

ENA Community Energy Forum 1

Feedback summary report

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Introduction

This report for the ENA and its members, summarises community energy representatives' feedback and discussion from the first forum delivered with Regen on 2 September 2020. There was a particular focus in this forum on flexibility, with feedback in this report to be used as an official response to ENA's flexibility consultation.

ENA's Community Energy Forums are a dedicated space for selected community energy representatives to provide insights and feedback on ENA's workstreams, in particular:

- Open Networks Project
- Innovation
- Whole Energy Systems
- Data
- Gas Goes Green

There were 11 community representatives at this forum, a full list of participants can be found in the Appendix.

Flexibility

Summary

The main points raised were that flexibility markets need to be more explicitly linked to the zero carbon agenda, for communities to want to engage. Because markets are structured around both demand and generation turn up and down, it isn't clear how this could be used to enable more low carbon generation to connect to the network. Suggestions for addressing this included carbon pricing, which could help new, currently underrepresented technologies to participate and aid market development. Flexibility tenders in areas of anticipated new generation could have a major decarbonisation impact by enabling more renewables to connect.

"What I would love to see is flexibility being used to enable new generation to connect to the network where there are constraints."

- Benny Talbot, Community Energy Scotland

An 'enhanced' flexibility service designed for fast-response systems could well suit future community energy projects, by naturally favoring battery storage.

For domestic participation in flexibility markets the process for householders needs to be much simpler, automation and functioning smart meters are also necessary. Communities reported continuing challenges with access to smart meter data from the Data Communications Company (DCC) and ongoing issues with smart meters failing to work. The cost of specific additional metering for domestic flexibility is prohibitive.

"If we're not encouraging currently underrepresented areas like small-scale flexibility with price incentives, we're going to get the cheapest diesel generators providing it... we need to encourage domestic demand flexibility and new technologies through price mechanisms that bring forward the harder to achieve aspects."

- Pete Capener, Bath & West Community Energy

Procurement standardisation was welcomed but needs to be community energy-friendly and done to the highest possible standard, in line with net zero targets and with social value recognised in the tendering process.

More visible data on historic and forecast utilisation in each Constraint Managed Zone (CMZ) would help communities know how much income they can expect. Case studies or examples of real or imagined community style projects taking part in flexibility tenders and outlining the income they would generate from flexibility, would also encourage greater participation.

“Ideally we want a truly balanced system where local generation = local demand.”

- Duncan Law, Community Energy England

Greater investment is needed in “copper at the tail end of the network”, so there’s more capacity to add generation to the distribution network and expand the local potential of renewables. DNOs common evaluation methodologies to assess flexibility vs. reinforcement solutions should factor in carbon savings of additional renewable generation it enables.

Other discussion points

- Jargon-heavy flexibility information remains a barrier to entry for some, and continued specific support for community energy organisations is vital
- Technology agnostic approach should be dropped, current arrangements mean firmly dispatchable technologies are favored, in many cases this counts against renewables, meaning markets are not really ‘technology agnostic’
- Guidance on wind and solar participating in flexibility markets needs to be clearer
- Ofgem should re-evaluate which sort of ‘consumer’ they’re seeking to protect and take a longer-term view which accounts for climate change
- The benefits of local balancing ought to be more widely recognised in the system
- DNO flexibility products that can be stacked in the same time period as ESO products would help community business cases to work
- Clear information on the reason flexibility is required in any given area would help communities understand whether income opportunities will be long-term enough for them to invest in assets.

Key recommendations

- Flexibility market information should be presented in plain-English to help new entrants understand how they could participate and what sort of service they’d be providing
- Flexibility needs to explicitly facilitate net zero, this could be through carbon pricing to encourage more low carbon sources and flexibility being used in areas of anticipated new generation to offset constraints and enable more renewables to connect to the network
- Standardisation of DNO procurement needs to be community energy-friendly, so test the frameworks with community energy organisations who could potentially participate
- Data on historical and forecast utilisation in each flexibility zone should be made more accessible to help communities know how much income they could expect, as well as information on the reasons for a flexibility requirement, to help understand how long term income opportunities will be
- Case studies of community energy flexibility revenues should be widely promoted
- DNOs should look to develop flexibility products that can be stacked in the same time period as ESO products to help community business cases to work.

