder Engagement

We asked about the best way to make use of stakeholder expertise and involve stakeholders in the project.

Respondents suggested many ways of participating that they find useful, although an overarching theme was that we should be transparent and include a range of opportunities and methods for stakeholders to engage, as no single method will suit all stakeholders.

Most respondents said that we should use working groups, but that they should have targeted remits with focused memberships and that the work of working groups should be consulted on more widely for validation by industry where appropriate. Other options we were encouraged to continue using were formal consultations and workshops.

We have set out an initial list of the opportunities for consultation and engagement during the SCR in Appendix 1B. We have considered the suggestions raised and our engagement approach includes a mix of the two formal engagement groups for the TOM (the DAB and DWG), RFIs, formal consultations and evidence gathering that will involve a mix of bilateral engagement and workshops. We have started an informal newsletter update, which, alongside monthly teleconferences, we will use to highlight progress and opportunities to contribute or provide feedback throughout the SCR.

Appendix 1D: Revised SCR scope

Work area and lead	Reform	Aim	Proposed interventions/codes affected
<p>Target Operating Model</p> <p>ELEXON lead design work, Ofgem is decision-maker. Design Working Group to develop with input from wider industry stakeholders.</p> <p>BEIS responsible for Feed-in Tariff policy and rules.</p>	Settlement timetable	Aims set out in the design principles in Appendix 2B.	Balancing and Settlement Code
	Data estimation		
	Half-hourly requirements (proving tests, performance requirements etc.)		
	Disputes and corrections		
	Treatment of non half-hourly consumers and profiling arrangements		
	Change of Measurement Class		
	Unmetered supplies		
	Network charging (transmission)		
Network charging (distribution)	<p>Institutional arrangements that:</p> <ul style="list-style-type: none"> • are cost-effective and efficient • promote continual improvement • promote innovation • adapt to industry change 	Balancing and Settlement Code (<i>if required</i>)	
Settling export			
Roles and responsibilities of supplier agents (data collection, data aggregation, meter operation, data retrieval)			
Data access			A data access regime that provides appropriate consumer safeguards and enables delivery of HHS benefits.
Consumer engagement and protection	Protect and engage consumers in innovation enabled by HHS, with particular consideration of distributional effects and consumer vulnerabilities.	To be informed by analysis	
<p>Transition to HHS</p> <p>Ofgem lead and decision-maker through Business Case work. Input from Design Working Group and Design Advisory Board, as well as from wider industry and other stakeholders through consultation.</p>		A transition to mandatory HHS which realises the benefits in a timely way but maintains the robustness of the settlement system and takes account of costs imposed.	To be informed by analysis

NB. Project and communication/consultation timelines are set out in Appendix 1A.

Appendix 1E: SCR process diagram

