Power Potential
Regional Market Advisory Panel

Outcomes, 26th February 2019

Participants:

Panel Chair	Dame Fiona Woolf	Chair, Regional Market Advisory Panel and Partner, CMS Cameron McKenna
Panel Members	Doerte Schneemann	BEIS
	Andrew Robbins	Innogy
	Ian Larive	Low Carbon
	Brian Shewan	Origami Energy
	Sammy Blay	Reactive Technologies
	Fernando Morales	Highview Power
Representing National Grid Electricity System Operator	Duncan Burt Craig Dyke	Operations Director Contracts and Settlements Manager
Representing UK Power Networks	Ian Cameron	Head of Innovation
Power Potential project team attendees	Dr Biljana Stojkovska David Preston Dr Rita Shaw Mike Robey	Project Lead, National Grid ESO Commercial Workstream Lead, National Grid ESO Project Lead, UK Power Networks RMAP Secretariat, for National Grid ESO
Apologies	Louise van Rensburg	Ofgem
	Sotiris Georgiopoulos	UK Power Networks
	Frank Gordon	Renewable Energy Association
	Alex Howard	Origami Energy
	Alastair Martin	Flexitricity
	Hanae de Rochefort	Association for Decentralised Energy

Actions

	Actions
1	Potential participants to pursue NGESO and UKPN's offer to help support their journey to participation and to advise the project team how the project partners can help.
2	Project team to develop an investor pack with greater visibility of the revenue potential through waves 2 and 3 as well as the partners' intention to proceed into business as usual beyond the project trials.
3	NGESO and UKPN senior leaders to be available to support DER in securing commitment to participate (E.g. to call or meet site owners / investors).
4	Project team to provide a legal summary to support DER's sign-up process.
5	Project team to provide support to guide potential participants through the technical schedules.
6	Project team to work with the solar sector (e.g. STA) to understand technical concerns and identify solutions.
7	Project team and Steering Committee to clarify the 29 March go / no-go date, to ensure that this is not considered a barrier to participation.
8	Project team and Steering Committee to review the commercial requirements regarding the use of EFA blocks and the settlement periods within them for Power Potential service windows.
9	Project team to provide more clarity on waves 2 and 3 e.g. if DER bids will be assessed against the cost of transmission alternatives such as network infrastructure and transmission generators.
10	UKPN to clarify messaging around the new G99 engineering recommendation introduces capability versus control for new generator connections (implications beyond trial)

Panel discussion

Agenda Item	Panel Members	Panel comments and questions
Technical update – aggregator solution	Fiona Duncan Ian C Rita	Query on scale of UK work on aggregation, compared to USA. Lots of activities at a transmission level, with centralised control by aggregators providing a single feed to NGESO. This project now develops a distribution network version. Also, lots of UK platforms emerging (e.g. Origami Energy, Electric Vehicle Company and Reactive Technologies), particularly with EV in mind. Locational aspects of reactive power are also a specific challenge in this project. **Project team response:** The project team has received a positive response from aggregators with sites in the trial region, very receptive to the challenge and finding innovative approaches. An open source standard, IEE2030.5, developed from the experience in the USA (SEP standard) is being applied to Power Potential's aggregator solution.
DER Engagement - discussion notes	 Andy Fiona Andy Ian C Duncan Andy Duncan Ian L Ian L	**<u>Understanding DER progress towards participation:</u>** Have commitment from the Board, but have had to prioritise time elsewhere, therefore have not yet completed the paperwork. A short legal summary would help get across the project's intentions in a more accessible way. Various practical challenges such as finding the connection agreement, time to review and understand the variation to it to participate in the project. Not a single issue delaying commitment, but a range of DER-specific considerations. Please tell us how we can help. We can call / meet at a senior level and work with you to investigate technical concerns. There are more challenges for higher voltage level connections. A pioneer, signing up and going public early would really help encourage others. The technical schedules are also a barrier; it would be very helpful for someone from the project team to guide me through it. **Project team:** Yes, very happy to do this (and addressed immediately after meeting). Another challenge is getting technical suppliers to focus on this project's requirements versus other priorities.
<u>Challenges for Solar sites</u>	 Biljana Rita Sammy	**<u>Challenges for Solar sites</u>** For solar generators, there has been concern about Q flow at night through transformers and the risk of overheating. The project team is following these concerns up and will work with the solar sector (e.g. with Leone at the Solar Trade Association) to identify solutions. The project team has also offered solar generators lower Q flow ranges as a possible solution to overcome the concerns. The greatest challenge has been on sites commissioned before 2015. Technical challenges have also inevitably emerged the deeper one looks into the detail of participation. No outstanding technical concerns on our (solar) sites. On one site/ inverter supplier, currently can only offer 30% of inverter capability within inverter warranty (not further limited by site/network safety issues). Solar sites have needed reassurance that the reactive power service will not interfere with their active power operations – might provide Q 24h rather than just at night if comfortable after trial. The issue of use of using EFA blocks for the service windows, rather than settlement periods also limits opportunities for solar in waves 2 and 3. **Project team:** The EFA block and settlement periods issue is currently being reviewed to see if more could be done to encourage participation.