Gas Goes Green, innovation and data

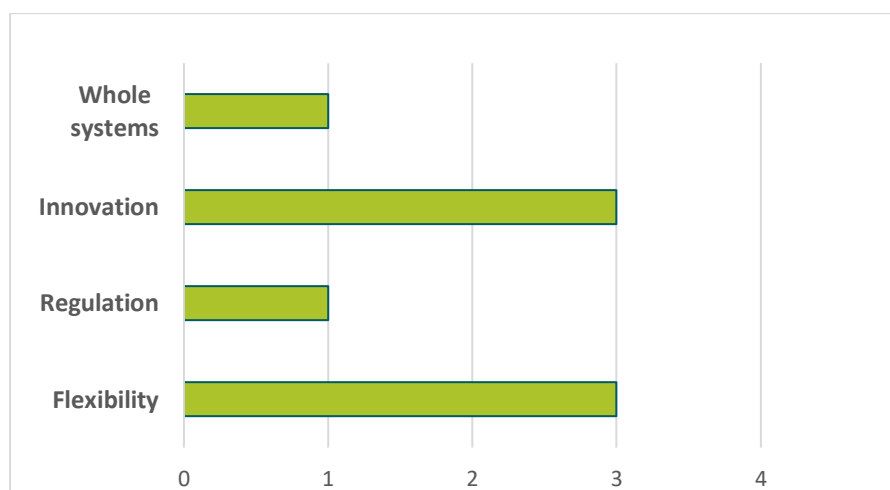
Key points

- Pathway to net zero ought to reflect the urgency of our climate emergency, with scenarios for reaching 100% low carbon gas sooner than 2050
- Consideration needs to be given to ensuring biomethane and hydrogen gases come from low-carbon sources
- It needs to be made clear how Gas Goes Green links with domestic heat decarbonisation
- Caution is needed around 'hydrogen ready' boilers – there's a difference between being 'ready' and actually being low carbon. Clear communication is needed on this
- DNOs should work alongside communities to co-develop innovation project ideas, discussing future opportunities and the sort of innovation projects DNOs are interested in to help solve network issues
- Many community groups see large innovation funds as more suited to big organisations and new technologies rather than local systems. More case studies of communities involved in innovation projects, showing what can be achieved can help address this
- DNOs have excellent network maps and tools; it would be useful for some of them to show future constraints based on Distribution Future Energy Scenarios (DFES) outputs
- Communities have useful data, such as measuring DSR, that could be shared with ENA and DNOs.

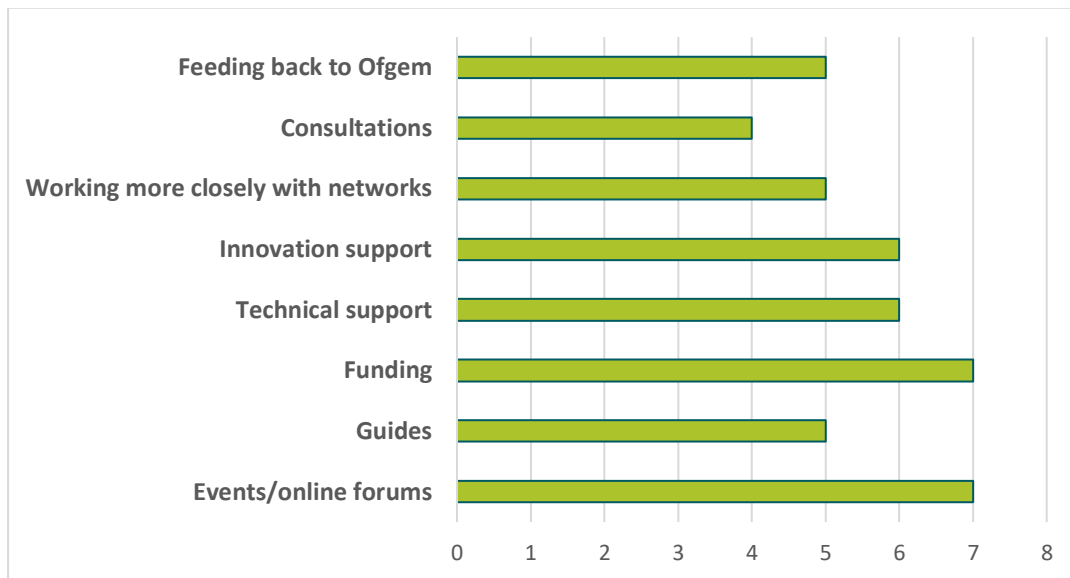
Stakeholder feedback

Feedback was gathered through a Zoom poll at the end of the forum. When asked how valuable they found the forum, participants rated it an average of 7.6 out of ten, while 100% of respondents said that the 'discussion on flexibility' was the most useful part.

