Interim Assessment Report

P379 'Enabling consumers to buy and sell electricity from/to multiple providers through Meter Splitting'

This Modification will enable consumers to be supplied by multiple Suppliers through Balancing and Settlement Code (BSC) Settlement Meters at the Boundary Point. P379 will allow multiple Suppliers to compete for the supply or export of electricity through a single Meter without needing to establish an agreement between all of the Suppliers involved for every instance.

The P379 Workgroup recommends that P379 is issued for industry Impact Assessment and progressed to a revised Assessment Procedure timetable. This report provides the P379 progress update and Workgroup discussions.

This Modification is expected to impact:

- Suppliers
- Virtual Lead Parties (VLPs)
- Licensed Distribution System Operators (LDSOs)
- Generators
- Half Hourly Data Collectors
- Balancing and Settlement code Company (BSCCo)
- Master Registration Agreement (MRA)
- Smart Energy Code (SEC)
- Distribution Connection Use of System Agreement (DCUSA) (potential)
- Connection and Use of System Code (CUSC) (potential)
- Grid Code (potential)

ELEXON

Phase

- Initial Written Assessment
- Definition Procedure
- Assessment Procedure
- Report Phase
- Implementation

Contents

About This Document

This document is the P379 Workgroup's second Interim Assessment Report to the BSC Panel. It sets out the Workgroup's provisional findings, including the proposed models for the P379 solution that, alongside the Proposer, it has developed over the course of the Assessment Procedure to date.

As requested by the Panel at its meeting on 13 February 2020 ELEXON will present this report to the Panel at its meeting on 12 March 2020. The Panel will consider the Workgroup's proposed solution and will determine whether to seek Ofgem's provisional thinking in respect of the solution. The Panel may then issue such direction as it sees fit to the Workgroup in respect of Ofgem's provisional thinking.

There are five parts to this document:

- This is the main document. It provides details of the P379 proposed models and a recommendation of how the Modification should progress, including revisions to the progression timetable.
- Attachment A contains the draft P379 Business Requirements covering the Workgroup's proposed models (Option 1 and Option 2) for the P379 solution. The Business Requirements will be used to develop BSC systems and the P379 legal text.
- Attachment B contains the P379 FAQ Report. The document aims to answer a number of questions which have been asked about the P379 solution by Workgroup Members and interested parties.
- Attachment C contains the P379 Policy and Regulatory Log capturing potential cross code impacts and policy considerations. It captures the Workgroup's key views on legislation and policy areas to be considered for the P379 solution to work.

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- Attachment D contains the P379 Workgroup Members Feedback on the P379 proposed solution.

1 Summary

Executive summary

The P379 Workgroup have, over the course of 12 meetings held to date, agreed a solution that will enable Boundary Point metered volumes to be split between more than one Supplier. This solution does not require those Suppliers to enter into contractual arrangements with each other. The first P379 Interim Assessment Report, presented to the Panel in June 2019, provided initial views on the scope and potential impacts of the P379 solution. This report provides proposed models for implementing the P379 solution, including recommendations on key areas.

For the purposes of P379, the term Supplier is as defined in the BSC i.e. a licenced Supplier. P379 no longer applies to licenced exempt suppliers. This is a variation since the previous interim report, made in order to simplify the solution.

P379 has a new Proposer, GridBeyond, who adopted P379 on 26 February 2020. The original Proposer, New Anglia Energy, withdrew P379 on 26 February 2020 as it was no longer commercially viable for him to maintain a BSC Party. However, he believes that the P379 solution is workable and that there are participants who are interested in utilising the solution because it will bring significant benefits.

The Workgroup have put forward two options that both deliver the same outcome but achieve it in different ways. The Workgroup hold mixed views on the merits of implementing the P379 solution but nevertheless believe that issuing an industry Impact Assessment is a desirable next step. The Impact Assessment will seek to identify the potential impacts and costs of implementing and operating the P379 solution. It will be used to decide whether to progress one or both of the options and to further explore the case for change, including the appetite from participants to progress and implement P379.

The main P379 benefits relate to competition and consumer choice, which ordinarily fall outside of BSC considerations and under Ofgem's wider statutory duties. ELEXON has spoken with Ofgem regarding the Panel's feedback from its February 2020 meeting. One possible next step, is for ELEXON to work with Ofgem on the cost-benefits analysis for P379. At the time of writing, Ofgem are still considering this and whether P379 issues would be better addressed as part of a Significant Code Review.

The Workgroup requires an extension to the P379 timetable to continue. A seven month extension is required to finish assessing the P379 Proposal. To progress the industry Impact Assessment a three month extension would be required. Further work would be needed to confirm the timescales for a cost-benefits analysis with Ofgem, but ELEXON expect this to require between four and six months.

Why Change?

P379 aims to address a significant barrier to competition in the market rules whereby multiple Suppliers are unable to compete for behind-the-meter energy volumes, measured via the same boundary Metering System. Whilst the existing SVA Shared Metering Arrangements do facilitate splitting of boundary Metered volumes between different Suppliers, these arrangements are restrictive, for example they require agreements in advance between the Suppliers. The Proposer believes that the existing arrangements don't adequately facilitate the development of local energy markets and supply innovation, and effectively mean there is a monopoly of one Party, the 'default' or 'Primary' Supplier,

over a consumer's energy volumes behind a Settlement Meter at any given time, restricting competition and innovation.

Proposed Solution

The Workgroup has agreed a solution for Impact Assessment. The solution enables customers to buy electricity from more than one Supplier, without the need for the Suppliers involved to negotiate on a case-by-case basis the settlement arrangements. The Supplier for each Boundary Point Metering System, a 'Primary Supplier', will remain responsible for that Metering System and the 'main supply'. Secondary Suppliers will be able to supply the same customer either pre-agreed fixed volumes or percentages of the main supply (e.g. from a local community wind farm), or volumes recorded by Asset Meters, located behind the Boundary Point (e.g. for an electric vehicle).

When based on pre-agreed fixed volumes or percentages of the boundary meter reading, the secondary supply arrangements are notified by a Contract Notification Agent (CNA) to a calculation entity (either BSC Central Systems or the Primary Supplier's HHDC) which splits the Boundary Point metered volumes between the Suppliers. These split volumes are then used by BSC Central Systems for Settlement, which in turn are used by the Suppliers for billing.

Two proposed models (Option 1 and Option 2) for implementing the P379 solution have been developed. At a high level Option 1 uses the BSC central systems to perform the meter splitting calculations. Option 2 decentralises calculations; under Option 2 splitting calculations are performed by the customer's Primary Supplier's Half Hourly Data Collector (HHDC) acting in the capacity of a calculation entity.

The Business Requirements have been provided as Attachment A. More information on the P379 models are provided in section 2 of this document.

Each solution has been simplified over the course of the Workgroups, for example by removing licence exempt suppliers from the scope of the solution, or using HHDCs to provide data to the Supplier Volume Allocation Agent (SVAA) instead of Half Hourly Data Aggregators (HHDAs).

The benefits of both Option 1 and Option 2 P379 solutions are that they;

- Enable Suppliers other than the customer's boundary meter registrant (the Primary Supplier) to compete to supply volumes to a customer, without a bilateral contract between Suppliers; and
- Enable the use of standardised behind-the-meter metering to calculate asset consumption (and assign that consumption to a Supplier).

Impacts and Costs

Detailed costs and impacts are not yet known as Impact Assessments have not been issued. However, we expect the BSC and industry costs to be high. We expect P379 to impact:

- Suppliers
    - Supplier processes will be impacted. Suppliers with customers engaging in Secondary Supply arrangements will no longer be able to rely on

Boundary Meter readings for billing purposes, instead receiving data from the calculation entity. Suppliers will need to consider Secondary Supply in tariff design, as well as switching and customer service. Secondary Supply arrangements are a departure from the way the electricity retail market has traditionally worked.

- Virtual Lead Parties (VLPs)
    - VLPs will need to consider the impacts of operating behind-the-meter Asset Metering Systems which may be supplied by a different Supplier to the boundary point Supplier.
- Licensed Distribution System Operators (LDSOs)
    - LDSOs may need to consider charging arrangements for multiple Suppliers operating over a single Boundary Meter. Additionally, they may need to provide multiple Suppliers with access to Priority Service Register customer details.
- Generators
    - Generators will need to consider the impacts of operating behind-the-meter assets which may be Supplied by more than one Supplier.
- Half Hourly Data Collectors (HHDCs)
    - HHDCs will need to provide boundary meter data to the calculation entity on a day + 1 timescale to facilitate calculations. This is faster than current requirements. In the Option 2 Solution HHDCs will also need to ensure they have calculation entity capability, and operate calculations on behalf of Suppliers.
- Balancing and Settlement code Company (BSCCo)
    - BSCCo will need to design and maintain the calculation entity service in Option 1, and a new VLP adjustment service in both Options. BSCCo will need to operate performance assurance requirements in both solutions.
- Master Registration Agreement (MRA)
    - Data Transfer Catalogue (DTC) flows will need updating for both Options.
- Smart Energy Code (SEC)
    - The solution impacts on Smart Meter capabilities, in particular In Home Display (IHD) functionality and Pre-Payment Meter (PPM) functionality.
- Distribution Connection Use of System Agreement (DCUSA) (potential)
    - The solution may have consequential network charging impacts.
- Connection and Use of System Code (CUSC) (potential)
    - The solution may have consequential network charging impacts.
- Grid Code (potential)
    - The solution may have consequential network operation impacts.

There is not currently a quantified view of the level of benefits the P379 solution might provide to customers. ELEXON is anticipating work with Ofgem to provide a view of these benefits alongside the costs from the P379 industry Impact Assessment.

Implementation

The Workgroup is currently targeting an Implementation Date of **03 November 2022** to allow time to implement P379 and progress industry changes associated with the P379 solution. The actual Implementation Date will be **subject to impact assessments** of the agreed solution and will need to be carefully considered alongside other policy and code changes, including Market-Wide Half-Hourly Settlement, the Targeted Charging Review and the Future Energy Retail Market Review.

Recommendation

The Workgroup recommends an industry Impact Assessment (IA) be issued to inform whether to continue progressing P379. ELEXON's current view is that there are three extension options:

1. Seven month extension to complete the Assessment procedure without conducting a cost-benefit analysis;

2. Three month extension to complete the industry impact assessment, following which a decision on how best to proceed with the Assessment Procedure could be taken; or

3. Six month extension for ELEXON and/or Ofgem to complete a cost-benefit analysis only, following which a decision on how best to proceed with the Assessment Procedure could be taken.

Whilst option three is indicative of timescales, further work is needed to confirm the timescales for a cost-benefits analysis with/without Ofgem. ELEXON believe it prudent to conduct a cost-benefit analysis before completing any other Assessment Procedure activities. Consequently, we recommend a two month extension, to enable us to agree the next steps with Ofgem.

In accordance with BSC Section F2.6.10 the Panel may seek the views of the Authority as to whether the findings of this Interim Report are consistent with the Authority's provisional thinking and the Panel may direct the Workgroup in consequence of the Authority's view.

At this time, the Proposer and Workgroup are not making any recommendations in relation to the Applicable BSC Objectives. Views against the Applicable BSC Objectives cannot be made at this time, as the solution has not been fully assessed. However, the Workgroup's provisional discussions and agreements have been included in this report.

2 Why Change

What is the issue?

The BSC does not enable the splitting of electricity supply volumes imported or exported by two or more different Suppliers of electricity through a single Meter, unless the concerned Suppliers enter into an agreement with each other. This agreement must be re-established if the Customer decides to switch their Primary Supplier, or enter into further Supply relationships. Suppliers must also all agree to use the same agents to facilitate splitting, which may necessitate new Supplier-Agent relationships for each customer.

