

FlexForum session IX 26-05-22 notes

When	0900 – 1200, Thursday 26 May 2022
Where	Virtual
Who	<p>Glen Baxter (Ara Ake), Shay Brazier (ReVolve Energy), John Campbell (Our Energy), Jason Christini-Crawford (Ecotricity), Glenn Coates (Aurora) [apology], Jenny Van der Merwe (Kāinga Ora), Terry Paddy (Cortexo), Eric Pyle (solarZero), Buddhika Rajapakse (Mercury), Tom Rose, (EVNex), Scott Scrimgeour (Wellington Electricity), Quintin Tahau (Transpower), James Tipping (Vector), Evie Trolove, (Orion), Mike Ulrich (Influx) [apology], Fiona Wiseman (Manawa),</p> <p>Guests: Nicole Kirkham & John McCabe, MBIE</p> <p>Facilitator: Geoff Sharples</p> <p>Secretariat: Craig Evans, Matt Smith</p>

Session notes

Five items were discussed:

1. Practical requirements for transacting flexibility – Task 3 communication and measurement
2. Feedback received on topics A and B
3. Practical requirements for transacting flexibility - Task 2 terms of trade
4. Insights from Piclo discussion
5. Workplan, engagement and communications planning
6. Administration – governance, budget, and funding

Agenda overview

The group agreed the agenda.

The group welcomed Nicole Kirkham & John McCabe, joining the session as observers from MBIE.

Item 1: Communication, measurement & validation

The group discussed the practical requirements for communication, measurement and validation of transacting flexibility.

Communication, measurement and validation involve the exchange and use of data about who requires or performed an action, what they need/did, when, where, and how they prove it.

A common understanding and definition of the communication, measurement and validation requirements is needed to reduce the costs and barriers of transacting flexibility.

Communication for transacting flexibility

There are two areas of focus:

- what is communicated (and how it is processed/used)
- the method of communicating.

The goal is to work towards common and interoperable data exchange systems and requirements, starting with existing capability and building over time towards fully automated, scalable, secure, reliable, interoperable and internationally certified data exchange systems.

What is communicated – transacting flexibility involves four phases of data and information exchange: pre-procurement, procurement, pre-operation and operation

The first step must be to achieve national interoperability by using common definitions for the exchange of data, eg, standard terms to describe location.

There are three communication methods. Each method is compatible. No method should be mandated. Flexibility buyers and provider should be able to transact flexibility using their preferred method based on their own circumstances.

- manual systems – email, text, phone call etc. This method works, though has some downsides in some situations. This method is used now.
- integration to in-house systems – for example, distributor SCADA systems can exchange information with the ripple control system, or a demand response enabled device (DRED). This method is used now.
- automated systems based on interoperable (international) open communication protocols.

Each method is compatible as a manual message can be received by someone using an automated system and vice versa.

Technical standards are constantly evolving. It will be critical to avoid being locked into a specific technical standard which prevents evolution.

The FlexForum should focus on what is communicated and defining the terminology and structure for information exchange requirements. The first step is to have interoperable and common information requirements; the method the information is exchanged is secondary. The EEA and EECA are working on a project on communication methods and protocols.

The group agreed to use workshops to develop more details on common terminology and structures for information exchange.

The output is to identify a pathway which the group can start down by initiating projects which test the communication terminology/structures/descriptions, including trying to identify a basic data set to give visibility of DER (and potentially provide the basis for a DER registry).

The group discussed some practical challenges of defining information requirements, focusing on location information. The group recognised that specifying location information, for example linking a DER to a specific feeder or substation, relies on the distributor having accurate network maps and the capability to update these maps to reflect day-to-day operational changes.

Distribution networks will need to become digitalised to provide accurate location information. Distributors are improving network information and maps as part of capacity modelling exercises which is highlighting issues about data quality, eg, discovering connections are not on the right phase.

A range of network information is publicly available in Great Britain. An example is the UKPN open data portal: <https://ukpowernetworks.opendatasoft.com/pages/home/> which allows users to build their own map, including layering network assets, forecast capacity and flexibility requests.

