P395 Microsoft Teams Meeting

- Welcome to the P395 teleconference – we'll start in a moment
- No video please – conserve bandwidth
- All on mute – use IM if you can't break through
- Talk – pause – talk
- Lots of us are at home – be mindful of background noise and connection speeds

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P395

Aligning BSC Reporting with EMR Regulations - an enduring solution

24 May 2021

Meeting Objectives and Agenda

- Consider updates to the actions from the previous Workgroup meeting;
- Consider key insights from modelling exercise;
- Cover off remaining areas of the P395 solution.

Agenda Item	Lead
Welcome and meeting objectives	Claire Kerr (Chair)
Summary of 3rd Workgroup Meeting	Ivar Macsween (Lead Analyst)
Action Updates	Colin Berry, Nick Rubin, John Lucas (Elexon)
Updates to P395 Business Requirements	Colin Berry, Nick Rubin
P395 Terms of Reference and Next Steps	Ivar Macsween

SUMMARY OF 3RD WORKGROUP MEETING

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P395 3rd Workgroup Summary

- EMRS conducted a risk based review of the solution proposed for P395 in comparison with the current interim workaround supplied by EMRS and presented this to the group.

- The group considered whether a report from BSCCo to LCCC to give them the necessary information was suitable to include within the P395 solution - a quarterly report from BSCCo to EMRS containing each Licensed Generation entity which should not be subject to FCL.

- The Workgroup did not agree that the scope of P395 should include the Exempt BM Units and this element will therefore not be accounted for within P395, recognising that an additional Modification may need to progressed to implement this aspect.

P395 3rd Workgroup Summary

- It was agreed that the solution should cover CVA connected Generation operated by Generation Licensees as well as SVA-connected Generation.

- Several examples of the types of storage business models were presented - a basis by which to evaluate the most effective way to apportion flows coming to and from storage for the purposes of charging.

  - Example 1 - storage co-located with behind-the-meter solar and demand (including general consumption and/or EV charging).

  - Example 2 - storage co-located with final demand.

- These were felt to be the most useful to take forward for analysis as they accounted for a large majority of existing real world business models.

P395 Remaining areas for agreement

- ‘Standard Site’ formula or a Site-Specific formula that incorporates merit order approach to calculate Chargeable and Non Chargeable Import?
  - Tabled for consideration at this meeting.

- Incorporation of quarterly metered volumes report to EMRS or LCCC into P395.
  - Not been possible to fully impact assess P395 yet but initial conversations suggest this report likely to be a small percentage of the total cost.
  - Tabled for consideration at this meeting.

- Workgroup views, costs, impacts and target implementation date for P395.
  - To be developed once solution is finalised for consultation and impact assessments issued. Also gathered/revisited following industry consultation.
  - The Panel has granted an extension to the P395 timetable.
  - May be possible to gather early initial views at this meeting if the P395 requirements are finalised + questions to include within the Assessment Procedure Consultation

P395 ACTIONS UPDATE

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P395 Actions Update 1 – Merit Order Approach

- WG2 action on Workgroup members to source some examples of the types of storage business models to simulate and then Elexon and/or Workgroup members to try and use that to synthesize some data.

- Examples of storage co-located with behind-the-meter solar and demand (including general consumption and/or EV charging) and storage co-located with final demand felt to be the most useful to take forward for analysis - they account for a large majority of existing real world business models.

- Unlikely to be a perfect answer - many iterations that could be used and business models are changing all the time

- A Workgroup member took an action to send sample data for two business models for consideration at the next meeting.

P395 – Aligning BSC Reporting with EMR Regulations

Modelling of different approaches to establishing power flows within each Settlement Period

May 2021

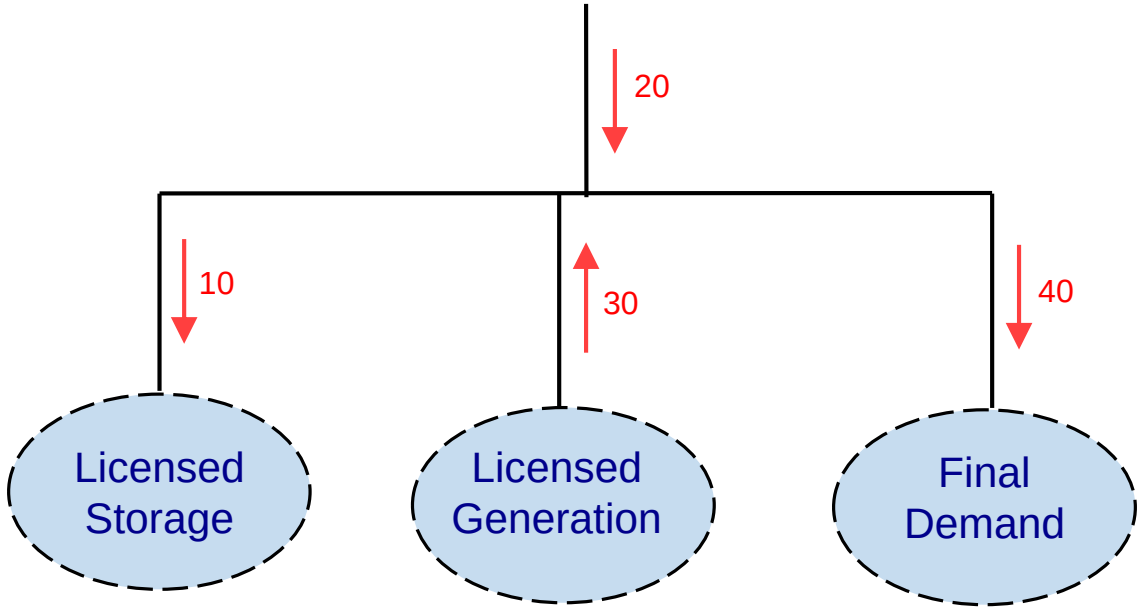
RECAP – WHAT PROBLEM ARE WE TRYING TO SOLVE?

What problem are we trying to solve?

P395 proposes to use Asset Metering (behind the Boundary Point) to measure separately power flows to and from three types of user:

- Licensed Generation
- Licensed Storage
- Other activities (i.e. final demand and exempt generation)

Metering can tell you the physical power flows, but that in itself doesn't tell you how much of the energy Imported at the site boundary (20 kWh in the example) was 'supply' and how much 'licensed activity'



Note: in this example I've assumed that on-site losses have been appropriately allocated, so that net on-site usage matches net Import.

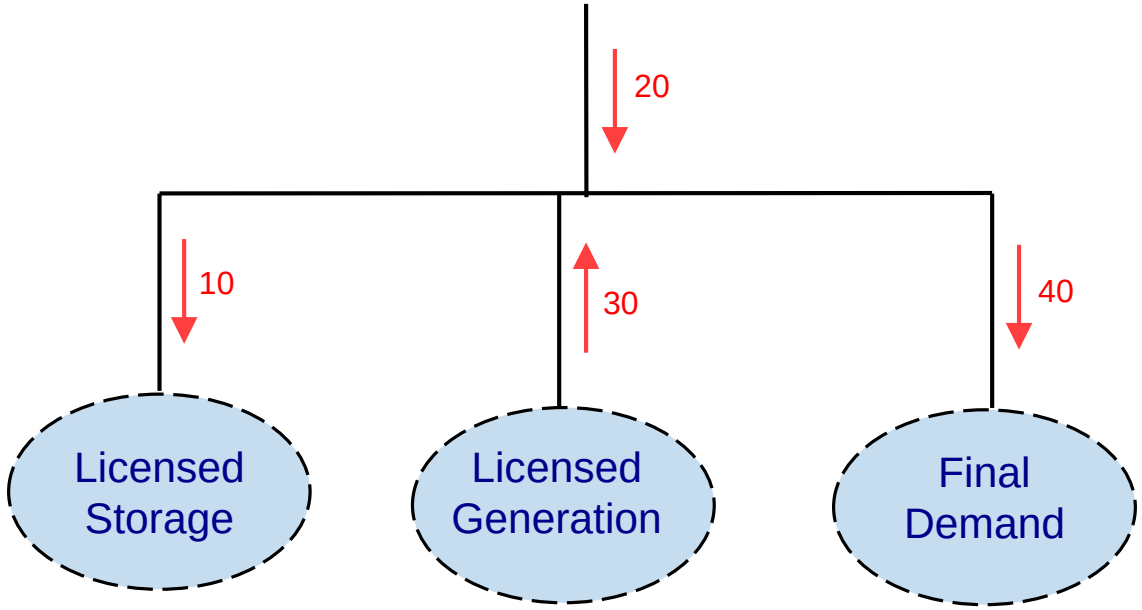
In practice, any unmetered 'losses' or 'errors' would be treated as supply (in the absence of evidence to the contrary).

Splitting Boundary Point Imports into supply and non-supply

P395 proposes that this problem can be split into two steps:

Step 1 – establish power flows within the site (for each individual Settlement Period). The modelling compares two approaches to this:

- The approach originally proposed by Modification P395 (with a couple of minor tweaks); and
- The 'merit order' approach



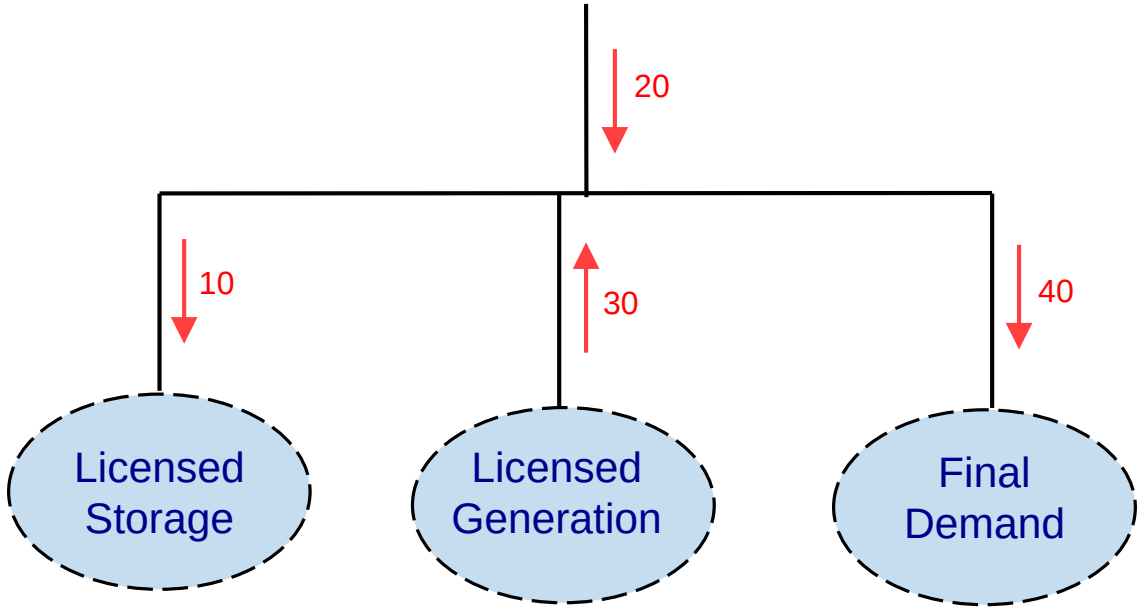
Step 2 – categorise the Boundary Point Imports as chargeable or non-chargeable:

- Imports to licensed generation are not chargeable
- Imports to final demand (or licence exempt generation or storage) are chargeable
- Imports to licensed storage are partially chargeable. But what reference period should we use for determining this?