This means that there is effectively a single-supplier monopoly at the customer's boundary at any given time. Suppliers cannot compete for specific volumes at the customer's site without becoming responsible for all of the volumes (or entering into arrangements with each customer's Primary Supplier). This is a barrier to the development of local energy markets and innovation in supply arrangements.

Projects are already commercially disaggregating volumes, but the requirements for bilateral arrangements between Suppliers is a barrier to scale. Additionally, these arrangements are not always visible to and reflected in market rules. For example, they may only take place within a Supplier's portfolio.

Changing the market rules will facilitate third party supply activities and enable more effective competition for consumer's electricity volumes. It will also make new types of specialised supply possible, and create new customer service propositions from electricity Suppliers.

Background

Currently multiple Supplier arrangements are facilitated by BSCP550 Shared SVA Meter Arrangement of Half Hourly Import and Export Active Energy, put in place to facilitate the splitting of meter volumes between Suppliers. They require an agreement between all Suppliers involved, and existing Suppliers retain a veto over new Suppliers entering the arrangement. Additionally, all Suppliers involved must use the same Party Agents, and meter volumes can only be split based on schedules submitted in advance or on non-settlement meter readings.

3 Proposed Solution

Proposed solution

The P379 solution enables meter splitting by using a 'calculation entity' to split volumes recorded at a Boundary Meter between two or more Suppliers. The calculation entity will use inputs from:

- Customer Volume Notifications (CVNs), which describe a percentage or an absolute volume from a customer's boundary meter to be assigned to a Secondary Supplier; and
- Asset Metering Systems, established in P375 'Metering behind the Boundary Point' and recording electricity volumes associated with a particular asset located on a customer's system.

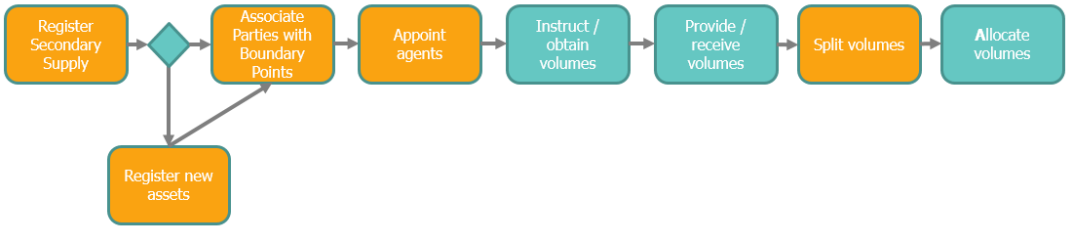
These inputs will be used to determine what volume of electricity recorded at the Boundary each Supplier supplied, inform each supplier of the volumes, and submit the volumes into Settlement.

In the Option 1 solution the calculation entity is a BSC Central System. In Option 2, it is the HHDC of the customer's Primary Supplier.

CVNs will be submitted to the calculation entity by a new Agent entity, the Customer Notification Agent (CNA). This role is similar in many ways to an Energy Contract Volume Notification Agent (ECVNA) in that they will receive instructions from a Secondary Supplier, convert those instructions into a CVN, and submit the CVN to the calculation entity.

Asset Metering volumes will be submitted to the calculation entity by the Secondary Supplier's HHDC, following processes established in P375.

The splitting calculations will be performed as close to real time as possible, to ensure Suppliers have up to date information to provide to their customers. They will be re-run prior to the SF, R1 and R2 settlement runs to provide opportunities to resolve errors with faulty metering systems. The high-level end to end process can be seen below:



This solution enables the accurate settlement of energy volumes that are supplied by more than one Supplier over a Boundary point Metering System. It does not provide an explicit role for licence exempt electricity suppliers, not does it extend to cover network charging arrangements for more than one Supplier, or commercial arrangements between Suppliers and their customers that would enable multiple supply arrangements to be commercially viable. The solution does not cover CVA registered sites.

The solution codifies Settlement arrangements to enable individual consumers to be supplied electricity by multiple Suppliers through a single Balancing and Settlement Code (BSC) Settlement Meter at the Boundary Point, without the need for each Supplier to agree arrangements amongst themselves. Unlike the existing Shared SVA Metering Arrangements, P379 will:

- Work with domestic and non-domestic supply, where a Half Hourly capable Metering System is installed. For domestic supply, smart meters (or other half-hourly capable metering) is therefore a pre-requisite;
- Allow assets behind the Boundary Point to be supplied using an Asset Meter;
- Allow Secondary Suppliers to use their own Data Collector and Meter Operator Agent; and
- Not require the Suppliers to agree multiple supply arrangements amongst themselves.

This change will allow decomposition of commercial aspects of the existing Supplier Hub, better facilitating competitive local energy markets and new balancing services. The technologies and case studies based around commercial pilot schemes already exist, but the activities are not recognised in the BSC or wider industry frameworks.

At a high level P379 involves:

- an agreed method for measuring and assuring volumes of behind-the-meter energy at participating sites, and its reconciliation to Boundary Points registered by the Primary Supplier;
- the registration of customers and Suppliers involved in secondary supply arrangements;
- a new Party Agent that facilitates the flow of contract notifications and Meter volume adjustments to facilitate Meter Splitting – the 'Customer Notification Agent (CNA)';
- changes to the Supplier Volume Allocation Agent (SVAA) and related data flows to support Settlement Meter data adjustments; and
- In Option 2 a new role for HHDCs, who would need to qualify as calculation entities.

P379 works within the current legislative and regulatory arrangements. The solution aims to work in the current and future market arrangements.

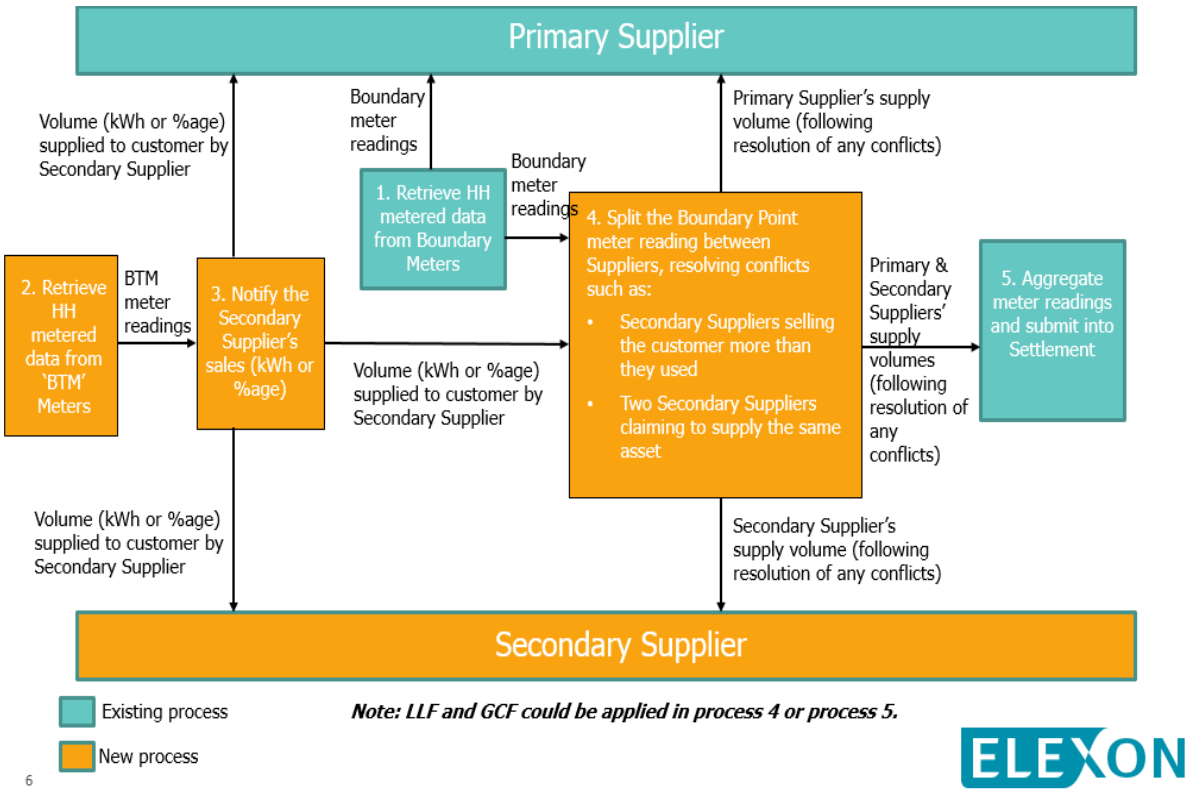
Process Models

The solution requires that for each customer entering into a secondary supply arrangements, their details are submitted to a 'Secondary Supply Registration Agent'. This agent will hold details of which customers are involved in secondary supply, and who their Primary Supplier is. The calculation entity will use this information to validate requests to split supply, and in the Option 1 solution to identify which Supplier Agents are operating at the boundary meter (in order to request information from them).

The registration system will need to be regularly updated, in particular in 'Change of Supplier' (COS) or 'Change of Agent' (COA) circumstances. This means it will need to be in communication with the Central Switching Service (CSS) register, being introduced as part of Ofgem's Faster Switching programme..

The registration system will also need to maintain details of assets which are located behind the boundary meter, and have been assigned Asset Metering System IDs (AMSIDs). This functionality is being developed in P375.

Once the necessary registrations have taken place, meter splitting can occur. The below diagram shows the key P379 steps – 'what needs to happen'. The workgroup have identified two models of who can fulfil these steps – 'who will operate the steps'.



As shown in the above diagram, the models will build on existing processes by extending the current provisions.

For the purposes of the P379 solution the models are referred to as 'Option 1' and 'Option 2'. The models begin from the point where there are volumes to be split between Primary and Secondary Suppliers.

Both models:

- Build on capabilities and data flows developed for P344 'Project TERRE implementation into the GB market arrangements';
- Builds on capabilities and processes being developed by P375 'Settlement of Secondary BM Units using metering behind the site Boundary Point';
- Do not require any interaction between a Primary Supplier and any Secondary Suppliers operating at a premises;
- Allow only one fixed (percentage or volume) secondary supply but multiple secondary supplies of Assets behind the Boundary Meter; and
- Allow the Primary Supplier to also be a Secondary Supplier for the same site.

Entities involved in multiple Supplier arrangements

The below table shows the entities and processes performed under Option 1 and Option 2. 'Asset' under each option refers to where splitting calculations are based on a reading from

an Asset Metering System. 'Contract' refers to where splitting calculations are based on submitted CVNs.

Entity		Option 1		Option2	
		Asset	Contract	Asset	Contract
PS HHDC	Read boundary	✓	✓	✓	✓
	Perform calculations	✗	✗	✓	✓
SS HHDC	Read asset	✓	✗	✓	✗
CNA	Determine volumes	✗	✓	✗	✓
BSC Systems	Perform calculations	✓	✓	✗	✗

The key difference between the proposed models is that Option 1 has splitting calculations performed by BSC Central Systems (SVAA), whilst Option 2 has splitting calculations performed by the Primary Supplier's HHDC.