Measurement and verification

Measurement and verification processes are needed to know whether the flexibility provider did what they said they were asked to do.

There is a trade-off between precision (how reliable an assessment of flexibility performance is with repeated trials) and accuracy (the degree to which the baseline is able to correctly assess flexibility performance).

The four forms of flexibility – Shed, Shift, Shape and Shimmy – may have differing measurement approaches. Each measurement approach has specific data requirements, including source of data, quality and resolution.

- Shed and Shift involve intraday responses. Practice is to identify the size of the response by comparing what occurred with what would otherwise probably have occurred based on a baseline of the profile for that connection or category of connection. There are many baselining methods.
- Shape involves a longer-term profile change. The response is more difficult to measure directly. Practice is to estimate what the connection probably would have done based on historical profile data.
- Shimmy involves immediate responses, eg, for ancillary services. Practice is to measure what was happening right before and right after to identify how the device behaved.

Key points from the discussion were:

- there are several viable measurement points – ie, the source of data – ranging from the meter to the DER device. Flexibility buyers may need to become comfortable about non-meter measurement points.
- many devices have the capability to record the specific action/instruction and the response, enabling use of actual data rather than estimated baselines. It is possible to link the request and specific response from a device
- it is not necessary to specifically measure all devices. Transpower developed a reasonably accurate response profile for heat pumps. California is moving to deemed response profiles for certain DER where there is sufficient existing information about performance

More thinking is needed to identify measurement options for each form of flexibility and flexibility product, the underlying data requirements and any preferred methodologies for estimating a response profile.

Item 2: Topics A & B – review and address feedback

The group considered the feedback received so far, concluding more input is required to be confident the pre-procurement and operational information outlined in table 1 of the document provide a practicable starting point for action.

The group also concluded that perfection is not necessary as developing the information set will require time, involving both workshops and practical action.

The group agreed to hold workshops to discuss and refine the terminology and descriptions, particularly to inform commercial arrangements and design/delivery of projects.

Item 3: Contracting arrangements and terms of trade

The group discussed the purpose of common contracting arrangements and terms of trade.

The group agreed that common contracting arrangements and terms of trade are desirable to make it easier for flexibility providers to supply flexibility and reduce the costs of transacting flexibility.

The group agreed the FlexForum should focus on specific aspects of participation which feed into contracts and terms of trade, not attempt to develop a detail contract. Aspects to consider include:

- principles which set an expectation that contract terms will balance the interests of each counterparty
- how liability and consequences (penalties) are determined
- how performance obligations are determined
- interactions with other contractual and regulatory obligations

The group agreed that developing a detail common (default) contract should be included in the Action Plan, and delivered by another party(s), for example the Electricity Networks Association or other industry group.

The group emphasised the importance of adopting a collaborative and experience-driven process to develop contracting arrangements and terms of trade, as enduring arrangements will not emerge from the efforts of a single party.

Item 4: Insights from Piclo discussion

The group shared insights from the discussion on Wednesday 25 May 2022 with Kelsey Devine, Innovation Project Manager, Piclo.

- Avoid allowing perfect be enemy of progress. Begin and use experience to inform policy and practice
- Avoid going off into a room as business or industry group and developing requirements in a silo – this will not work
- A fully formed 'market' will not emerge without support and coordinated effort. There has been an enormous amount of public (government) support to kickstart transacting of flexibility in Great Britain. The situation is no different to the development of wholesale market arrangements in Aotearoa, which required significant investment from the government and industry

- Piclo described an environment which provides a safe space for learning. In Aotearoa, we don't know what perfect looks like. We need a similar environment where learning can happen in a safe place to build our own experience
- It takes time to develop markets A significant amount of time and investment in projects and trials was needed to demonstrate value in flexibility and underpin long term investment by distributors and flexibility providers in the systems and processes needed to transact flexibility, with the benefits of the investment not seen immediately (potentially 5+ years needed to see a return).
- Great Britain focused initially on the procurement process and is only now turning to dispatch systems.