Understanding power flows within a given half hour

A solution to this problem should establish where each type of user should be treated as having received their Imports from:

- How much of the 10 kWh did the Storage take from the Distribution System, and how much from the Licensed Generation?
- How much of the 40 kWh did the Final Demand take from the Distribution System, and how much from the Licensed Generation?



The contracts between the parties **might** indicate the right way to do this (e.g. if the final demand had separate contracts with the Boundary Point Supplier and Licensed Generator, and an agreed approach for working out purchase volumes under each contract). But:

- The contracts won't necessarily be structured in a way that sheds light on this point;
- Even if they are, Settlement processes won't necessarily know what the contracts say.

For this reason, P395 proposes a 'rule of thumb' approach for solving this problem

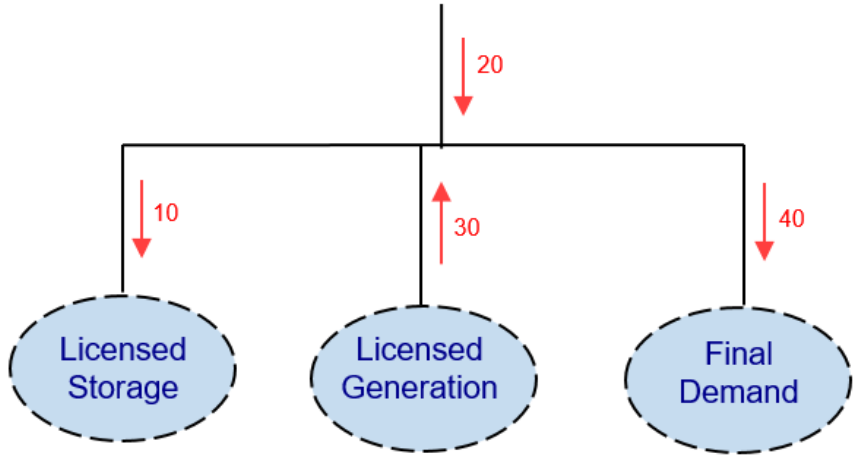
Two different approaches to solving the problem

The P395 Modification Proposal form proposed an approach (called the "**original proposal**" for purposes of this slide pack) based upon:

- Step 1A – calculating net power flow for each type of user
- Step 1B – apportioning Boundary Point Imports pro rata between net Importers (and similarly fo Exports)
- Step 1C – comparing the difference between 1A and 1B to establish the net power flow to/from each type of user from other on-site users

A Workgroup Member has suggested a different approach (the "**merit order approach**") :

- Licensed Generation output is allocated first to storage demand, then to other onsite demand, then to Boundary Point export
- Licensed Storage output is allocated first to Boundary Point export, then to Licensed Generation demand, then to other onsite demand



In the above example:

- The original approach apportions site Imports 20/80 between Storage and Final Demand
- The merit order approach allocates site Imports 100% to Final Demand

Modelling the two approaches

The Workgroup requested modelling of the two approaches to better understand the differences.

We[1] modelled four data sets provided by Nick Heyward (Statkraft), each covering one month (January 2021):

1. Licensed Storage + final demand (acting independently)
2. Licensed Storage + Licensed solar generation + final demand (acting independently)
3. Licensed Storage + Licensed solar generation + final demand (storage capturing excess solar)
4. Licensed Storage + Licensed solar generation + final demand (storage minimising import costs)

[1] Modelling was carried out by Nick Heyward (Statkraft) and John Lucas (Elexon)

CLARIFYING THE ORIGINAL APPROACH

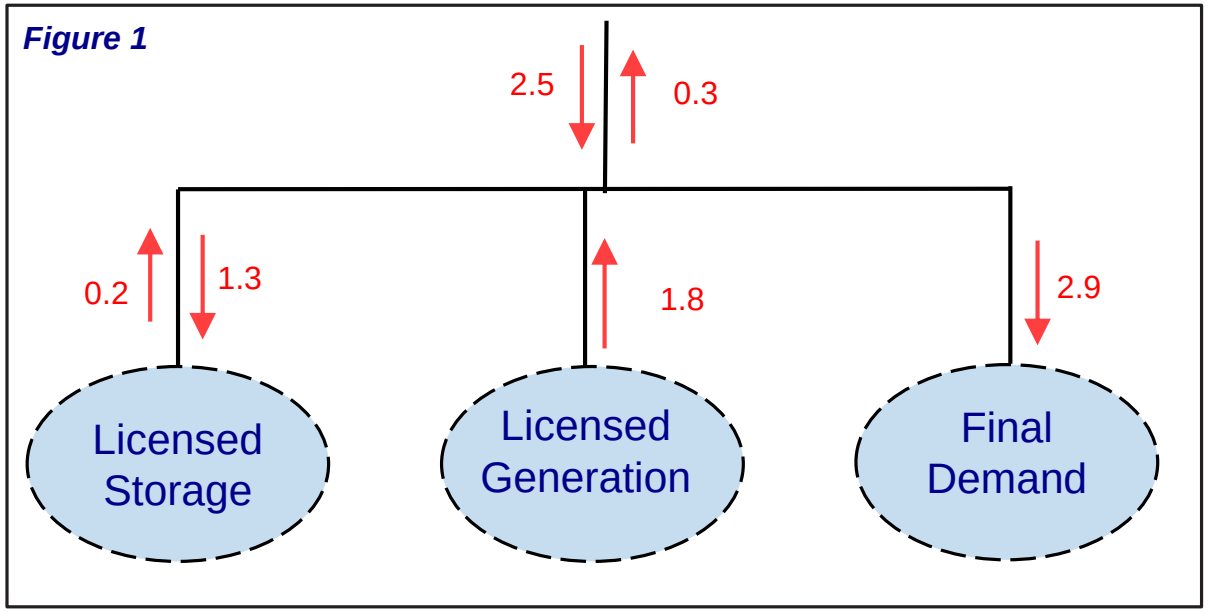
An issue with the approach proposed on the P395 Modification form?

Modelling the four data sets revealed a difficulty with the original approach. Figure 1 is the example from the P395 proposal form:

- 0.3 MWh Boundary Point Export is deemed to have come from Licensed Generation (the only net Exporter)
- 2.5 MWh Boundary Point Import is allocated 0.6875 to Licensed Storage and 1.8125 to Final Demand

In this example the result appears consistent with the physical power flows (as metered)

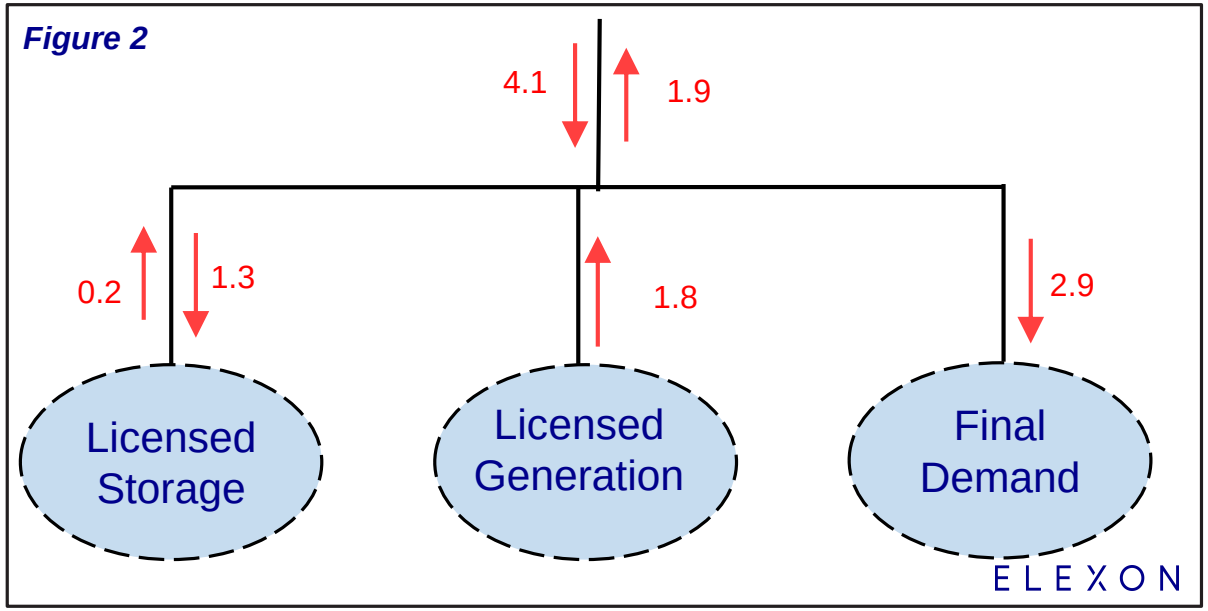
Figure 1



But now suppose the Import and Export at the Boundary Point are increased (Figure 2):

- Now the Licensed Generation will be deemed responsible for 1.9 MWh of Boundary Point Exports (which is more than it generated)
- The methodology will 'solve' this by creating a flow from elsewhere on the site to the Licensed Generation – but we know that didn't happen, because the Licensed Generation has no metered Import