The following entities and functions will be involved in multiple supply processes:

- **Primary Supplier:** The customer's Primary Supplier is a BSC Party and is associated with the customer in the Supplier Meter Registration Service (SMRS, also known as MPAS) for the Boundary Point Meter. The registrant of the Import and/or Export Metering System at a customer premises. Responsible for Supply of any volumes to a customer not provided by Secondary Suppliers;
- **Secondary Supplier:** will be a licenced Supplier and therefore a BSC Party. A Supplier that has contracted with a customer to provide them with some amount of energy, not linked to their Primary Supplier (via an Asset Metering System or a Contract Volume Notification). The Secondary Supplier informs the entity performing splitting calculations that they will be submitting Secondary Supply information;
- **Customer:** The occupant of a premises or an intermediary appointed by them to act on their behalf, supplied by the Primary Supplier;
- **Customer Notification Agent:** acts on behalf of Secondary Suppliers, providing secondary supply CVN information to the calculation entity. Secondary Suppliers can choose whether they want to perform the CNA role themselves or employ a third party. There will be one CNA per site;
- **Calculation Entity:** The entity responsible for performing splitting calculations will obtain Half Hourly meter readings from the Boundary Meter and any Asset Meters and secondary supply CVN information from the CNA;
- **Secondary Supplier HHDC:** responsible for collecting metered data from the Asset Meter and submitting it to the calculation entity;
- **Asset Meter Operator Agent:** responsible for installing and maintaining an Asset Metering System;
- **Primary Supplier HHDC:** responsible for providing boundary point meter readings to the calculation entity.

We expand on the two key roles being exclusively introduced by P379 below.

Customer Notification Agent Role

P379 will introduce a Customer Notification Agent (CNA) responsible for determining the volumes supplied by a Secondary Supplier in the scenarios where the volume is not based on the metering of an asset located on the customer's premises. The CNA will:

- calculate energy assignment to each Supplier;
- Validate assignments of submitted energy volumes for each Supplier;
- Notify, on behalf of a Secondary Supplier, Secondary Supply Registration Agent of the relevant Boundary Point Metering System where the secondary supply will be made;
- Notify the fixed volume or the percentage volumes from the Asset Meter, as applicable, to the calculation entity and ensure consistency with the existing contract notification regime.

The appointment process will be built into the current registration process. There would be one CNA per premises, with all Secondary Suppliers operating at a premises being required to use the same CNA[1]. Incoming Secondary Suppliers must switch the customer to their own CNA if they cannot use the incumbent CNA, effectively terminating their previous secondary supply contract.

The CNA role has to be a competitive service, not centralised, and should not compromise the Settlement process. Suppliers could choose whether they want to qualify in and perform the CNA role themselves or appoint a third party.

Calculation Entity

The Calculation Entity will perform splitting calculations and generate the Boundary metered volume share of each Supplier at a site. It will do this by calculating the share of a Boundary Meter reading for each Supplier with metered assets at the premises (which may not be the same as the asset's meter reading, depending on other behind-the-meter flows of electricity), and then applying CVN volumes to the Primary Supplier's share of the Boundary Meter reading.

For example, if in a given Settlement Period a customer consumed 4 units of electricity and;

- Two were supplied to an asset metered by a 'Secondary Supplier A'
- A 'Secondary Supplier B' submitted a CVN for 50% of the customer's electricity;

The calculation entity would subtract the 2 units of metered volume for Secondary Supplier A from the 4 at the boundary, leaving 2 units. It would assign 50% of these units to Secondary Supplier B, leaving 1 unit for the Primary Supplier.

The calculation entity would then submit into Settlement 2 units to be added to Secondary Supplier A's BMU and 1 unit to be added to Secondary Supplier B's BMU.

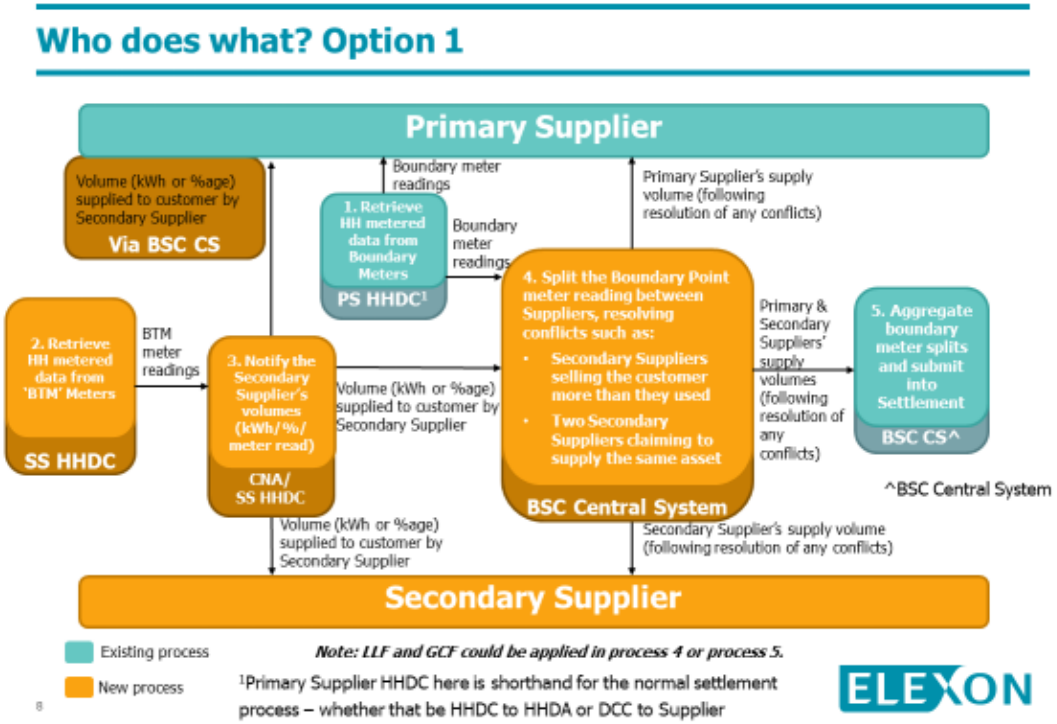
[1] Originally the Workgroup discussed restricting customers to a single Secondary Supplier submitting volumes via a CNA, to avoid contradictory volumes being submitted (for example two Suppliers claiming to be responsible for 100% of a customer's volume at the same time). The same outcome can be achieved by having a single CNA responsible for submitting volumes on behalf of multiple Secondary Suppliers, and only submitting valid volume notifications. This provides customers with more options.

In the Option 1 solution, because the Primary Supplier's HHDA will have submitted the full Boundary Meter reading in their aggregated position, the calculation entity (SVAA) would submit 3 units to subtract from the Primary Supplier's BMU.

In the Option 2 solution, because the calculation entity is the Primary Supplier's HHDC they would only submit 1 unit to the Primary Supplier's HHDA to be added to the aggregate amount submitted to settlement.

Option 1 Model

The following diagram shows who performs which steps in the Option 1 solution.



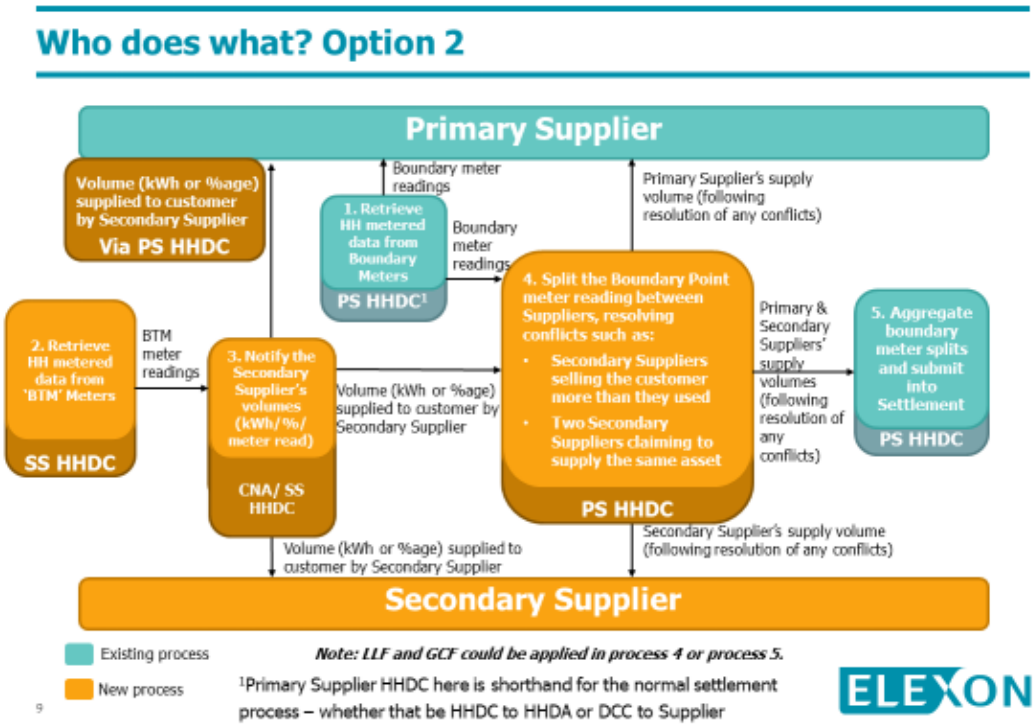
SVAA calculates the volume to allocate to each Supplier based on information provided by CNA.

A drawback to this solution was originally thought that it risks complex or inflexible approaches to validating submitted energy volumes between different supply. This has been resolved, by limiting Secondary Suppliers not using asset meters to sharing a single CNA per customer. Secondary Suppliers would need to establish the usage of that single CNA between themselves, or enact a change of agent process for the CNA, effectively terminating the arrangement of the previous Secondary Supplier.

As HHDAs already aggregate all meter readings, it would be a minimum change to their current role for the SVAA to apply the Primary Supplier's share of the split by subtracting all Secondary Supply volumes at each Primary Supplier's MSIDs from the HHDA submitted volume in each GSP, where the calculation entity is SVAA.

Option 2 Model

While this option resembles the BSCP550 process for SVA Shared Metering Arrangements, it would seek to reduce the complexity and remove the requirement to contract bilaterally.



The Option 2 model:

- Decentralises the role of performing the splitting calculations;
- Requires the transfer of data directly between a Secondary Supplier and the Primary Supplier's Data Collector; and
- Requires the HHDC performing calculations to be compelled to carry out the calculations on behalf of the Secondary Supplier without a bilateral contract.

The Option 2 solution involves moving the calculations a step closer to the Boundary Meter.

In order to address the defect of Parties needing to enter into an agreement, the Party performing the calculations would have to be compelled to do so without having a contract with any Secondary Supplier/CNA, and would not be able to veto performing calculations on behalf of any Secondary Supplier. This is because the HHDC performing the calculation entity function is only contracted by the customer's Primary Supplier. Secondary Suppliers would rely on the BSC for assurance, as they have no contractual relationship with the calculation entity in this Option.

This model places the onus on a customer's Primary Supplier to ensure meter splitting is carried out correctly. There would also be a process to transfer the record of Secondary Supply relationships to a new HHDC when the customer switches Primary Supplier.

This option leverages the fact that some HHDCs already have facilities to split boundary meter reads between multiple Suppliers (because of the BSCP550 Shared SVA Metering Arrangements).

Timing and data availability

The Workgroup notes that billing timeframes may need to be adjusted for customers participating in multiple supply arrangements. The Primary Supplier will need data from the Secondary Supplier as soon as possible to ensure accurate billing. Primary Suppliers

will need to receive information within billing timescales on volumes they have not supplied, so that they can adjust a customer's bill appropriately.

Reads from assets behind the meter should be available to the customer's Primary Supplier as close to real time as possible to provide good customer service, meet Guaranteed Standards of Performance (GSOP) regulations[2] and be in line with the smart solution.