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Visibility of the revenue potential	Sammy	**Visibility of the revenue potential** Very keen to support this innovation and new market development and more certainty on the revenue potential for wave 2 and 3 of the trial will really help (it is too vague at present). The currently visible project monies may not be enough, as costs are higher than anticipated (3x original estimate), for example due to the need to install a new capacitor and other site works. Also, really want to understand the opportunity after the trials. How does this link to NGESO's SNAPS (System Needs And Product Strategy), which indicates the size (£150m p.a.?) of the reactive power market
	Duncan	The intention is to continue as a sustainable market after the trials
29 March go / no-go Date	Ian L	**29 March go / no-go Date** Is the 29 March a drop-dead date or not? Is there a chance that the project will be terminated then?
	Brian	Yes, 29th March does sound like a total project go / no-go date in the paperwork.
	Duncan	Absolutely not. The partners want to push ahead and not stop or delay the project. We would consider if more time was required, but the priority is to stick to the planned trial start date, which would mean that a DER that is late commissioning would miss the earning potential for the x weeks they miss. The decision on 29th is to confirm the trial start date.
	Biljana	There is also an operational benefit in the trials taking place without delay.
	Ian C	We recognise it is better to delay than not have enough participants.
	Ian L	And if we commit now, but commissioning is not complete by 29th March, and the project is terminated, is there a way we can recover our costs?
		Project team: Yes, the Inter-Operator Agreement between UKPN and NGESO makes provision for reimbursing costs.
	Doerte	This is a great project and really want this to proceed with maximum participation. BEIS is happy to facilitate anything that can help the project proceed.
	Sammy	But deadlines are also crucial to securing decisions from asset owners. Also for solar providers, avoiding delay will also help avoid the higher opportunity costs for solar in the summer.
		Action: Project team to clarify the interpretation of the 29 March go / no-go date with prospective participants.
Mandatory Technical Trial (MTT)	Sammy	**Mandatory Technical Trial (MTT)** Can the project be flexible with the timing of the MTT? **Project team**: Yes, can be scheduled at times convenient to the DER within the MTT days, or even later during the optional trials for a DER which is only able to join later (though this latter approach will reduce the site's available hours for the optional trials).
Wave 2 Trials	Sammy	**Wave 2 Trials** Can you clarify if we are competing against network assets in wave 2? **Project team:** In wave 2 the trial participants are competing against each other and not against existing network infrastructure. Wave 2 is for price discovery and then in wave 3 the trial participants will be competing against network infrastructure.
		Action: Provide more clarity on waves 2 and 3 e.g. if DER bids will be assessed or compared against the cost of transmission alternatives such as network infrastructure and transmission generators.

	Panel Members	Panel comments and questions (with project team response)
NGESO Reactive roadmap	Sammy	Saw the Expression of Interest for the South West, but did not pursue this as could not see the market opportunity. Will a Power Potential-style approach be adopted in the future?
	Andy	Looked at the South Wales opportunity, but it would have tied up too large a proportion of assets, so did not pursue.
	Duncan	The tenders were longer term and larger than Power Potential
	Sammy	How does Power Potential interact with PICLO (UKPN flexibility platform)?
	Ian C	PICLO is very locational and is a 'dumber' type of flexibility tender offsetting network investment
	Fernando	But there is some interaction between these?
	Duncan	Absolutely, they do overlap and this is why a Regional Market Advisory Panel is key.
	Brian	Key that NGESO talks to DNOs using links like Open Networks.
	Duncan	Yes, NGESO is also very involved in this broader engagement on solutions
	David	Would DER like the industry to take more time to pursue trials before engaging on wider strategy?
	Sammy	Not necessarily.
	Sammy	Query on G99 thinking (new Engineering recommendation which implements the European Network Code for generators, requiring controllability); will DNOs have control of DER assets?
	Ian C	Recognise there is a messaging issue here and UKPN will review and clarify this point. **Action**:
	Andy	Who controls the plant is key. This should go through a control room rather than multiple entry points
	Duncan	Yes, should be through control rooms.
	Sammy	Absolutely this is key. Must have the ability to accept / reject opportunities (whilst understanding the rewards / penalties these decisions will bring)
	Duncan	A fundamental principle is that asset owners decide. Active flexible markets open to all is the goal for a low carbon grid by the Committee on Climate Change's target of 2030. To achieve this, we cannot proceed in sequence, we must pursue all options.
UKPN DSO strategy and flexibility Service	Craig	How is the UKPN DSO approach different to NGESO?
	Ian C	UKPN's challenge is more DER and less headroom.
	Sammy	What do you see as the balance between turn-down and turn-up?
	Ian C	We're agnostic between the two.
	Sammy	Other DNOs don't seem as interested in solar.
	Ian C	UKPN want to explore all options. UKPN will publish what the problem / constraint is and invite flexible solutions (rather than mandate the solution's technology).
	Fernando	Modelling of where the priorities are would really help. And, clarity on how everything will interact as the true cost could be hidden without having the full visibility to share with investors.
	Ian C	UKPN will publish a form of FES document this year (DEFES – Distributed Energy Future Energy Scenarios), including a focus on Electric Vehicles.
	Biljana	Could you clarify the ANM (Active Network management) – DERMS link?
	Ian C	DERMS is a module for ANM.
	Ian L	UKPN is forecasting an up-tick in solar in 2020 – how have you determined this?
	Ian C	It links to the SEG (Smart Export Guarantee) forecast as well as UKPN's own analysis.
Closing remarks		Project team to circulate progress updates to RMAP. Schedule the next meeting for mid-late June?