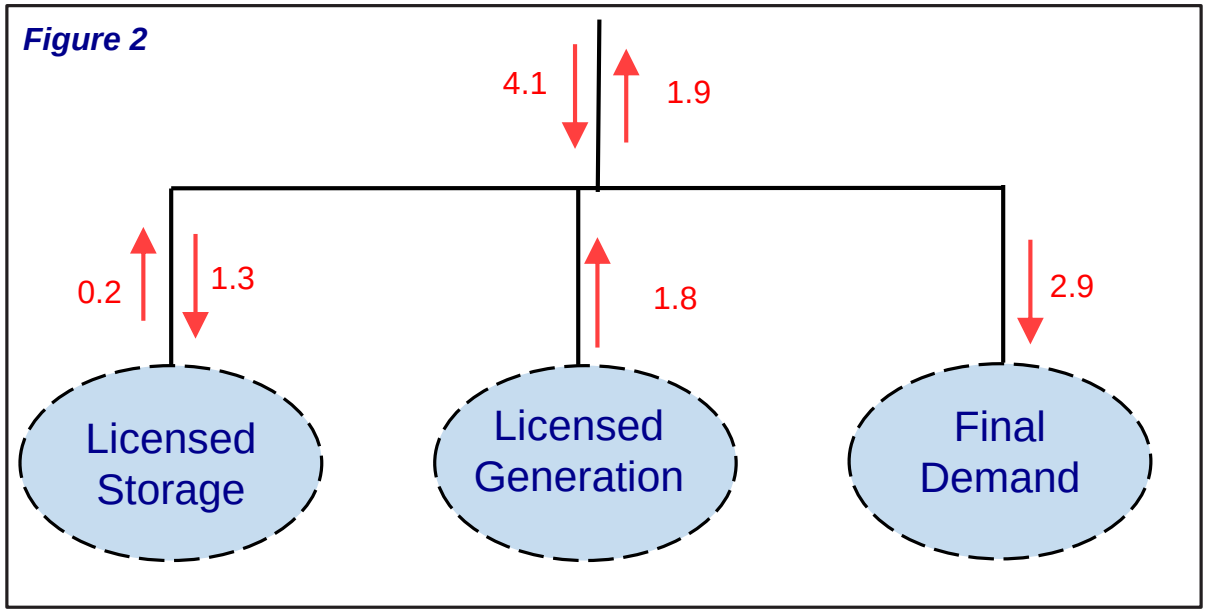
Figure 2



This can be fixed by apportioning gross BP flows in proportion to gross flows (not net)

This problem can be solved by amending Step 1B of the methodology to use gross flows:

Step 1B *– allocate the gross Imports (or Exports) at the Boundary Point between different classes of on-site user, in proportion to their gross ~~net~~ Imports (or Export). Note that the reason for allocating the gross power flows at the Boundary Point (rather than the net power flows) is that EMR levies are based on gross Imports*



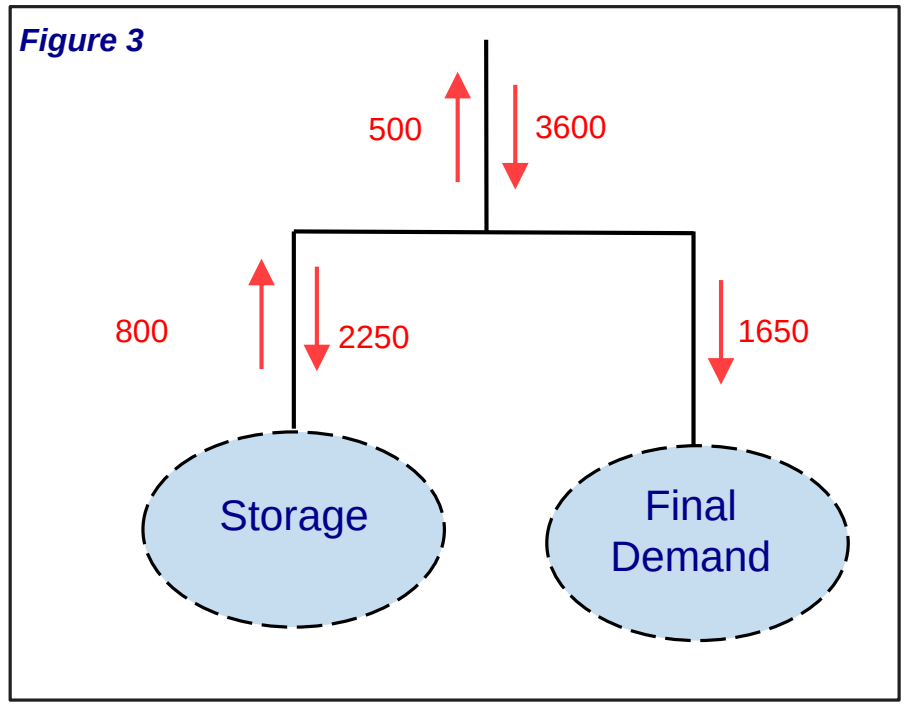
The example in Figure 2 is now calculated as follows:

- The 1.9 MWh Export at the Boundary is deemed to have come 1.71 from Licensed Generation and 0.19 from Licensed Storage
- The 4.1 MWh Import at the Boundary is deemed to have gone 1.269 to Licensed Storage and 2.831 to Final Demand
- The allocation of Boundary Point flows leaves the Storage and Final Demand short 0.021 and 0.069 respectively (which comes from the Licensed Generation)

Another simple example

Figure 3 is another simple example that doesn't work if Boundary Point volumes are split in proportion to net volumes:

- 3600 kWh Import at the Boundary Point is split 1652.459 kWh to Storage, and 1947.541 kWh to Final Demand (allocating the Final Demand more Import than it actually used)
- 500 kWh Export at the Boundary Point cannot be allocated, as there no net Exporters on site



But it works if Boundary Point volumes are split in proportion to gross volumes:

- 3600 kWh Import at the Boundary Point is split 2076.923 kWh to Storage, and 1523.077 kWh to Final Demand
- 500 kWh Export at the Boundary Point is allocated to Storage
- Step 1C gets the net volumes for each user right by creating a flow of 126.923 kWh from Storage to Final Demand

Our modelling was therefore based on this revised approach. But it is still not perfect: in this example it effectively treats 173.077 kWh of storage output as having been used by the storage itself. This is not consistent with the metering (assuming a single Storage Facility as illustrated), and is a disadvantage of this method.

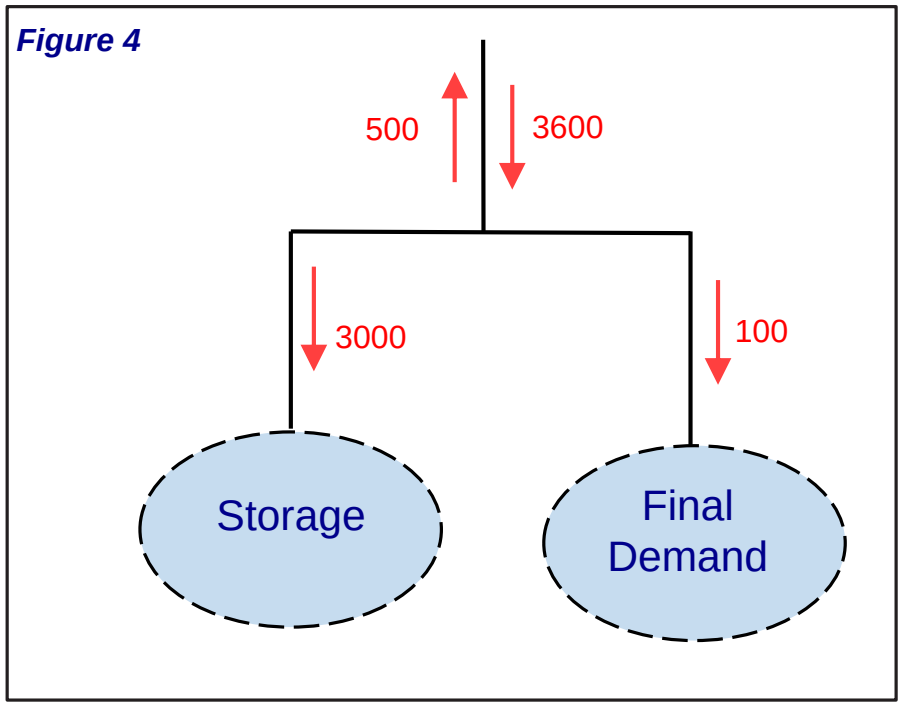
One remaining edge case

Because not everything is metered, you can have Export at the Boundary Point but not metered on-site Export (figure 4)

The net 100 kWh of Import to the final demand was worked out by differencing. In reality there must have been exempt generation as well, but this wasn't metered

Where there is Export at the Boundary Point but no Export recorded on site, we allocated the Boundary Point Export to the 'final demand' category

Figure 4



CLARIFYING THE MERIT ORDER APPROACH

Merit Order Approach

Nick put together a spreadsheet which implements the merit order approach as follows:

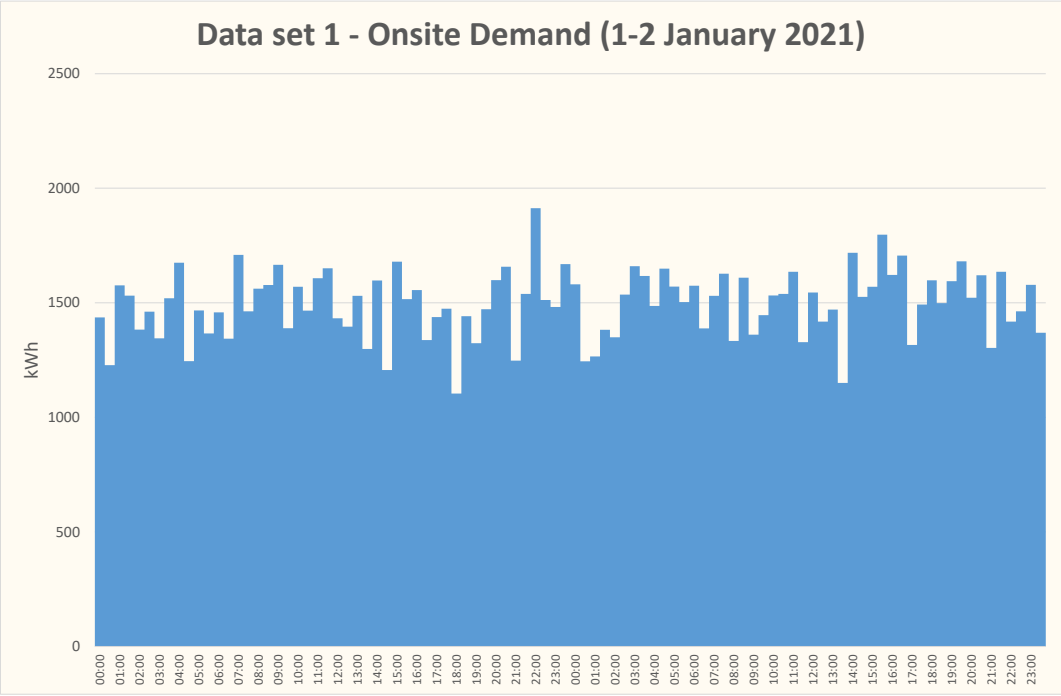
1. Calculate the net difference between Boundary Point flows and metered asset flows – this unallocated energy represents unmetered on-site demand or or losses (columns I and J)
2. Work out the ‘surplus generation’ (column M) i.e. any Export from Licensed Generation and/or Licensed Storage over and above that Exported to the Grid.
3. Allocate Licensed Generation Export to storage demand (column N), then metered final demand (column P), then unmetered final demand (column R); but not allocating more than the total surplus generation
4. Allocate any remaining Licensed Generation Export to the Boundary Point (column S)
5. Allocate any Licensed Storage Export to Boundary Point Export (column U), then Licensed Generation demand (column V), then metered final demand (column W), then unmetered final demand (column X)
6. Licensed Storage Imports not yet accounted for are deemed to have come first from Boundary Point Imports (column Z), and then unmetered final demand (column AA)
7. Licensed Generation Imports not yet accounted for are deemed to have come first from remaining Boundary Point Imports (column AB), and then unmetered final demand (column AC)