Secondary supply based on percentage or fixed volumes will be reported by gate closure and Primary Suppliers will be sent the data as soon as it is received by the calculation entity.

Option 1

The proposed timings are as follows:

- At least one day ahead of real time, customer and asset metering registration complete and validated;
- Any time ahead of FPN gate closure, CVNs submitted by CNA to SVAA. SVAA sends CVN data to Primary Supplier;
- One day after real time, Primary Supplier HHDC obtains meter readings from boundary and Secondary Supplier HHDCs obtain meter readings from asset meters, each validate and submit to SVAA. SVAA shares asset meter readings with Primary Supplier;
- Two days after real time, SVAA performs splitting calculation, submits results to all Suppliers; and
- One day prior to (each) Settlement Run (up to and including R2), SVAA calculates BMU adjustments for all Suppliers involved in secondary supply arrangements

Option 2

The proposed timings are as follows;

- At least one day ahead of real time, customer and asset metering registration complete and validated;
- Any time ahead of FPN gate closure, CVNs submitted by CNA to Primary Supplier HHDC. Primary Supplier HHDC sends CVN data to Primary Supplier;
- One day after real time, Primary Supplier HHDC obtains meter readings from boundary meter. Secondary Supplier HHDC obtains reading from asset meters and submits to Primary Supplier HHDC. Primary Supplier HHDC shares asset meter readings with Primary Supplier;
- Any time prior to submitting data to HHDA (at least 1 WD prior to settlement run), Primary Supplier HHDC performs splitting calculation, submits results to Primary Supplier, Primary Supplier HHDA, Secondary Supplier CNAs (if relevant), Secondary Supplier HHDCs (if relevant;

[2] http://www.legislation.gov.uk/uksi/2015/1544/contents/made

- On receipt of split data, Secondary Supplier Agents pass data on to relevant Secondary Supplier HHDA; and
- Two days prior to (each) settlement run (up to and including R2), HHDC recalculates splits and resubmits data to Primary Supplier, Primary Supplier HHDA, Secondary Supplier CNAs (if relevant), Secondary Supplier HHDCs (if relevant).

Because obtaining the Boundary Meter reading and performing the splitting calculation are both Primary Supplier HHDC functions in Option 2, there are fewer pre-split handoffs than in Option 1. This could potentially reduce the time it takes to perform the splitting calculation, noting that this would not need to be specified as it could take place any time before data aggregation.

Data Availability

The Workgroup agreed the following on the availability of data:

- Total Secondary Supplier volumes should be publicly reported at an aggregated (GSP) level. It's useful to know the split of volumes between the Primary and Secondary Suppliers.
- DC data is not automatically available on D+1 timescale, and Suppliers may need to submit additional data requests to ensure data availability, incurring DCC costs.
- Data flows to be used under the P379 solution must be clearly identified. The P379 business requirements identify where data is available in existing data flows and where new data flows are required. Key data flows will include;
    - D0379 Half Hourly advances UTC (for boundary meter reads)
    - Novel registration data flows (for AMSIDs and Secondary Suppliers)
    - Data flow instructing Primary Supplier HHDC to provide boundary meter read to SVAA (based on D0354)
    - Agent appointment flows (for asset meters)
    - Novel data flows informing Suppliers of split data

Network charging

P379 aims to maintain the principle that Primary and Secondary Suppliers should pay Network Charges associated with the volumes of energy they have supplied.

Volume based charges will continue to be assigned to each Supplier based on how much they have Supplied, but fixed charges may require further consideration. This issue may become more significant with a shift to higher levels of fixed network charges following implementation of the Targeted Charging Review[3].

Where a fixed network charge is assigned to Suppliers based on number of registered MSIDs, the current solution would not assign any share of these charges to a Secondary

[3] https://www.ofgem.gov.uk/electricity/transmission-networks/charging/targeted-charging-review-significant-code-review

Supplier. However, if the network charges were also charged per Secondary Supplier-MSID relationship a single customer could be charged the same network charge multiple times.

Further, consideration will need to be given to how the costs of introducing and maintaining Boundary Metering Systems are allocated, including DCC fees. Currently all of these costs fall on the Primary Supplier. As multiple Suppliers will be using the Metering System, it may be fairer to distribute these costs amongst all of the Suppliers.

The BSC solution is not able to specify how these charges will be apportioned (as the charging rules are set out in the SEC, CUSC and DCUSA) and therefore consequential Modifications will be need to adjust these arrangements if industry believe they need to change to ensure fairness.

Performance Assurance

Appropriate metering and performance assurance is a key consideration of this solution. Energy volumes will need to be measured using an appropriate measurement device, set out in a new Code of Practice (CoP). Consideration will need to be given to the assurance of these and of the CNA, and to ELEXON's role in overseeing this. The solution envisages the use of the new CoP that is being specified in P375 (CoP11).

Suppliers will need to be confident that adjustments submitted into BSC Settlement by CNAs have been calculated accurately. This can be achieved by requiring CNAs to accede to the BSC as a new type of Party Agent. This would be a 'lighter touch' BSC Party role, in a similar manner to the principle of a VLP (as adopted for P344) in comparison to a Supplier. Accession to the BSC would allow appropriate Performance Assurance Techniques (PATs) to be applied to CNA activities.

Change of Supplier/Agent

The solution will need to account for changes of Supplier or Supplier Agents where they are critical to the solution. In both Options the Secondary Supply Registration Agent (SSRA) will need to remain up to date against the CSS.

In Option 1, where a customer with a Secondary Supplier changes Primary Supplier or Primary Supplier HHDC, the SSRA will need to know so they can inform SVAA to request Boundary Meter readings from the new HHDC.

In Option 2, where a customer with a Secondary Supplier changes Primary Supplier or Primary Supplier HHDC, the outgoing Primary Supplier HHDC will need to transfer all details of the customer's Secondary Supply arrangements to the incoming Primary Supplier HHDC, and inform all Secondary Supplier Agents to submit data to the incoming Primary Supplier HHDC.

In both Options, where a customer terminates a contract with a Secondary Supplier their Primary Supplier will automatically become responsible for the volumes. Likewise, they can have more than one Secondary Supplier so there does not need to be a Change of Supplier process in many cases. Where a customer enters into a new secondary supply relationship utilising CVNs and the new Secondary Supplier cannot utilise the existing CNA, they will need to trigger a Change of Agent process for the CNA. This process mirrors existing Agent appointment processes.

In both Options, a customer may choose for a behind the meter asset to be supplied by a new Secondary Supplier, and the incoming Secondary Supplier would update the SSRA. Where this occurs, the losing Supplier may dispute within 5 working days.

Option 1 & 2 pros and cons

Option 1

Pros;

- Reduces number of handoffs after splitting calculation takes place;
- Single set of standard splitting calculations; and
- All Parties have contract with calculation entity.

Cons;

- Increases number of handoffs before splitting calculation takes place; and
- More restrictive on timescale for splitting.

Option 2

Pros;

- Reduces number of handoffs before splitting calculation takes place;
- Allows flexibility in splitting calculation timescales;
- Allows flexibility in splitting calculations operation; and
- Utilises HHDC capability that may partly exist due to BSCP550 Shared SVA Metering Arrangements.

Cons;

- Increases number of handoffs after splitting calculation takes place;
- Duplicates implementation of splitting calculations;
- Potential competition issues (only Primary Supplier has contract with calculation entity);
- Requires additional qualification of HHDCs; and
- Requires additional assurance of HHDC .

Interaction with other BSC Modification Proposals

The P379 solution builds on processes introduced in SVAA by P344 'Project TERRE'. P344 introduces arrangements in SVAA that will adjust Supplier BMU volumes if a 'Virtual Lead Party' (VLP) has used assets located behind the boundary meter to deliver a balancing service. This is a similar concept to adjusting Supplier position based on volumes Supplied by other Suppliers behind the boundary meter of one of their customers.

The P379 solution will also be able to utilise some of the processes within P375 'Metering behind the Boundary Point' which is looking at metering assets behind the Boundary Point Metering System. The P379 Workgroup notes that there should be a recognised standard

for behind the meter measurement devices to avoid risk of incorrect data. P375 will introduce this standard and the process for collecting and aggregating Metered Volume data for Assets located behind the Boundary Point.

To ensure alignment, requirements from P375 have been re-used and applied for P379 where applicable, as P375 is currently going through the BSC Assessment Procedure.

4 Impacts and Costs

Impact Assessment

The industry Impact Assessment will ask participants to provide estimated impacts and costs for implementing and operating the P379 solution. The BSC cannot require Parties to provide this information. However, this has not been an issue for previous significant Modifications. We note that Ofgem has powers to require this information from licenced entities.

Impact on BSC Parties and Party Agents	
Party/Party Agent	Potential Impact
Suppliers	Changes will be required to implement the solution to this Modification. The full impacts will become clearer once the solution has been issued for Impact Assessment. However, it is anticipated that there will be significant system and process impacts to implement and operate P379.
VLPs	
Generators	
DSOs	
Parties that wish to participate in the CNA role	

Impact on National Grid as the Electricity System Operator
No impacts anticipated. This will be validated via the Impact Assessment.

Impact on BSCCo
The impacts on ELEXON from the solution to this Modification Proposal will be assessed during the Impact Assessment. Impacts on ELEXON will relate to the development and implementation of the solution.
For both Options, BSSCo will need to ensure it maintains an appropriate Performance Assurance Regime and minimises settlement risk. Additionally, it will need to design and monitor performance for changes to SVAA that allocate Virtual Lead Party volumes correctly, and changes to reporting systems to publish information on secondary supply volumes. It will also need to design and operate qualification processes for the Customer Notification Agent. It will also need to design and operate a new Secondary Supply Registration Agent, unless the Impact Assessment identifies a more efficient alternative non-BSC option.
In the Option 1 solution, BSSCo will need to design and monitor performance of changes to SVAA to calculate splits between Suppliers.
In the Option 2 solution, BSSCo will need to design and operate qualification processes for HHDCs acting as calculation entities.