A perspective from Piclo on transacting flexibility

The group spoke with Kelsey Devine, Innovation Project Manager, Piclo, on Wednesday 25 May 2022. These are the key points from the discussion.

- Piclo operates a platform which provides an independent marketplace for trading energy flexibility.
- The platform emerged in 2018 when Piclo was awarded innovation funding to develop a user friendly, scalable and cost-effective flexibility procurement process after GB distributors made a commitment to trial using flexibility. Distributors began by using traditional procurement platforms but found these were not fit-for-purpose and labour intensive. Issues included: not sufficiently locational and interfaces were not user/provider friendly given the scale of resources/contracts.
- The Piclo platform supports the procurement journey from publication of flexibility needs (based on network constraint analysis), provider qualification, technical asset qualification, competitive auctions and big analysis and results. The Piclo platform does not control or manage devices. Nor does it get involved in contract negotiations. Technical specifications underpinning qualification of resources are nationally consistent based on the flexibility service products.
- Simplifying the procurement journey lowers participation costs and increases access to suppliers and increases volume of assets able to participate. The registration, qualification and auction process can take about 2-3 months.
- Growing the market has not been a fast process. About 700MW of flexibility is expected to be contracted through the Piclo platform in 2022, up from 350MW in 2021. Advertised needs have been growing as distributors gain more confidence in flexibility resources and more flexibility providers join the platform each time distributors advertises new needs. UKPN awarded 14 million pounds of contracts for

Secure, Sustain and Dynamic products via Piclo in June 2020 through 115 competitions.¹

Piclo shared its perspective of the lessons which can be drawn from the flexibility journey in Great Britain

- It takes time to build liquidity in flexibility resources. Piclo found itself assisting in developing liquidity through ongoing interaction with distributors and flexibility providers
- Make the procurement journey transparent, simple, and consistent as possible so it is repeatable and minimises barriers to participation. This will particularly assist participation of smaller flexibility resources, as the traditional procurement methods for EDBs are not designed with smaller resource providers in mind.
- Start with products with an extended delivery date. Allowing a longer period before delivery allows assets to be recruited and ready by providing time to smooth bumps along the way. Contracts can be for delivery up to 8-9 years away. The longer horizon allows distributors to undertake repeat procurements allowing providers to start the journey at their own pace (and means providers do not feel they are missing out). Distributors are starting to look at nearer term procurement with delivery in months or weeks rather than years.
- The user interface is important and doesn't need to be complicated. It is possible to start with simple tools eg, excel, to keep barriers to entry low and move towards more sophisticated tools. This approach allows buyers and providers to dip their toe in the water at low cost based on their volumes and frequency of use. Some providers/buyers are adopting APIs, but not everyone.
- Share results and feedback with stakeholders – DNOs and flex providers and lobby groups, regulators etc. Experience with transacting flexibility is feeding into how the market and regulatory arrangements are developing. It is critical to keep the conversation between both sides of the market on what has worked and what hasn't as open as possible. Avoid a single party trying to define things on its own; this creates problems
- There is still a lot of work to do and a long way to go before getting to a fully functioning flexibility market. Electricity systems are slow moving and processes take a long time to change.

¹ This case study by Piclo provides more information: https://uploads-ssl.webflow.com/6123718de4b96c44035b9af8/61e6c519f623fb46a117aad5_Piclo%20Case%20Study%20-%20UKPN%20-%20July%202020%20-%20Release.pdf

- Expect it to take a while. Iteration and time are required. Fundamental to market growth was distributors having the opportunity to consider the merits of using flexibility and having funding available to build experience with flexibility and to develop more capable systems.

Item 5: Workplan, engagement and communications planning

The group endorsed the updated workplan.

- Discuss the purpose and structure of an Action Plan at the next session – what could the action plan look like
- Refine the terminology and descriptions (tables 1 & 3) to reflect feedback
- Include the connection requirements task.

6: Administration – governance, budget, and funding

The group noted the budget update.

The group discussed engagement with MBIE, noted the request to put forward a proposal, and endorsed the proposal.

End 1202