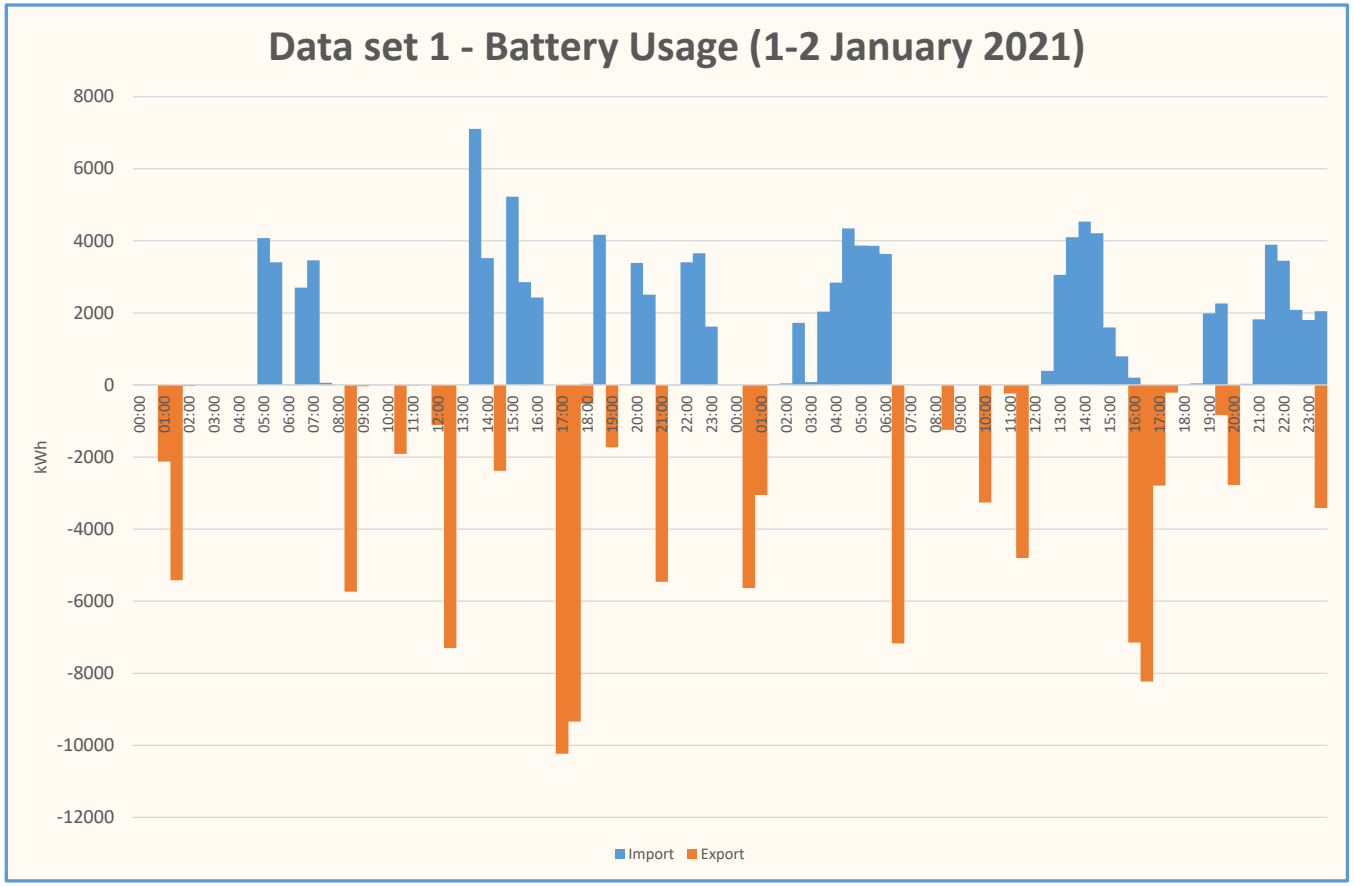
RESULTS FOR DATA SET 1

Data set 1 – licensed storage + final demand (acting independently)

This is real data for a site with Licensed Storage and on-site final demand (covering 1-27 January 2021).

The onsite demand appears independent of the battery, and is not large enough to prevent it from exporting to the grid.





The graphs illustrate the first two days of data

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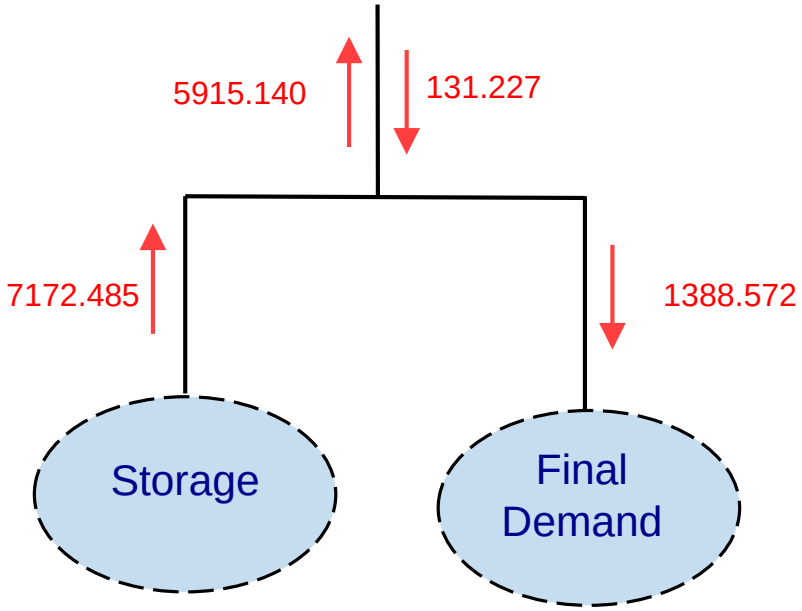
How do the methodologies differ when the battery is discharging only?

In 16.6% of Settlement Periods, the battery was discharging only. For example 06:30 on 2 January 2021:



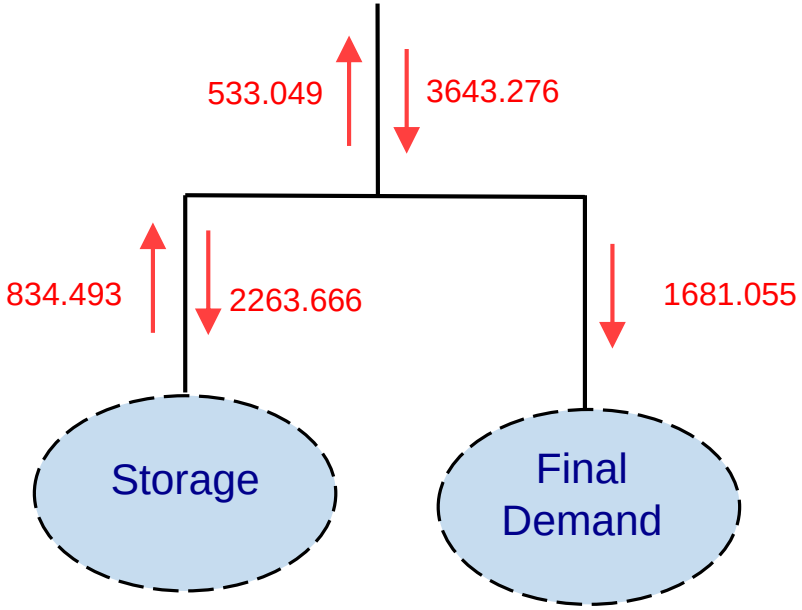
Battery Behaviour	No. of Settlement Periods
Charging only	648
Discharging only	214
Charging & discharging	179
Neither	250

For the purposes of this table, charging or discharging means more than a 1 kW de minimis level

In this case, it doesn't matter which methodology you use, as the only possible interpretation is that the storage provided 5915.140 kWh to the grid, and 1257.345 kWh to the on-site demand.

What happens when the battery is charging & discharging?

In 13.9% of Settlement Periods, the battery was both charging and discharging. For example 19:30 on 2 January 2021:



In this simple case the metering of physical power flows does tell us everything we need to know:

- The storage must have taken 2263.666 kWh from the Distribution System, and provided 533.049 kWh to the Distribution System
- The Final Demand must have taken 301.444 kWh from the storage, and 1379.611 kWh from the Distribution System

The merit order approach works this out correctly, but the original approach does not:

- Boundary Point Imports are apportioned 2090.682 to Storage, 1552.593 to Final Demand
- This implies the Final Demand received 128.462 kWh from the Storage
- That leaves 172.982 kWh of Storage output that didn't go to the Final Demand or the grid

Where did the ‘missing’ storage output go?