Impact on BSC Systems and processes	
BSC System/Process	Potential Impact
Balancing Mechanism Reporting Service (BMRS)	Providing reports on total amount of energy supplied by Secondary Suppliers

Impact on BSC Systems and processes	
BSC System/Process	Potential Impact
ELEXON Portal	Providing reports on total amount of energy supplied by Secondary Suppliers
Performance Assurance Reporting and Monitoring System (PARMS)	New monitoring techniques for Secondary Suppliers and/or CNAs and/or HHDCs operating as calculation entity
Technical Assurance Agent Monitoring Tool (TAAMT)	New assurance techniques for Secondary Suppliers and/or CNAs and/or HHDCs operating as calculation entity
Supplier Volume Allocation Agent (SVAA)	New calculations to assign VLP volumes between multiple Suppliers. Maintain database of Secondary Supply arrangements and Asset Metering. Option 1 develop new processes and algorithms to provide meter splitting calculations. Option 1 develop new functionality to share information with Suppliers once available.
Settlement Administration Agent (SAA)	Option 1 Add/Subtract outputs from SVAA meter splitting calculations to Supplier BMUs

Impact on BSC Agent/service provider contractual arrangements	
BSC Agent/service provider contract	Potential Impact
Settlement Administration Agent (SAA)	Update contracts to provide for and monitor new functionality.
Supplier Volume Allocation Agent (SVAA)	

Impact on Code	
Code Section	Potential Impact
A 'Parties and Participation'	Changes may be required to deliver the solution to this Modification Proposal, which will be determined through the Assessment Procedure.
D 'BSC Cost Recovery and Participation Charges'	
E 'BSC Agents'	
H 'General'	
J 'Party Agents and Qualification Under the Code'	
K 'Classification and Registration of Metering Systems and BM Units'	
L 'Metering'	
O 'Communications Under the Code'	
Q 'Balancing Mechanism Activities'	
S 'Supplier Volume Allocation'	

Impact on Code	
Code Section	Potential Impact
S 'Annex S-1 'Performance Levels and Supplier Charges'	
S 'Annex S-2 'Supplier Volume Allocation Rules'	
T 'Settlement and Trading Charges'	
U 'Provisions Relating to Settlement'	
V 'Reporting'	
W 'Trading Disputes'	
X 'Definitions and Interpretation'	
X 'Annex X-1 'General Glossary'	
X 'Annex X-2 'Technical Glossary'	
Z 'Performance Assurance'	

Impact on Code Subsidiary Documents	
CSD	Potential Impact
BSCP11 'Trading Disputes'	This list of impacted CSDs is subject to change and is intended only as an indication of the potential impacts arising from this Modification Proposal. The impacts on the CSDs will be determined during the Impact Assessment. The Workgroup will determine which, if any, of these needs to be developed during the Assessment Procedure, and which can be developed as part of the implementation activities.
BSCP27 'Technical Assurance of Half Hourly Metering Systems for Settlement Purposes'	
BSCP501 'Supplier Meter Registration Service'	
BSCP502 'Half Hourly Data Collection for SVA Metering systems Registered in SMRS'	
BSCP503 'Half Hourly Data Aggregation for SVA Metering Systems Registered in SMRS'	
BSCP504 'Non Half Hourly Data collection for SVA Metering Systems Registered in SMRS'	
BSCP505 'Non Half Hourly Data Aggregation for SVA Metering Systems Registered in SMRS'	
BSCP507 'Supplier Volume Allocation Standing Data Changes'	
BSCP508 'Supplier Volume Allocation Agent'	
BSCP514 'SVA Meter Operations for Metering Systems Registered in SMRS'	
BSCP516 'Allocation of Profile Classes and SSC's for Non Half Hourly SVA Metering Systems Registered in SMRS'	

Impact on Code Subsidiary Documents	
CSD	Potential Impact
BSCP533 'PARMS Data Provision, Reporting and Publication of Peer Comparison Data'	
BSCP534 'PARMS Techniques'	
BSCP535 'Technical Assurance'	
BSCP536 'Supplier Charges'	
BSCP537 'Qualification Process for SVA Parties, SVA Party Agents and CVA Meter Operators'	

Impact on other Configurable Items	
Configurable Item	Potential Impact
Impacted Configurable Items	To be determined through the Impact Assessment.

Impact on Core Industry Documents and other documents	
Document	Potential Impact
Connection and Use of System Code	Changes may be required to deliver the solution to this Modification Proposal, which will be determined through the Assessment Procedure. ELEXON will ensure that cross-Code working is initiated if required during the development of the solution. Currently we anticipate changes being required to DCUSA to amend the use of system charges.
Distribution Connection Use of System Agreement	
Grid Code	
Master Registration Agreement	

Impact on a Significant Code Review (SCR) or other significant industry change projects
In the view of both ELEXON and the P379 Proposer, this Modification does not impact any ongoing SCRs. The SCR exemption request was submitted to Ofgem on 3 January 2019. On 14 January 2019 Ofgem confirmed that they do not consider P379 within scope of any open SCRs. However the Modification has the potential to impact upon the Ofgem Switching SCR and as such would expect: • that the ToR for development should have regard to the interactions with the CSS and wider switching programme; and • that the DCC should be invited to participate in any Modification Workgroup and/or be included in any distribution list and consultation.

Impact on Consumers
The Modification should enable new electricity products for consumers, enabling greater choice and better service. The Modification should also enable greater competition between Suppliers for their customers, improving value for these consumers. In summary it: • allows earlier roll-out of dynamic tariffs and capture of value from changes in consumer behaviour, and for those benefits to be shared with the consumer; • supports innovation and consumer choice through greater competition for new services; and • provides opportunity of enhanced revenue streams to compensate for loss of FiTs to new micro-generation sites. The Modification also has the potential to increase the complexity of electricity Supply arrangements for consumers.

Impact on the Environment
This Modification would have the following positive environmental impacts: • supports continued deployment of low-carbon generation and battery storage behind the Meter; • creates opportunities for new flexibility services and their aggregation for the benefit of Suppliers and distributors, and. • increased Distribution System resilience, enabling more installation of renewable generation at distribution level.

5 Implementation

The Workgroup has highlighted that a number of industry changes may be required for the P379 solution to work. Additionally, BEIS and Ofgem may need to consider licence and policy changes to enable the proposed multiple Supplier arrangements. The Workgroup advised that the P379 solution be assessed against ongoing industry changes including but not limited to Market Wide Half-Hourly Settlement, the Transmission Charging Review, the Future Energy Retails Markets Review, and the Clean Energy Package. The progression timelines for policy and code changes will impact the implementation of P379.

The Workgroup is currently targeting an Implementation Date of **03 November 2022** to allow time for ELEXON and participants to implement P379 and progress industry changes associated with the P379 solution. The actual Implementation Date will be **subject to impact assessments** of the agreed solution and will need to be carefully considered alongside other policy and code changes.

6 Workgroup Discussions

Workgroup membership

The P379 Workgroup has benefitted from a high level of industry participation and two Ofgem presentations to help with Workgroup discussions. An average of 30 participants have attended each of the twelve P379 meetings since February 2019. This includes Suppliers, Generators, Distribution Network Operators (DNO), trade bodies, meter manufacturers, Party Agents and smart and local energy companies. Continuous participation will ensure most of the impacted Party types and industry experts are represented in the development of the solution.

Areas for consideration

The P379 Workgroup considered how the proposed solution could work under the current BSC arrangements. This section covers the Workgroup views on key Workgroup discussions.

The Workgroup has considered the below key areas in respect of multiple Supplier arrangements:

- Exempt Supply Arrangements
- Balance Responsibility
- Performance Assurance
- Conflict Resolution
- Party and system functions
- Agent Roles
- Policy and Regulatory considerations

Exempt Supply

The Workgroup considered whether to include or exclude licence exempt suppliers from the P379 solution. Initially the solution was being developed to include licence exempt suppliers. However, following Panel feedback after the first P379 Interim Report in June 2019, the Proposer excluded exempt suppliers to keep the solution simple and address Workgroup concerns.

The Workgroup raised concerns about the existing options for licence exempt entities selling power over the Distribution Network Operator's (DNO) network and how this could impact the P379 solution. As part of the Workgroup Ofgem volunteered to present on current exempt supply arrangements. Exempt supply obligations are found in the Electricity (Class Exemptions from the Requirement for a Licence) Order 2001, which was designed to minimise the burden of regulation on persons operating in a limited manner in the generation, supply and distribution of electricity. Under current arrangements licence exempt supply requires the following:

- a Third Party Licenced Supplier(TPLS);

- a bilateral agreement with each customer; and
- that the customer's additional energy is supplied by the TPLS with whom the generator has an agreement – the customer has no access to the competitive market for these volumes.

The Workgroup noted that supplying over the public network requires Suppliers to become party to and comply with Codes. The MRA, DCUSA and BSC require that all suppliers are licenced. For this reason exempt supply over the public network requires a Third Party Licensed Supplier to provide relevant code-related services to the exempt supplier.

Under exempt supply there are limited obligations on unlicensed Suppliers but it should be noted that unlicensed is not the same as unregulated. Under exempt Supplier obligations parties are required to notify the licenced Supplier when taking over a premises.

The Proposer argued that the Exempt supply regime is not fit for purpose, there needs to be a more complete review of requirements. Current arrangements are anomalous, there is a grey area around how the off market segment operates. The P379 arrangements primarily intended to rationalise already existing arrangements with the man purpose of enabling new markets.

The P379 solution is not aiming to address or circumvent any of the current provisions for Exempt Supply. The P379 solution makes no specific provisions for exempt Supply. However, exempt suppliers will still be able to participate in the markets by operating within the portfolio of a licensed Supplier, in the same way they currently access markets.

Changing exempt supply arrangements will mean licence or policy changes. It has been agreed that that licence changes are outside the P379 solution and should be dealt with separately. However, recommendations from this Modification can be passed to Ofgem and BEIS for consideration.

Balance Responsibility

The Workgroup discussed the impact of balance responsibility assignment under the BSC. The Workgroup agreed that the solution should ensure that each Meter Registrant's imbalance position is not materially and adversely impacted by other Suppliers operating across the Meter. This was believed to be fair as it placed the burden of imbalance responsibility on those Suppliers who made the Supply. The Workgroup therefore also decided that each Secondary Supplier should be a Balance Responsible Party.

The solution should allocate the volumes supplied by each Supplier to those Suppliers. Supplier liability is at the Boundary, and balance needs to be determined for the Primary Supplier and Secondary Supplier.

The solution must address the issue of Balance Responsibility in line with European Balancing Guidelines (EBGL). The EBGL defines a 'balance responsible party' (BRP) as 'a market participant or its chosen representative responsible for its imbalances'.

As the Secondary Supplier will be a licenced Supplier it will be subject to balance responsibility on the volumes they have supplied. The Primary Supplier will be informed when a customer purchases energy from elsewhere. The Primary Supplier can then adjust their purchasing to reflect this, based on adjusted forecasts using the information provided (and/or outturn of the splitting calculations).

Balance Responsibility

European Balancing Guideline (EBGL) defines a 'balance responsible party' (BRP) as 'a market participant or its chosen representative responsible for its imbalances'

When a Change of Supplier (CoS) takes place, the Secondary Supplier arrangements notified to the entity performing calculations will continue, as they are related to the Boundary Meter and not the Primary Supplier. The calculation entity will need to find out who the new Primary Supplier is, so that they adjust the imbalance position of the correct Supplier and request information from the correct Agents.

Performance Assurance

ELEXON as the BSCCo monitors the performance of all BSC Parties against requirements and obligations under the BSC. The new roles and processes being introduced by P379 will be subject to performance assurance to avoid risk to Settlement. There needs to be consideration in respect of carrying out calculations in specific timelines. Additionally performance assurance should look at trading disputes, conflict resolution and Supplier performance. Performance assurance will be applied to the following functions:

- **CNA** in respect of determining and submitting fixed or percentage based secondary supply volumes to ensure volumes are collected, processed and submitted correctly;
- **Primary Supplier's HHDC** in respect of performing splitting calculations (Option 2) to ensure volumes are collected, processed and submitted correctly;
- **Secondary Supplier's HHDC** in respect of collecting and submitting reads from asset meters to ensure volumes are collected, processed and submitted correctly; and
- **Secondary Suppliers** in respect of providing a secondary supply to a customer to ensure they are following settlement processes and meeting performance requirements.

The Workgroup noted that the deployment of the Performance Assurance Techniques (PATs) would be determined as part of the P379 implementation activities.

Under Option 1 calculations are performed by BSC Central Systems. These systems operate according to published specifications and their performance is monitored and reported on by BSCCo. Poor system performance is addressed via contractual arrangements, and Parties are informed via circulars. There is the option to provide additional reports from the calculation platform to monitor performance if desired. ELEXON noted that any new functions performance by BSC Central Systems would be subject to the annual BSC Audit.

Under Option 2 calculations are performed by the Primary Supplier's HHDC. These calculations would be subject to Qualification. Because the Secondary Supplier will not have direct recourse to the Primary Supplier's HHDC if the calculations are performed incorrectly, robust assurance that the calculations are being performed correctly and a means of challenge will be important. The calculations will be subject to performance assurance, and may constitute a Settlement Risk (as they impact the distribution of volumes contributing to an imbalance). Performance assurance in respect of being a Supplier would continue to apply to both Primary and Secondary Suppliers.

Additionally, new Performance Assurance arrangements will need to be developed for the CNA to ensure volumes submitted to SVAA are notified correctly. This will be assessed during the implementation phase of P379, if approved.

Validation of submitted volumes (conflict resolution)

SVAA will have a process to assign energy between the Parties involved. Conflict resolution (validating volumes where there are conflicting submissions, for example two Secondary suppliers claiming 100% of a meter's volume) depends on where the conflict takes place and who has the responsibility for resolving it.

Initially context resolution was discussed in the context of the calculation entity applying rules to the notifications it received. The rules discussed were;

- 1 – Last in, first out
    - Where the first volumes to be received by the calculation entity get priority
- 2 – Assign based on a scaling methodology
    - Where each volume is scaled based on the share of the absolute amount it constitutes
- 3 – First in, first out
    - Where the latest volumes to be received by the calculation entity get priority
- 4 – Assign precedence to types of notification (in combination with another option)
    - Where some types of notification are prioritised over others
- 5 – Consumer specified default arrangements
    - Where the customer gets to choose how the notifications are prioritised
- 6 – Reject all and re-notify when conflict occurs
    - Where all notifications are rejected and the process starts again.

After discussions with the workgroup, it was established that all of these methodologies are subject to gaming and could not be relied on to achieve the outputs the customer desired. The solution was therefore that volumes related to an asset metered by an AMSID would always be given priority, and customers would be restricted to a single Secondary Supplier submitting CVNs.

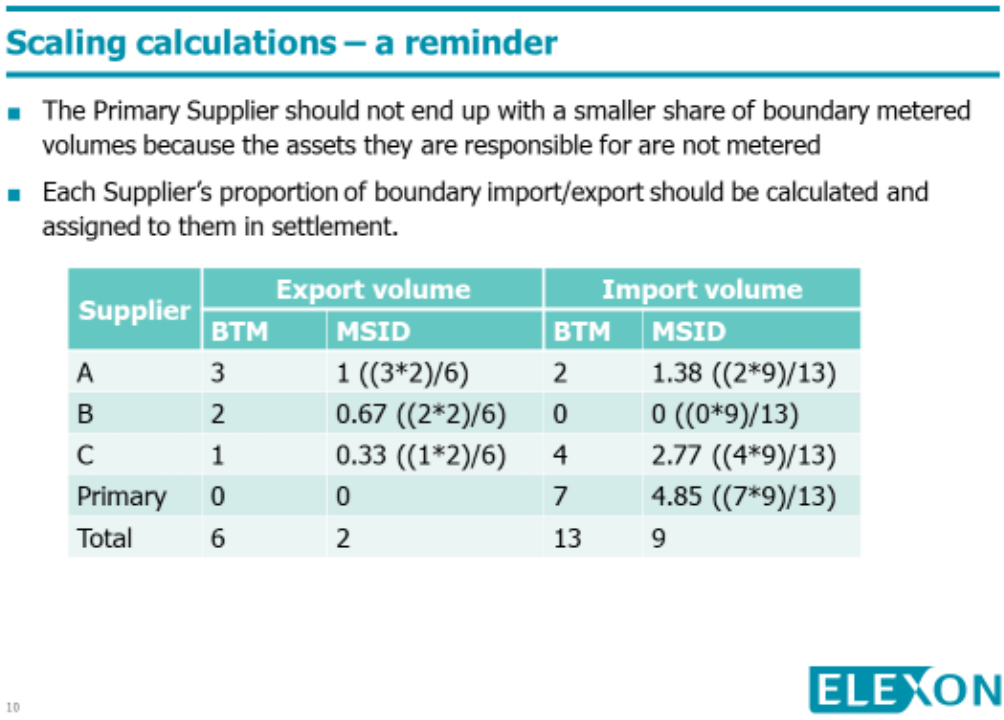
Further discussion with the workgroup established that the CNA could act to eliminate conflicts prior to submitted notifications, provided all Secondary Suppliers were using the same CNA. This option provides slightly more flexibility for customers, and the solution has been updated to allow multiple Secondary Suppliers submitting CVNs via the same CNA.

Scaling of volumes

Where there are complex flows around a site during a settlement period, with multiple assets generating and consuming, the net consumption volumes of the assets may exceed the volumes recorded at the boundary.

While settlement can assign a sum of meter readings that in excess of the boundary meter reading provided the net result is the same as the net meter reading (as settlement is calculated on a net basis), this should be made clear. Additionally, network charging and policy costs should not be charged on volumes which did not impact the total system.

Because of these principles, there will need to be a rule which scales volumes for each Supplier, based on their share of the behind-the-meter volumes. The following slide provides an example of how volumes might be scaled in an example with three assets (A which imports 2 units and exports 3, B which imports 0 and exports 2, and C which imports 4 and exports 1) supplied by Secondary Suppliers, where the boundary meter reads 2 units of export and 9 units of import;



Scaling calculations – a reminder

- The Primary Supplier should not end up with a smaller share of boundary metered volumes because the assets they are responsible for are not metered
- Each Supplier's proportion of boundary import/export should be calculated and assigned to them in settlement.

Supplier	Export volume		Import volume	
	BTM	MSID	BTM	MSID
A	3	1 ((3*2)/6)	2	1.38 ((2*9)/13)
B	2	0.67 ((2*2)/6)	0	0 ((0*9)/13)
C	1	0.33 ((1*2)/6)	4	2.77 ((4*9)/13)
Primary	0	0	7	4.85 ((7*9)/13)
Total	6	2	13	9

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ELEXON

The workgroup was in favour of utilising scaled volumes to ensure customers are billed correctly, and that volumes submitted to networks and Ofgem for charging purposes are accurate.

Policy and Regulatory Considerations

Depending on the solution developed by the P379 Proposer and Workgroup, there may be cross-Code impacts on the SEC, MRA, DCUSA, CUSC and Grid Code. During the development of the solution, ELEXON has engaged with the appropriate Code Administrators to ensure that cross-Code impacts can be addressed, ensuring the timely delivery of the solution to this Modification. The Proposer has indicated that he will raise any cross-code changes, if required.

The Workgroup has agreed that considerations on policy and licence are outside of the P379 solution and should be dealt with separately. However, recommendations from this Modification can be passed to Ofgem and BEIS for consideration. This is subject to how the P379 discussions progress and if this can be fed into the Ofgem and BEIS review of Future of Retail Markets.

The Workgroup is maintaining a Policy and Regulatory Log capturing potential cross code and policy considerations and impacts. The P379 Policy and Regulatory Log is provided in Attachment C.

Network charges

The P379 Workgroup is of the view that there should be appropriate allocation of network charges to the Primary Supplier and Secondary Supplier. The charges should be based on the actual volumes each party is responsible for supplying.

It is currently understood that a change to the Network Charging Methodology under the DCUSA will be required to enable network charges to be levied on Suppliers in respect of customers for whom they are not the registered Supplier in CSS.

SMART Solution and other Policy considerations

The Workgroup noted that Ofgem is looking to improve the Energy Companies Obligation (ECO) and Warm Homes Discount (WHD). ECO obligations begin once Suppliers reach certain customer numbers. Ofgem will need to determine whether customer numbers include Secondary Supply customers. Additionally, the size of obligation depends on market share. Market share calculations will need to consider market share of Primary and Secondary Supply, and develop an accurate methodology for determining this.

Retrieving half-hourly data from smart meters will be dependent on the DCC. DCC network and data processing constraints retrieval of data from smart meters might mean it is sensible to wait for market-wide Half Hourly Settlement implementation to ensure DCC can handle the required data volumes.

The Primary Supplier's licence obligations around the In Home Display (IHD) unit may need consideration, as IHDs cannot currently be configured to display costs across multiple tariffs that a customer may have.

Additionally, the solution does not work well for Pre-Payment Meter (PPM) customers. PPMs maintain a credit balance on the meter, which the customer pays the Supplier for in advance. Where a customer has multiple tariffs operating simultaneously, the PPM would need to know how to split the credit between the various Suppliers, and at what rate. PPMs do not currently have the functionality to do this. The credit balances can be managed outside of the smart meter by a service provider, who may be able to apply the splits appropriately. This issue cannot be resolved within the BSC.

Customer Impacts

Where customers are being supplied by more than one Supplier, the supply landscape becomes more complex. Customers will need protections in respect of the Secondary Supply contracts they have entered into. Suppliers will continue to be bound by existing regulations, including the requirement to treat customers fairly, which should provide a level of comfort.

The Workgroup considered potential impacts to customers and their relationship with electricity Suppliers. It's important to check any arrangements in terms of costs and impacts. Ofgem will also need to consider the impacts of the solution on digitally excluded consumers.

Customer switching

Customer switching should still work under the P379 solution. The solution should not allow the Secondary Supplier to block customers from switching. The P379 Workgroup

noted that the Central Switching Service (CSS) cannot be used for switches of Secondary Suppliers, so if there were to be a similar switching process this would need to be facilitated in some other central system. This has been considered in the design of the SSRA, which will manage a change of Secondary Supply process.

Vulnerable customers

The proposed solution provides additional choice for customers, and should lead to better consumer outcomes overall. However, with more than one Supplier operating at a premises the responsibilities for safeguarding vulnerable consumers should not be diluted. In particular, Secondary Suppliers should be able to access the Priority Services Register (PSR) to identify vulnerable customers and ensure they are receiving support from all of their Suppliers.

P379 Evaluation Criteria

The Workgroup agreed for the process models are to be evaluated under the following criteria:

P379 Evaluation Criteria		
Criteria	**Option1**	**Option 2**
Cost to implement	Subject to impact assessment. Cost shared by all BSC Parties	Subject to impact assessment [capability partially exists]. Cost falls more on PS.
Time to implement	Subject to impact assessment	Subject to impact assessment [capability partially exists]
Impact on consumers	Enables meter splitting	Enables meter splitting. Quicker customer service possible?
Fit with defect	Addresses defect, no conflict of interest, conflict resolved centrally	Addresses defect, conflict of interest (PS responsible for calcs), conflict resolved centrally
Simplicity	Single set of calculations. Requires Modification to change	Multiple calculations sets, possible variance, may be commercially driven changes

The responses to the IA will be used to asses each of these criteria against each Option, to determine the most sensible route of progression.

Cost to implement

Primary Suppliers and Secondary Suppliers will incur costs for implementing the P379 solution.

The Primary Supplier will:

- need to change systems under both models. Suppliers should look at how they might need to change their billing systems. Suppliers need to consider the costs of building new systems and introducing new processes.
- not be able to bill customers engaging in Secondary Supplier arrangements based on Boundary Point Meter readings alone. They will also need the volumes provided by Secondary Suppliers. This means that billing will not be instantaneous, and Primary Suppliers will need billing systems that can subtract Secondary Supply volumes from a Meter read before furnishing the customer with a bill.

The costs for introducing new processes should be considered as part of the Impact Assessment.

The Impact Assessment will also need to consider where costs fall in each model.