- The ‘original approach’ can allocate Exports from a given usage type (e.g. Storage) to itself
- In this example, the modelling has in effect treated 172.982 kWh of Storage output as going back into the Storage
- Conceivably there could be site configurations where it’s possible for metered output from one storage unit to charge another – but in this case (with one Storage Facility and one Final Demand) it’s not physically possible

This table shows where each approach allocates the 1288 MWh of storage output over the month:

Where did the storage output go?	Original Approach	Merit Order Approach
Exported to Grid	1,030 MWh	1,030 MWh
Used on-site	237 MWh	258 MWh
Back into storage	21 MWh	-

In conclusion:

1. In this simple example – with a Storage Facility and Final Demand – the metering does provide all the information needed to work out how much of the Boundary Point Import is chargeable
2. The merit order approach calculates it correctly, but the original approach does not (in those Settlement Periods where the battery is both charging and discharging)

Summary of modelling results – data set 1

- The following table shows where Boundary Point Imports (over the month) were allocated by each methodology:

	Original Approach	Merit Order Approach
Licensed Storage (partially chargeable)	1,472 MWh	1,493 MWh
Licensed Generation (non-chargeable)	-	-
Final Demand (chargeable)	1,702 MWh	1,680 MWh

- And this table shows where the output from Storage went (according to each methodology):

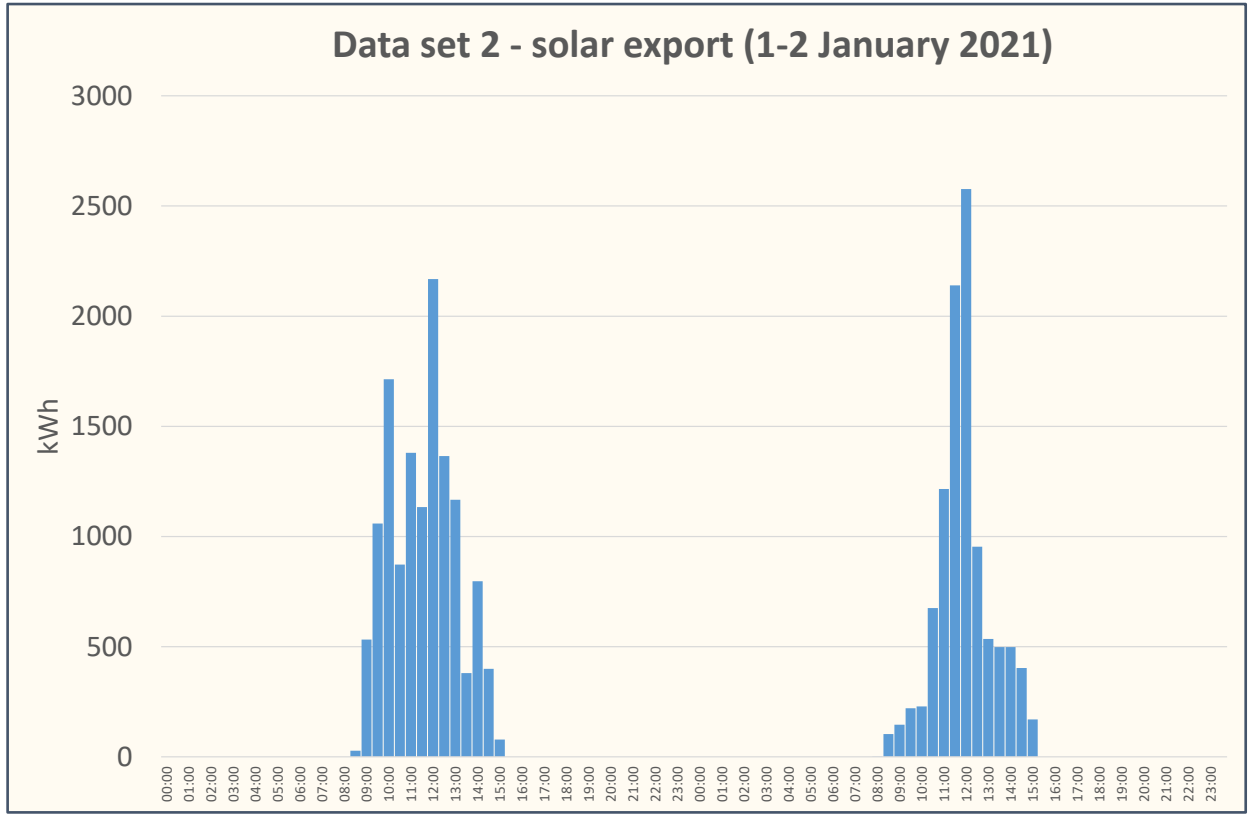
Where did Storage output go?	Original Approach	Merit Order Approach
Exported to Grid	1,030 MWh	1,030 MWh
Used by final demand	237 MWh	258 MWh
Used by Licensed Generation	-	-
Re-imported into storage	21 MWh	-

RESULTS FOR DATA SET 2

Data set 2 – licensed storage + licensed solar + unlicensed demand/generation

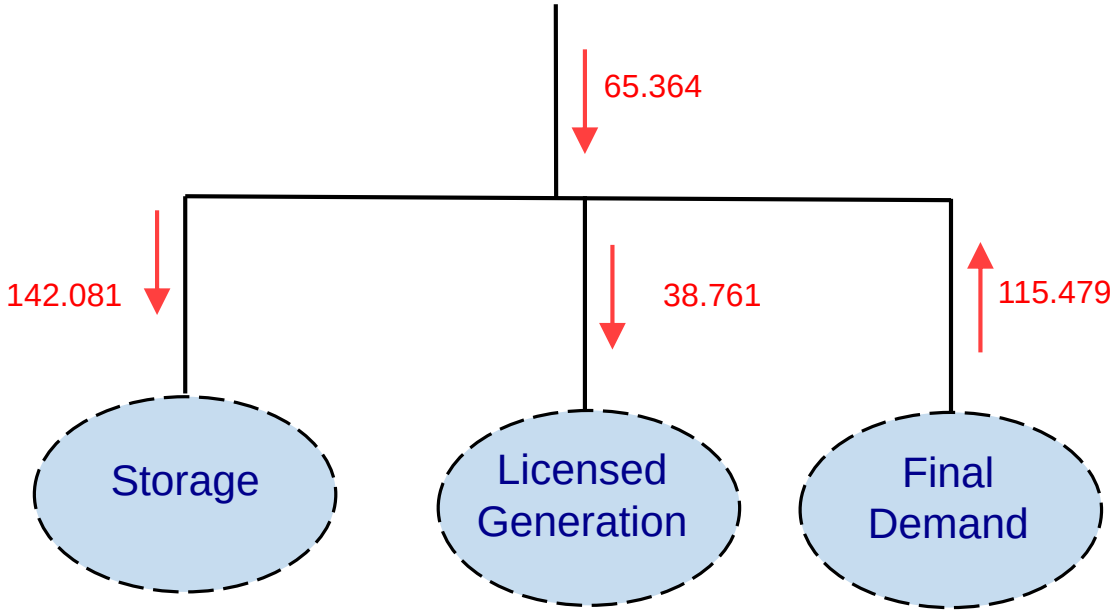
This data set has:

- Licensed Storage
- Licensed Solar
- Other demand/generation (with metered volumes established by differencing)
- The different assets are operating independently of each other



How do the methodologies differ?

Period 1 (00:00) on 1 January 2021 illustrates the different approaches:



The ‘original’ methodology doesn’t differentiate between the three types of usage.

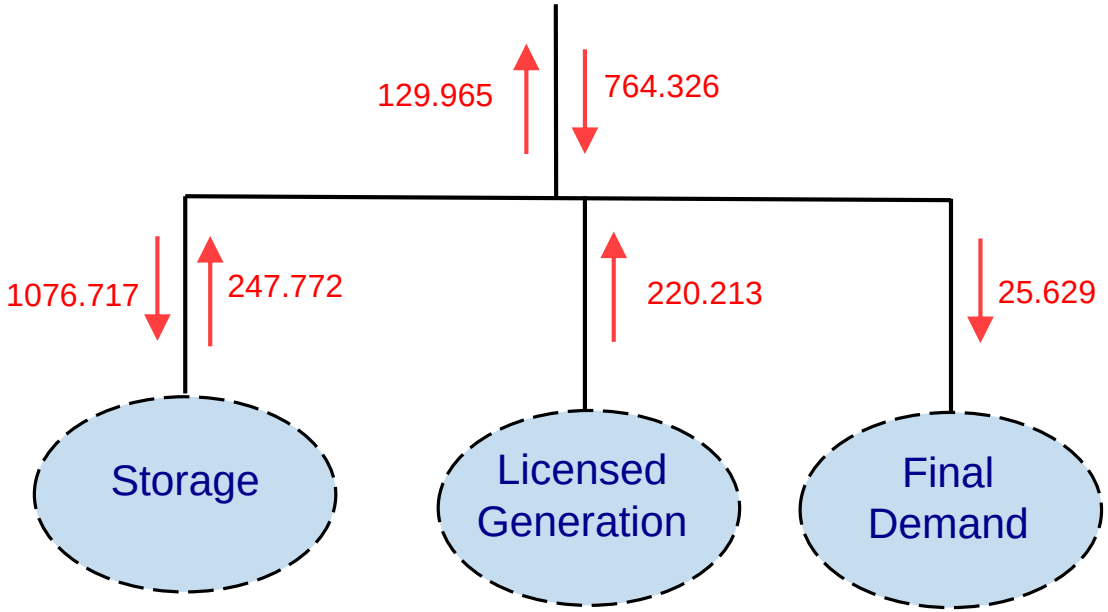
Boundary Point Imports and exports from on-site exempt generation both end up being apportioned pro rata (21.4% to Licensed Generation, 78.6% to Licensed Storage)

The ‘merit order’ methodology assigns Export from exempt generation to Licensed Generation before Licensed Storage

Therefore 100% of the Boundary Point Imports are assigned to Licensed Storage

Another example

Period 20 (09:30) on 2 January 2021. Note that the flow to final demand is a net flow (derived by differencing). In reality there must have been both Import and Export (or else where would the Storage export have gone?)