Implementation Timescales

The lead times to implement the Options should be considered. If one Option can be delivered significantly sooner than the other this would better align to the Proposer's desire to implement as soon as possible. This information will be requested during the Impact Assessment

Impact on consumers

The Workgroup note there is a growing need for customers to control their data. The solution should determine how data will be shared with the customer in multiple supply arrangements. Some traditional DC's may be able to implement processes allowing them to share data with the customer. Currently a lot of rules are set on the basis of one Supplier per customer. The P379 solution should ensure customers make informed choices.

In addition to the P379 Impact Assessment Ofgem should carry out their own Regulatory Impact Assessment looking at benefits of the Modification, customer and industry impacts.

Fit with defect

The P379 solution should avoid the need for a contract between the Primary and Secondary Supplier or Agents so as to remove the defect from the current arrangements. Instead of a contract a form of notification will be used. No solution that requires a contract between Suppliers for any aspects relating to settlement will address the defect.

Simplicity

The solution aims to be as simple as possible to achieve fit with the defect. By removing the need to contract between Parties, both Options remove a complexity from the existing BSCP550 arrangements. However, both Options do introduce complexities in other areas, such as Supplier billing systems and contract notifications. The key difference is where complexities are placed, with Option 1 centralising the complexity of performing the calculations whereas Option 2 places that complexity with the Primary Supplier's HHDC.

7 Panel Discussions

P379 Interim Assessment Reports

P379 First Interim Assessment report

The Panel considered the first P379 Interim Report at the June 2019 BSC Panel meeting at which they approved a six month extension for the progression of P379.

The Panel discussed the risks of generalising the solution developed through this P379, including potential impacts on consumers and their relationship with electricity Suppliers. The Panel also discussed the potential benefits of delivering this change and some of the innovative business models it might facilitate. A Panel Member challenged the usefulness of this Modification on the grounds of a perceived lack of consumer interest in such arrangements. A Panel Member suggested that the potential risks presented by this Modification outweighed the benefits given a potential lack of consumer appetite.

The BSC Panel advised the Workgroup to keep things simple, try not to solve everything at once, and find a solution that works within the current legislative and regulatory arrangements. While this Modification represents a positive change it is critical that progress is made incrementally in order to ensure that it is delivered at a manageable pace. Additionally, Ofgem should give the industry appropriate steer in terms of the desired direction of travel in order to ensure that changes are delivered in line with Ofgem's long term ambitions for innovation within the electricity industry.

P379 Extension request – February Panel meeting

At the February 2020 BSC Panel meeting the P379 Workgroup requested a further seven month extension. Similar to the June 2019 feedback the Panel raised concerns on the complexity and length of time to progress P379.

The BSC Panel discussed the challenges with respect to the complexity of this Modification along with the reasons that a complex solution was required. Namely that the solution was having to be built upon the complex existing arrangements. The Panel discussed potential options for delivering the solution or taking a different approach. ELEXON confirmed that the Workgroup had listened to the Panel's previous calls to keep things simple, and had consequently limited the solution to licensed Suppliers only. Removing licence-exempt Suppliers significantly simplified the solution and the wider impacts.

A Panel Member noted that on the basis that some of the changes the Modification was seeking to introduce were fairly fundamental it would be helpful to have a clear steer from Ofgem with respect to how it saw the solution being developed for this Modification fitting into its longer term road map and strategy for the industry. The Panel expressed a view that such a fundamental change lends itself more as an Ofgem Significant Code Review and asked Ofgem to confirm how it intends to assess P379, against a backdrop of other significant industry changes.

The Panel asked the Workgroup to consider whether the Modification should continue and if any Workgroup Members intend on using the P379 solution. The P379 Workgroup feedback is provided in Section 8 of this report. The BSC Panel requested an Interim Report for its next meeting on 12 March 2020 to inform its extension decision.

8 P379 Workgroup Feedback

As requested at the February 2020 BSC Panel meeting the P379 Workgroup has provided feedback on whether the Modification should continue and if any of the Workgroup Members intend to use the P379 solution.

The P379 Workgroup has 30 Voting members. 16 Workgroup Members and participants provided feedback. The feedback has been spilt into the key areas raised and summarised below. The detailed responses are provided as Attachment D to this report.

Should the P379 Modification Continue?

Complexity and impacts

A majority of Workgroup Members agree with the BSC Panel's view on the potential complexity of the P379 solution. Workgroup discussions and the time taken to develop the solution has highlighted that this Modification is difficult to deliver. The proposed changes have been discussed over 12 Workgroup meetings to date yet many of the more complex aspects have not been fully covered. Such as fundamental questions regarding how network charges and policy costs will be fairly apportioned between Primary and Secondary Supplier(s).

P379 will have an impact on other codes (namely the Retail Energy Code (REC)). A number of additional consequential changes will need to be raised and coordinated across multiple industry codes. The Progression of P379 is also dependent upon other BSC Modifications including P375 'Metering behind the Boundary Point' which itself is still at the Assessment Procedure stage. This adds complexity.

P379 will require significant changes to BSC Central Systems and interfaces with the Central Switching Service (CSS) design. In addition Suppliers will need to make changes to their acquisitions processes and systems as a result of the Modification. The scope and complexity of change introduces risks to market participants, including to key areas such as billing and forecasting.

A minority of the Workgroup argued that the proposed models are not too complex but provide opportunity to provide further competition between Suppliers in the market, opportunities to small generators in the market and encouragement for consumers to pursue Half Hourly Settlement, time of use tariffs and tariff comparisons – all positive signposts towards achieving climate change mitigation objectives – the likely persisting hot agenda item that will gather further momentum over time.

Proposer's view

The former P379 Proposer (New Anglia Energy) notes that his withdrawal in no way detracts from the key merits of the proposal. Workable solutions have been identified by the P379 Workgroup and, while complex, this complexity arises from the existing baseline not from the proposal of itself. If tested properly there could be significant benefits in terms of competition and choice to consumers, with new markets being opened to a range of service providers who would not need to be the Meter Registrant. The current rules place a powerful barrier to competition behind the meter, but the performance assurance provided by the proposed P379 solution will open up competition behind the Meter and dilute this market power.

During the development of the P379 solution a range of Workgroup participants have shown interest in applying it to a range of energy related services such as EV charging and battery storage. The Proposer believes that if implemented, the multiple Supplier arrangements would greatly boost roll-out of non-traditional supply models without the necessity of revisiting the Supplier hub.

Benefits

The majority Workgroup Members currently believe there is no strong evidence that the change is required or that consumers are interested in using the proposed solution. The actual need has to be quantified. The consequential changes of P379 would be costly to implement with limited benefits to niche participants. Although there is the potential for realising consumer benefit through increased competition, no meaningful impact assessment has been carried out to determine customer appetite and/or tangible benefit versus the cost of developing a solution.

A Member noted that although P379 aims to encourage innovation, it should be for the benefit of the consumer, not for the sake of innovation. Ofgem has a duty of care to foster innovation that delivers real benefits for consumers as a whole. A fundamental change such a P379 should not have been allowed to progress in the absence of Ofgem forming a policy about whether having multiple Suppliers benefits consumers.

There is no evidence of how having multiple Supplier arrangements will deliver value to consumers and the energy system. The proposed solution suggests that Secondary Suppliers will need cross-subsidy from Primary Suppliers and consumers to make their business models work. Secondary Suppliers will not provide savings but impose costs on the end consumer.

Other Workgroup Members have noted that they have customers who are waiting to use the solution once it becomes available, and there are a number of potential use cases that address problems which currently exist in the electricity retail market. This is explained in more detail below.

Ofgem's significant code review

The majority of Workgroup Members believe that P379 should be placed on hold until Market Wide HH Settlement (MWHHS) arrangements are in place. MWHHS is not expected to be implemented until 2022-4 and until the solution is identified and implemented, it's impossible to progress P379 efficiently. P379 will need HH Settlement in place to support the complex metering arrangements.

The industry is focused of delivering MWHHS and Faster Switching, which are consuming a significant amount of resource. As raised by the BSC Panel multiple Supplier arrangements should be progressed via the Significant Code Review route.

Do Workgroup Members intend to use the P379 solution?

A minority of Workgroup Members note that they would use the P379 solution if implemented. For example, features of the community energy schemes are shared with other schemes, it is very important that Parties are able to separate members' imports and exports, and possibly choose different licensed Suppliers for each, and getting the best

price for each. If Parties have to stick to the Supplier Hub model, there is no guarantee that they will find a Supplier sympathetic to the aims of schemes to combat energy poverty and let alone provide the best prices for imports and exports.

Five Workgroup Members, who responded are exploring business models which would be aided by the implementation of P379. The solution will enable Parties to provide new services to the market and provide extended/refined HHDC and possibly HHDA services to market.

A Member notes that they have been testing demand amongst electric vehicle owners and fleet operators and have significant interest. A number of companies and individuals are signed up for a trial, if and when P379 solution is implemented. The P379 solution will enable the charging of electric vehicles without impacting the drivers' home electricity bill.

9 Progression Timetable & Recommendations

Workgroup recommended next steps and progression timetable

The P379 Workgroup recommends that the industry Impact Assessment is issued and should be used to inform next steps. The Workgroup recommend, given the significance and size of P379, that the Impact Assessment is issued for four weeks. The Workgroup noted that the consideration of wider consumer benefits falls within Ofgem's remit, but believed it was important to establish the benefits and that it is preferable to do this alongside the Impact Assessment.

The current P379 Assessment Procedure expires in March 2020.

The Workgroup recommends that P379 undergoes a further seven months Assessment Procedure, with the Assessment Report being presented to the Panel at its meeting on 10 September 2020.

The Workgroup will need to undertake the activities shown in the table below, which includes a 20 WD window to carry out Impact Assessments with market participants, ELEXON and BSC Agents, production of the BSC legal text and a 15 WD Assessment Procedure Consultation.

The Workgroup's recommended the updated progression plan set out below.

P379 Assessment Timetable	
Event	Proposed Dates
Impact Assessment (Internal and Industry)	March – April 2020 (20WD)
Workgroup Meeting 13 - Review Impact Assessment Results and Legal Text Structure	May 2020
Workgroup Meeting 14 – Review Legal Text	June 2020
Assessment Procedure Consultation	June - July 2020 (15WD)(Workgroup to decide if longer period required)
Workgroup Meeting 15 - Review Consultation Responses	July 2020
Workgroup Report presented to Panel	10 September 2020
Report Phase Consultation	14 September 2020 – 25 September 2020 2020 (10WD) (Longer period may be required)
Draft Modification Report presented to Panel	8 October 2020
Final Modification Report submitted to Authority	14 October 2020
Targeted BSC Release	November 2022 (subject to Assessment of Modification and associated delivery timescales through impact assessment)

Alternative progression options

ELEXON has been engaging with Ofgem to understand whether ELEXON and Ofgem could conduct a joint cost-benefits analysis for P379. At the time of writing, Ofgem is still considering this and whether P379 issues would be better addressed as part of a Significant Code Review.

The progression options include:

4. Seven month extension to complete the Assessment procedure without conducting a cost-benefit analysis;
5. Three month extension to complete the industry impact assessment, following which a decision on how best to proceed with the Assessment Procedure could be taken; or
6. Six month extension for ELEXON and/or Ofgem to complete a cost-benefit analysis only, following which a decision on how best to proceed with the Assessment Procedure could be taken.

Whilst option three is indicative of timescales, further work is needed to confirm the timescales for a cost-benefits analysis with/without Ofgem. ELEXON believe it prudent to conduct a cost-benefit analysis before completing any other Assessment Procedure activities. Consequently, we recommend a two month extension, to enable us to agree the next steps with Ofgem. We will return to the May 2020 Panel meeting, or sooner if possible.