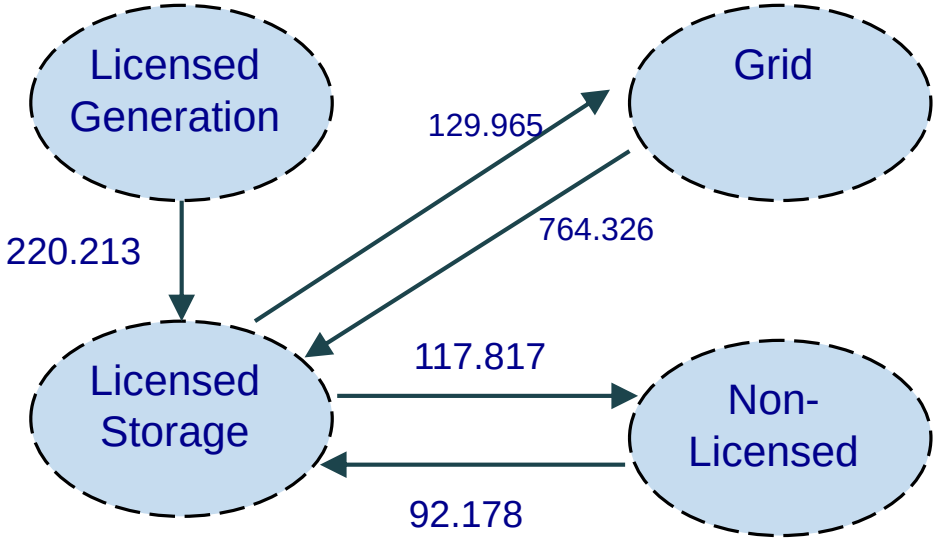


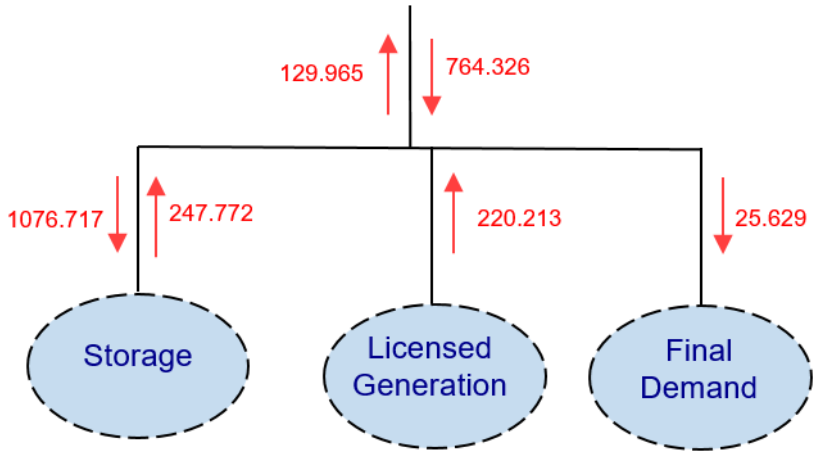
The ‘merit order’ methodology:

- Assigns Licensed Generation output (220.213 kWh) to Storage
- Assigns Storage Export to grid Export first (129.965 kWh)
- The remaining 117.807 kWh of Storage Export has to go to Final Demand
- To balance the flows, 92.178 kWh is deemed to have gone back from Final Demand to Storage

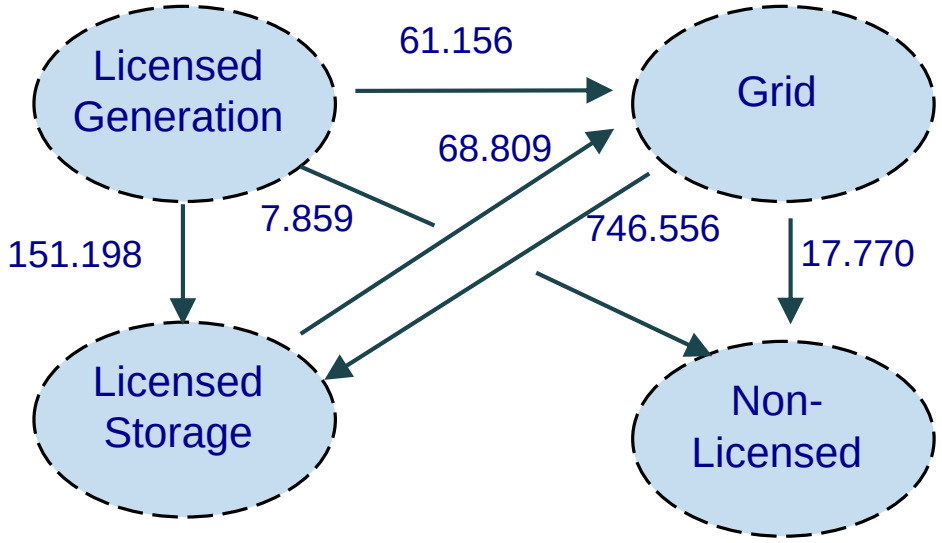
Another example (cont.)

Power flows calculated by the merit order approach can be summarised as follows:





And the original approach:



The two approaches give different answers primarily because the merit order approach allocates the licensed generation output to the storage

Summary of modelling results – data set 2

- The following table shows where Boundary Point Imports (over the month) were allocated by each methodology:

Where did Boundary Point Imports go?	Original Approach	Merit Order Approach
Licensed Storage (partially chargeable)	1327 MWh	1328 MWh
Licensed Generation (non-chargeable)	12 MWh	10 MWh
Final Demand (chargeable)	68 MWh	70 MWh

- And this is where the storage export went:

Where did Storage output go?	Original Approach	Merit Order Approach
Exported to Grid	1269.2 MWh	1,283.6 MWh
Used by final demand	14.3 MWh	20.2 MWh
Used by Licensed Gen	2.2 MWh	1.7 MWh
Re-imported into storage	19.9 MWh	-

RESULTS FOR DATA SET 3

Data set 3 – licensed storage + licensed solar + unlicensed demand/generation

This is a simulated data set, with:

- Licensed Solar (maximum HH Export 2.6 MWh)
- Licensed Storage (maximum HH Import or Export 0.72 MWh), operating to capture excess solar where possible
- Metered final demand (HH Import 1.42 to 1.62 MWh)
- Small volumes of unallocated energy (losses) calculated by differencing

The following table shows where solar output went (according to each Methodology):

Where did solar Export go?	Original Approach	Merit Order Approach
Licensed Storage	97 MWh	97 MWh
Final Demand	1,037 MWh	1,037 MWh
Grid	276 MWh	276 MWh

Surprising that the results are the same, because this is **not** what we found in data set 2.

Summary of modelling results – data set 3

The following table shows where Boundary Point Imports (over the month) were allocated by each methodology:

Where did Boundary Point Imports go?	Original Approach	Merit Order Approach
Licensed Storage (partially chargeable)		
Licensed Generation (non-chargeable)	6.6 MWh	6.6 MWh
Final Demand (chargeable)	1110.5 MWh	1110.5 MWh

- For this data set, the two methodologies give exactly the same results. Probably due to the (simulated) metered data not including a lot of the tricky cases:
  - Licensed Storage and Licensed Generation never Import in the same half hour
  - Licensed Storage never Imports and Exports in the same half hour
  - Boundary Point never Imports and Export in the same half hour

RESULTS FOR DATA SET 4

Data set 4 – licensed storage + licensed solar + unlicensed demand/generation

This is another simulated data set, with:

- Licensed Solar (maximum HH Export 154 kW)
- Licensed Storage (maximum HH Import or Export 720 kWh), operating to minimise Import costs
- Metered final demand (HH Import 1.42 to 1.62 MWh)
- Small volumes of unallocated energy (losses) calculated by differencing

The following table shows where solar output went (according to each Methodology):

Where did solar Export go?	Original Approach	Merit Order Approach
Licensed Storage	-	-
Final Demand	84.6 MWh	84.6 MWh
Grid	-	-

Summary of modelling results – data set 4

- The following table shows where Boundary Point Imports (over the month) were allocated by each methodology:

	Original Approach	Merit Order Approach
Licensed Storage (partially chargeable)	97 MWh	97 MWh
Licensed Generation (non-chargeable)	6 MWh	6 MWh
Final Demand (chargeable)	2,068 MWh	2,068 MWh

- Again the two methodologies give the same results

STEP 1 - CONCLUSIONS

Step 1 – Conclusions and suggested approach

- Allocating Imports and Exports between different types of usage is trickier than I imagined – the devil is in the detail
- Because of this complexity, I would be cautious about the feasibility of a very flexible approach (where the parties specify site-specific rules for allocating power flows). Better to agree one or more approaches, and test them thoroughly.
- In the absence of detailed information about each site, any approach will be somewhat arbitrary:
    - The 'original approach' is based on apportioning Boundary Point flows, while the merit order approach assumes a specific merit order – neither approach will necessarily match the contractual position on a given site
    - The merit order approach avoids flows from storage to storage (which is probably better in many cases)
- Given the complexity, it may be better not to codify algebra in the BSC? We could create a separate methodology document which could be changed without a Modification if needed (like CALF and RR Schedules and P376 Baselining). An "**On-Site Energy Allocation Methodology**" perhaps?
- In practice (based on the data sets used for this modelling) the difference between the methodologies is very small. We could consult on just using the standard merit order approach (rather than the original approach, we creates implausible flows from storage to itself)?