Recommendations

We invite the Panel to:

- **APPROVE** a two month extension to the P379 Assessment procedure, returning by the May 2020 Panel meeting with a recommendation on the progression of the cost-benefit analysis;
- **COMMENT** on the cost-benefit considerations; and
- **NOTE** the contents of the P379 interim report.

Appendix 1: Workgroup Details

Assessment Procedure timetable

P379 Assessment Timetable	
Event	Date
Panel submits P379 to Assessment Procedure	10 January 2019
Workgroup Meeting 1 – Scope and Use cases	27 February 2019
Workgroup Meeting 2- Issue and Scope	3 April 2019
Workgroup Meeting 3 – Exempt Supply arrangements	18 April 2019
Workgroup Meeting 4 – Balance Responsibility	21 May 2019
Panel considers Workgroup's Interim Assessment Report and approves six month extension	13 June 2019
Workgroup Meeting 5 - Balance Responsibility and Party Agent Role	27 June 2019
Workgroup Meeting 6 - Party Agent Role	23 July 2019
Workgroup Meeting 7 - Party Agent Role and Metering	24 July 2019
Workgroup Meeting 8 – Process Models, FAQ Report and Performance Assurance	13 August 2019
Workgroup Meeting 9 – Mop up session - Use cases and BR's	24 September 2019
Workgroup Meeting 10 – Detailed Business Requirements	3 December 2019
Workgroup Meeting 11 – Review Business Requirements	8 January 2020
Workgroup Meeting 12 –Review updated BRs ELEXON to provide feedback on Key actions/areas	3 February 2020

Workgroup membership and attendance

P379 Workgroup Attendance			
Name	Organisation	Number of Workgroups attended (out of 12)	Attendance %
Members (current)			
Lawrence Jones	ELEXON *(Chair)*	11	91.0
Fungai Madzivadondo	ELEXON *(Lead Analyst)*	12	100.0
Eamonn Bell	GridBeyond *(New Proposer)*	6	50.0
Dan Starman	Pixie Energy	10	83.0
Terry Carr	E.ON Energy	9	75.0
Lee Stone	E.ON Energy	10	83.0
Philip Pearson	Energy Pool	1	8.0
Ian Hall	IMSERV	10	83.0
Richard Vernon	Npower	1	8.0
Paul Bedford	Opus Energy	9	75.0
Oliver Xing	Orsted	1	8.0
Bill Reed	RWE Supply & Trading GmbH	8	66.0
Dermot Hearty	Salient Systems Ltd	11	91.0
Colin Prestwich	Smartest Energy	11	91.0
Andy Colley	SSE	12	100.0
James Murphy	Stark	4	33.0
Rick Parfett	The ADE	10	83.0
Aaron Dickinson	Utiligroup	3	25.0
Phil Russell	Consultant	11	91.0
Reg Platt	EMRGNT	5	41.0
Harriet Harmon	National Grid ESO	2	16.0
Colin Frier	Siemens	10	83.0
Tom Chevalier	The Association of Meter Operators	5	41.0
Robert Langdon	SMS plc	2	16.0
Ken McRae	Pixie Energy	1	8.0
Andy Knowles	Utilita	5	41.0
Donna Townsend	ESP Electricity Ltd	1	8.0
Tabish Khan	Centrica	10	83.0
Chris Welby	Bristol Energy	0	0.0
Nik Wills	Stark	7	58.0
Emslie Law	SSE	7	58.0
Elizabeth Allkins	Ovo Energy	6	50.0
Lindsay Biginton	Utilita	8	66.0

Alternates			
Paul Fuller	ESB Energy	1	8.0
Paul Akrill	IMSERV	3	25.0
Karl Maryon	Haven Power	2	16.0
Richard Dakin	E.ON Energy	1	8.0
Joanna Manship	RWE Supply & Trading GmbH	1	8.0
Tony Mason	Siemens	2	16.0
James Griffiths	The ADE	1	8.0
James Murray	Verv	1	8.0
Attendees (current and past)			
Nigel Cornwall	New Anglia Energy *(Original Proposer)*	9	75.0
Binoy Dharsi	EDF Energy	8	66.0
Tereza Borges	n3rgy ltd	11	91.0
Kevin Lewis	Serve UK	8	66.0
Lee Francis	SMS plc	10	83.0
Andrew Turner	Engie	11	91.0
Guy Shalev	BUUK Infrastructure	6	50.0
Rajvant NIJJHAR	BankEnergi & Innovate Uk	6	50.0
Natasha Knight	Matrica	9	75.0
Prudence Mauthoor	Matrica	3	25.0
Paul Farmer	First Utility	10	83.0
William Goldsmith	EV Energy	4	33.0
Thomas Clarke	Verv Energy	5	41.0
Ian Byrne	BankEnergi & Innovate Uk	8	66.0
Mark Earthey	Maitland Energy Consulting Ltd	6	50.0
Lynne Hargrave	Calvin Capital Ltd	5	41.0
Vijay Natarajan	Qbots Energy Ltd	4	33.0
James Strickland	Verv Energy	4	33.0
Pam Liu	Intellicharge Limited	2	16.0
Lizzy Roberts	Ovo energy	2	16.0
Tony Collings	Ecotricity	5	41.0
David Wickersham	Repowering	2	16.0
Megan Coventry	SSE	3	25.0
George Bartley	BankEnergi & Innovate Uk	3	25.0
Chris Trigg	OnGen Ltd	2	16.0
Abhishek Jain	Reactive Technologies	1	8.0
Daire Kelly	Smart DCC	1	8.0
Stuart Leaver	Pixie Energy	1	8.0
Patrick Doyle	BYES/ BankEnergi	1	8.0
Stacey Buck	BUUK Infrastructure	1	8.0
Phillip Twiddy	Gemserv	2	16.0

Marcelo Torres	Drax	1	8.0
Calvin Dillion-Burns	BYES/ BankEnergi	1	8.0
Simon Proctor	Bristol Energy	0	0.0
Kevin Mcdonald	EDF Energy	0	0.0
Nick Woolley	EV.Energy	0	0.0
Tom Abson	Kiwi Power	0	0.0
Matt Howard	Siemens	0	0.0
Kristina Leary	SMS plc	0	0.0
Caroline Pitt	Squeaky Energy	0	0.0
Will Vooght	Tonik Energy	0	0.0
Steve Springett	Tonik Energy	0	0.0
Anthony Waite	Upside Energy Ltd	0	0.0
Felix Wight	Repowering London	0	0.0
Elena Dragomir	Matrica	0	0.0
Peter Capener	Bath and West Community Energy	0	0.0
Simon Lord	Engie	0	0.0
Phil Broom	Engie	0	0.0
Julius Baghdadi	Pulmo	0	0.0
Helen Stack	Centrica	0	0.0
Peter Dennis	Ecotricity	0	0.0
Rachael Anderson	Utilita	0	0.0
Helen Knowles	SmartestEnergy	0	0.0
Alex Travell	BUUK	1	8.0
Alan Chambers	Ecotricity	0	0.0
Ashley Tate	Splitthebills	1	8.0
Abhay Soorya	Gemserv	1	8.0
Ross Haigh	Low Carbon Contracts Company	1	8.0
Chris Dalrymple	Splitthebills	1	8.0
Sabina Chaudhary	ENGIE	2	16.0
Peter Morgan	BEIS	0	0.0
John Welch	National Grid	0	0.0
Melanie Ellis	Limejump	0	0.0
ELEXON and Ofgem			
Elliott Harper	ELEXON (Chair)	1	8.0
Peter Frampton	ELEXON (Design Authority)	12	100.0
John Lucas	ELEXON (Design Authority)	8	66.0
Iain Nicoll	ELEXON (Metering)	1	8.0
Shamaila Jawaid	ELEXON (Lead Business Analyst)	10	83.0
Aditi Tulpule	ELEXON (Lead Lawyer)	10	83.0
George Daniel	Ofgem	8	66.0
Kevin Baillie	Ofgem	10	83.0
Neil Barnes	Ofgem	1	8.0

Beth Hannah	Ofgem	1	8.0

Appendix 2: Glossary & References

Acronyms

Acronyms used in this document are listed in the table below.

Acronyms	
Acronym	Definition
AMSID	Asset Metering System IDs
BEIS	Department for Business, Energy & Industrial Strategy
BMRS	Balancing Mechanism Reporting Service
BMU	Balancing Mechanism Unit
BRP	balance responsible party'
BSC	Balancing and Settlement Code
CAN	Contract Notification Agent
COA	Change of Agent'
COS	Change of Supplier
CSD	Code Subsidiary Documents
CSS	Central Switching Service
CUSC	Connection and Use of System Code
CVA	Central Volume Allocation
DCC	Data Communications Company
DCUSA	Distribution Connection Use of System Agreement
DNO	Distribution Network Operator
DTC	Data Transfer Catalogue
EBGL	European Balancing Guidelines
ECVNA	Energy Contract Volume Notification Agent
ECO	Energy Companies Obligation
EV	Electric Vehicle
FAQ	Frequently Asked Questions
FPN	Final Physical Notification
GB	Great Britain
GSOP	Guaranteed Standards of Performance
GSP	Grid Supply Point
HHDC	Half Hourly Data Collectors
IA	Impact Assessment
IHD	In Home Display Unit
MPAS	Meter Point Administration Service
MRA	Master Registration Agreement
MSID	Metering System IDs

Acronyms	
Acronym	Definition
MWHHS	Market Wide HH Settlement
PARMS	Performance Assurance Reporting and Monitoring System
PPM	Pre-Payment Meter
PSR	Priority Services Register
REC	Retail Energy Code
SAA	Settlement Administration Agent
SCR	Significant Code Review
SEC	Smart Energy Code
SF	Final Settlement Run
SMRS	Supplier Meter Registration Service
SSRA	Secondary Supply Registration Agent
SVA	Supplier Volume Allocation
SVAA	Supplier Volume Allocation Agent
TERRE	Trans European Replacement Reserve Exchange
TPLS	Third Party Licenced Supplier
UTC	Coordinated Universal Time
VLP	Virtual Lead Parties
WD	Working Day
WHD	Warm Homes Discount

External links

A summary of all hyperlinks used in this document are listed in the table below.

All external documents and URL links listed are correct as of the date of this document.

External Links		
Page(s)	Description	URL
7	Market-Wide Half-Hourly Settlement Webpage on the Ofgem Website	https://www.ofgem.gov.uk/publications-and-updates/market-wide-half-hourly-settlement-hhs-strategic-outline-case
8	BSCP550 Webpage on the ELEXON Website	https://www.elexon.co.uk/csd/bscp550-shared-sva-meter-arrangement-of-half-hourly-import-and-export-active-energy/
9	P375 Webpage on the ELEXON Website	https://www.elexon.co.uk/mod-proposal/p375/

External Links		
Page(s)	Description	URL
10	Ofgem's Faster Switching programme Webpage on the Ofgem Website	https://www.ofgem.gov.uk/gas/retail-market/market-review-and-reform/smarter-markets-programme/switching-programme
11	P344 Webpage on the ELEXON Webpage	https://www.elexon.co.uk/mod-proposal/p344/
11	P375 Webpage on the ELEXON Website	https://www.elexon.co.uk/mod-proposal/p375/
18	Code of Practice (CoP) Webpage on the ELEXON Website	https://www.elexon.co.uk/bsc-and-codes/bsc-related-documents/codes-of-practice/
18	P375 Webpage on the ELEXON Website	https://www.elexon.co.uk/mod-proposal/p375/
19	P344 Webpage on the ELEXON Website.	https://www.elexon.co.uk/mod-proposal/p344/