STEP 2 – CHARGEABLE & NON-CHARGEABLE IMPORTS

Chargeable & Non-Chargeable Imports

The proposed treatment of Boundary Point Imports is as follows:

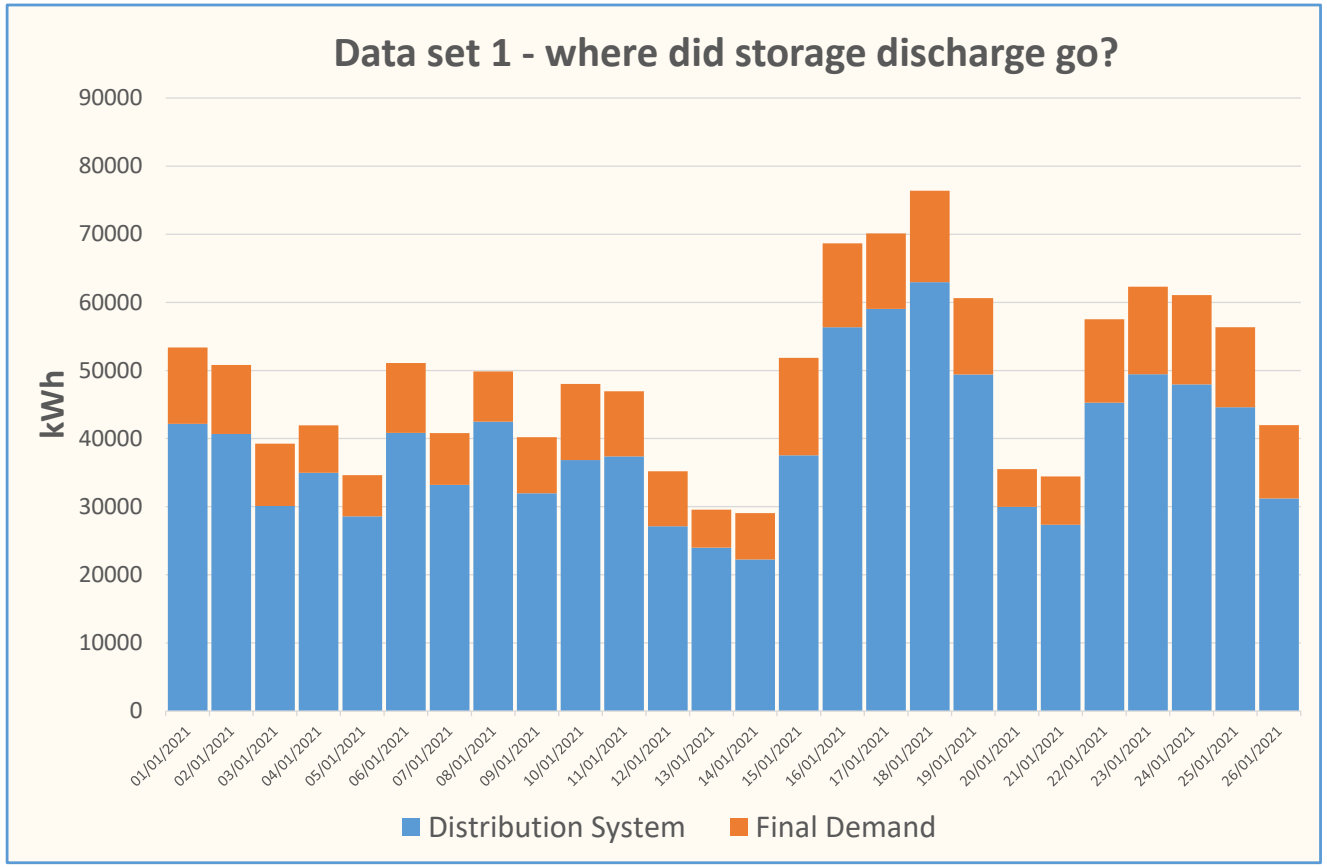
- Those allocated to Licensed Generation are non-chargeable
- Those allocated to final demand or exempt generation are chargeable
- Those allocated to Licensed Storage are partially chargeable, based on how Exports from the Storage were used (over a previous reference period)

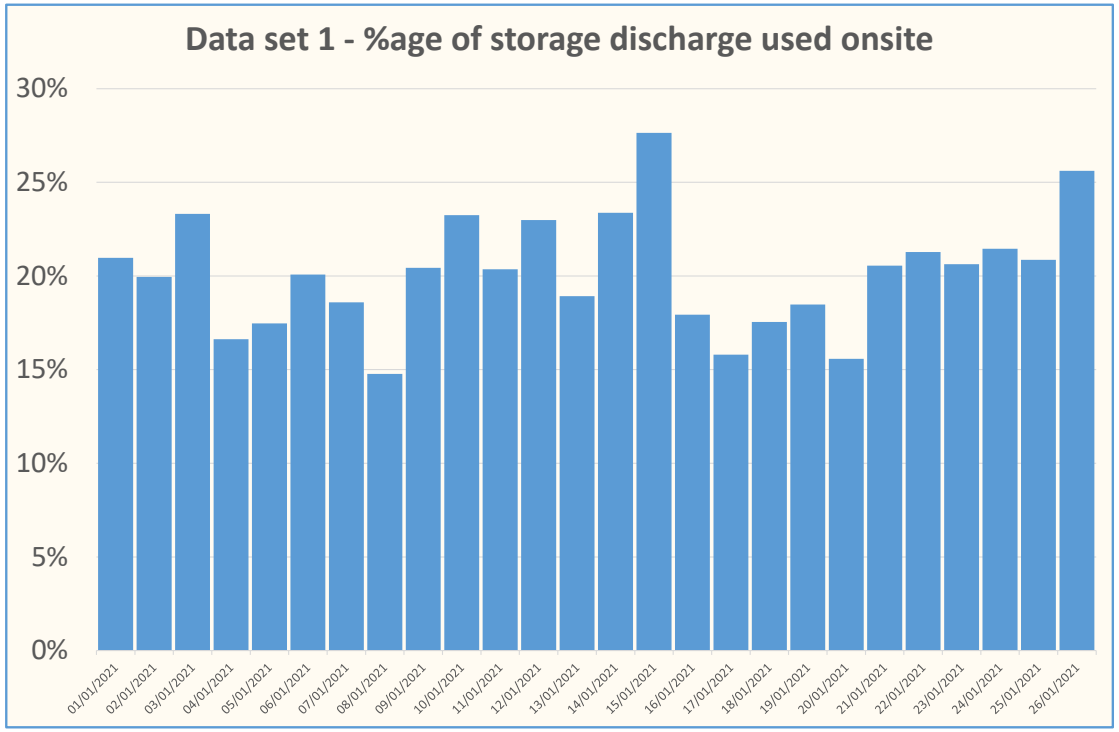
The reference period could be previous day, or previous N days, or previous week

The right choice depends on how variable the destination of Storage Export is (from day to day, week to week, or month to month)

Data set 1 – how does the usage of storage Export vary over time?

These graphs show the daily variation in how much of the storage output was used onsite (calculated using the ‘merit order’approach, which gives the correct answer in this scenario):

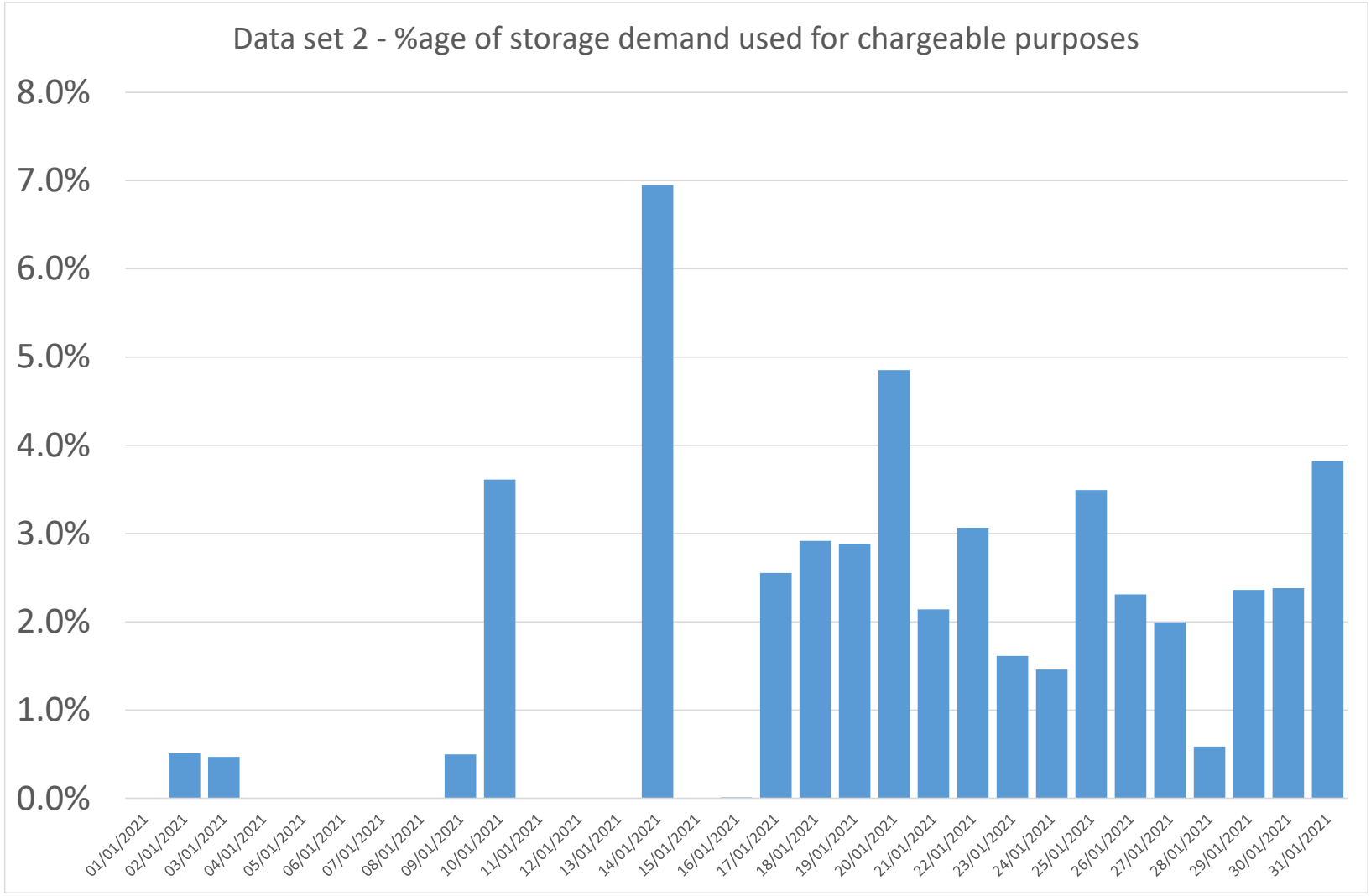




Other data sets – how does usage of storage Export vary over time?

Data set 2 has most of the Storage Export going to the grid (because the Storage is large compared to on-site demand)

Data sets 3 and 4 have 100% of Storage Export used by on-site demand (and hence chargeable)



Step 2 – Conclusions and suggested approach

- I’m not sure the analysis sheds that much light on the best reference period to use when calculating how much of storage Export is chargeable
- For these data sets, the chargeable %age is not too volatile, suggesting the choice of period is not that important
- We suggest a rolling period of N days i.e. percentage for day D based on average over days D-N to D-1
- Current storage technologies (batteries, pumped hydro) are short-term storage, suggesting a modest value for N (N=5? N=7?)
- The value could be parameterised in the “On-Site Energy Allocation Methodology” (rather than hard-coded in the BSC)

P395 Actions Update 2 – Legal Update

- LCCC made the comment that legal responsibility for determining what is and not is final supply lies with (or would lie with) Elexon.

- A Workgroup member asked for Elexon legal to confirm responsibility. If Elexon do have legal responsibility, what are the implications if there is an error in calculating those volumes (and consequently who might foot the bill if those implications result in costs)?

Questions to answer:

- 1) If Elexon has a legal responsibility to provide EMRS with data requested pursuant to P395?
- 2) What happens if there is an error in calculating those volumes?

P395 Actions Update 2 – Legal Update

- In response to point 1:

- BSC section V 5.2.1 states that “BSCCo must provide, or procure that a BSC Agent provides, such data, information and reports to any CFD Settlement Services Provider and any CfD Counterparty as any CFD Settlement Services Provider and/or any CfD Counterparty reasonably require in order to discharge their EMR Settlement Functions (provided the Panel does not consider such data to not be reasonably required to enable a CFD Settlement Services Provider to discharge its EMR Settlement Functions).

- EMR Settlement Functions are defined as those functions which are to be performed by a CfD Counterparty or CM Settlement Body (or any EMR Settlement Services Provider on behalf of either of them) in order to give effect to requirements imposed on the CfD Counterparty or CM Settlement Body by the EMR Legal Requirements.

- As such, where data being requested pursuant to P395 is reasonably required to a CFD Settlement Services Provider to discharge its EMR Settlement Functions, BSCCo is required to provide such data.

P395 Actions Update 2 – Legal Update

- In response to point 2 - What happens if there is an error in calculating those volumes:

- BSCCo will be bound by the same standards of accuracy in terms of calculating the volumes in respect of the data required pursuant to P395 as they apply to the data we are currently providing to the EMRS.

- There may be a wider question here in terms of whether EMRS should be requesting such data at all from us as the BSCCo – but this is a matter for LCCC to consider. We note that the Contracts for Difference (Electricity Supplier Obligations) Regulations 2014 require LCCC to calculate charges based on "the amount of electricity which the BSCCo determines was supplied by that supplier", so it can be interpreted to mean that LCCC have to ask BSCCo for its view of what each supplier has supplied.

P395 Actions Update 3 - Quarterly report to LCCC

- Are the Proposer and Workgroup satisfied that the following requirement to provide quarterly data report to LCCC is within the scope of P395?

- Requirement: SVAA to provide a quarterly report to EMRS or LCCC

- Description: SVAA to provide a quarterly report to EMRS or LCCC containing HH Metered Volumes for every ‘P395’ MSID (where a net volume is submitted into Settlement under a single CVA MSID, separate Import and Export Volumes must be submitted to the SVAA):
    - Supplier / CVA Registrant MPID
    - BM Unit Id
    - MSID
    - Import / Export Flag
    - HH BP Import MSID Metered Volume
    - Non-chargeable import volume

UPDATES TO P395 BUSINESS REQUIREMENTS

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P395 Business Requirements

- Nothing has substantively changed since last meeting
- However, there are some areas we are reviewing/developing in more detail:
  - **CVA arrangements** – working with our Metering SMEs and seeking to adopt or adapt P375 arrangements
  - **Roles and Responsibilities**
    - Three areas of responsibility
      - For the site;
      - For the Boundary Point Metering Systems;
      - For the Asset Metering Systems
    - Potential responsible parties:
      - BSC Party (Supplier), Licensed Generator party, other
    - **Site/Facility Registrant/Declarant** – we have assumed this is the registrant of the Boundary Point Import Metering System
      - However, EMR WP25 and P383 require the Generator/Storage Facility Operator to sign a declaration letter for the site/facility, and that the Supplier submits this declaration to EMRS/SVAA.
      - Ultimately the Registrant of the BP Import MSID is the person liable for the charge and therefore primary beneficiary – so they should be the one telling us about the site and MSIDs?
      - Does Generator tell us or EMRS about the overall Declaration but the Supplier tells us about the metering? If the Generator sends Elexon the declaration, do we need to tell EMRS? If they tell EMRS, do EMRS have to tell us in order to validate Metering Systems sent to us by the Supplier?
    - **Asset metering systems** – is it the Supplier/BP Registrant or Generator? Who tells us about the Asset Metering? And who appoints agents?

P395 TERMS OF REFERENCE

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P395: Implementation

- It has not been possible to fully assess P395 impacts due to outstanding solution areas, but initial conversations suggest it may not be possible to implement P395 until later than November 2022.

- This is due to a busy pipeline of complex system changes, key technology upgrades and initiatives over the next 3 years, including Market Wide Half Hourly Settlement, P375, P376, P399, P402.

- Kinnect will be a flexible, scalable platform using modular technology to enable Elexon to implement BSC rule changes more quickly, providing quicker support for innovation by existing companies and new entrants.

- These migrations will allow Elexon to make quicker changes in the future and deliver more value to the customer.

P395: Legal Text Approach

We believe the following documents will require amendment to enable P395.

- **BSC Sections**
  - Section J: Party Agents and Qualification Under The Code
  - Section K: Classification And Registration
  - Section L: Metering
  - Section S and S-2: Supplier Volume Allocation
  - Section V: Reporting
  - Section X-1: General Glossary and Section X-2: Technical Glossary

- **Code Subsidiary Documents**
  - BSCP01 – Overview of Trading Arrangements
  - BSCP02 – Proving Tests for CVA Metering Systems
  - BSCP03 – Data Estimation for CVA Metering Systems
  - BSCP06 –CVA Meter Operations
  - BSCP20 – Registration of CVA Metering Systems
  - BSCP68 – Transfer of Metering Systems between CVA & SVA
  - BSCP70 –CVA Qualification
  - BSCP602 – SVA Metering System and Asset Metering System Register
  - New/amended CoP?
  - CDCA Service Description
  - SVAA Service Description

P395 Terms of Reference

a) Which Imports should be chargeable?

b) How should Imports to Licensed Generation be calculated?

c) Should the HHDC report both Boundary Point and Asset Metering Systems' Metered Data to SVAA?

d) What are the costs and benefits of the method for apportioning the electricity Imported to a storage facility between chargeable and non-chargeable Imports?

e) How best to transition from the interim to the enduring solution?

f) What changes are needed to BSC documents, systems and processes to support P395 and what are the related costs and lead times?

g) Are there any Alternative Modifications?

h) Should P395 be progressed as a Self-Governance Modification?

i) Does this Modification Proposal better facilitate the Applicable BSC Objectives than the current baseline?

Applicable BSC Objectives

a) The efficient discharge by the Transmission Company of the obligations imposed upon it by the Transmission Licence

b) The efficient, economic and co-ordinated operation of the National Electricity Transmission System

c) Promoting effective competition in the generation and supply of electricity and (so far as consistent therewith) promoting such competition in the sale and purchase of electricity

d) Promoting efficiency in the implementation of the balancing and settlement arrangements

e) Compliance with the Electricity Regulation and any relevant legally binding decision of the European Commission and/or the Agency [for the Co-operation of Energy Regulators]

f) Implementing and administrating the arrangements for the operation of contracts for difference and arrangements that facilitate the operation of a capacity market pursuant to EMR legislation

g) Compliance with the Transmission Losses Principle

Applicable BSC Objectives

The Proposer had initially identified a positive impact on Objectives (b), (c) and (f)

Applicable BSC Objective (b) 'The efficient, economic and co-ordinated operation of the National Electricity Transmission System'

- By removing artificial and unintended barriers to the use of Storage, this Modification may also allow additional Storage to be integrated into the electricity system, which may positively impact Applicable BSC Objective (b): the efficient, economic and co-ordinated operation of the National Electricity Transmission System.

Applicable BSC Objective (c) 'Promoting effective competition in the generation and supply of electricity and (so far as consistent therewith) promoting such competition in the sale and purchase of electricity'

- By removing a perceived barrier to the financial viability of operating Storage, this Modification may promote effective competition in the generation of electricity.

Applicable BSC Objectives

Applicable BSC Objective (f) 'Implementing and administrating the arrangements for the operation of contracts for difference and arrangements that facilitate the operation of a capacity market pursuant to EMR legislation'.

- In the opinion of the Proposer, the primary benefit of this Modification Proposal is in relation to Applicable BSC Objective (f): 'Implementing and administrating the arrangements for the operation of contracts for difference and arrangements that facilitate the operation of a capacity market pursuant to EMR legislation'

- Currently the EMR SSP is not able to levy CfD and CM charges on Suppliers in a manner consistent with EMR Legislation, because the EMR Settlement Data provided to the EMR SSP by SAA does not correctly identify the volume of electricity supplied to sites with Licensed Generation or Storage. Resolving this issue will allow the EMR SSP to operate these arrangements consistently with EMR Legislation.

Applicable BSC Objectives

a) The efficient discharge by the Transmission Company of the obligations imposed upon it by the Transmission Licence

b) The efficient, economic and co-ordinated operation of the National Electricity Transmission System

c) Promoting effective competition in the generation and supply of electricity and (so far as consistent therewith) promoting such competition in the sale and purchase of electricity

d) Promoting efficiency in the implementation of the balancing and settlement arrangements

e) Compliance with the Electricity Regulation and any relevant legally binding decision of the European Commission and/or the Agency [for the Co-operation of Energy Regulators]

f) Implementing and administrating the arrangements for the operation of contracts for difference and arrangements that facilitate the operation of a capacity market pursuant to EMR legislation

g) Compliance with the Transmission Losses Principle

Assessment Consultation Questions

- Default Assessment Consultation questions ask for views on:
  - whether P395 will impact organisations;
  - if it better facilitates BSC Objectives; and
  - views on implementation approach and Alternative Modifications.
- Are there any questions the Workgroup believe should be included?
  – anything that would help the Workgroup to complete assessment of P395?

NEXT STEPS

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P395: Next Steps

- Assuming outstanding areas of P395 solution are agreed, Elexon to draft Legal Text and impact assess P395 and report costs back to the Workgroup.

Event	Date
Present IWA to Panel	12 November 2019
Workgroup meeting 1	31 March 20
Workgroup meeting 2	4 December 2020
Workgroup meeting 3	25 February 2021
Workgroup meeting 4	**24 May 2021**
Quick meeting to consider costs	W/C 19 July 2021
Assessment Procedure Consultation	9 August – 27 August 2021
Workgroup meeting 5	W/C 6 September 2021
Present Assessment Report to Panel	14 October 2021
Report Phase Consultation	18 October – 5 November 2021
Present Draft Modification Report to Panel	10 November 2021
Issue Final Modification Report to Authority	14 November 2021

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THANK YOU

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24 May 2021