What would you be most interested in discussing at future events?



How can ENA help you to participate in our future energy system?



Conclusion and next steps

The first part of this report is to be used by ENA as an official response to its flexibility consultation, reflecting the views of community energy stakeholders who joined the forum. There are two more ENA Community Energy Forums planned for October 2020, and the content of those should reflect stakeholder feedback from the first forum, most notably with plenty of time for roundtable discussion on ENA's work and energy system issues, as this was clearly valued by community energy representatives.

Appendix

Post-event feedback

Following the forum, participants were asked to send further feedback and thoughts they had by email.

Damon Rand, Clean Energy Prospector

Modelling energy projects to participate in flexibility markets – hard to figure out what we'll actually be paid.

Example CMZ (WPD Plymouth/South Hams):

https://www.flexiblepower.co.uk/scheme/CMZ_T2A_SWE_0001/2020

- We're expecting to build a Commercial Solar Microgrid and BESS system in this zone next year. Let's say it was a 1 MW system.
- Value calculator says 1 MW = £4,620 (maximum your asset could earn were it to be available and dispatched for the duration of our annual requirement)
- When I drilled really deep into the spreadsheets on the FlexPower website over a couple of hours I worked it out. We get:
 - £2240 for being *available* for DYNAMIC for 16 hours by 28 days in May at £5/MW/hour
 - Presumably the rest for being *utilised* for about 8 hours at £300/hour.
- The website says the Utilisation requirement is:
 - 143 MWh in April
 - 1821 MWh in May

How to make flexibility data more useful:

1. £4620 is no use to me. What I need is the breakdown I just provided above (took me two hours to figure out)
2. The "requirement" e.g. 1821 MWh in May makes no sense out of context. You drill into the spreadsheets and it says Utilisation was 418 MWh in one place and 393 MWh in others. What we need is forecast **and** actual utilisation per month.
3. Also absolute utilisation doesn't help either. I actually want utilisation per MW. If I had historical utilisation per half-hourly period then we could see when utilisation occurs.
4. We need to know **why** the requirement is arising so we can understand whether the requirement will stay around long enough to invest. It's basically in May only when PV should be ramping up, so it makes little sense. What is driving it? I'm guessing May is when WPD do work on the network in Totnes?
5. We need to understand bids in previous procurements. I found them buried deep in the spreadsheets. I found that 43 MW was needed, and 17 MW remained unprocured after that last round. So we can see how fast the requirement is being met and how long before the fixed pricing becomes competitive. Should be exposed on the web page.

It seems like all the data for a given CMZ is there but just deeply buried in lots of places and sometimes inconsistent. And mixed in with all the other zones when any given asset will only ever be part of one zone.

It seems like it would be really easy to have a single spreadsheet per CMZ. With a single half-hourly dataset with historical actual data and forecasts, then chart that and end up with a single useful chart per CMZ.

Baselining:

Finally, the baselining methodology seems like a knotty problem, and the methodology document is unclear about it. It seems like a really important concept. Do we still get paid if we're serving other markets the three weeks running up to the flexibility contract?

(<https://www.flexiblepower.co.uk/tools-and-documents>)

I see why generation and demand has been lumped together as flexibility and procured without distinguishing. But seems like baselining methodology is very different for generators vs. demand turn down. Harder to cheat a generator with a fixed nameplate capacity. But flex services seem very much targeted at demand turn down.

Seems like the one big thing we could do to make flex Services work perfectly and be un-cheatable would be to ditch baselining but require a high-resolution digital response from all assets (say one minute response), then introduce a random remote/digital verification test into every contract.

- Minimum requirement would be, "Each site must be able to provide minute by minute metering data."
- e.g. for the example above, we would bid 1 MW into the May DYNAMIC contract. We would contract to be available 16*28 hours in May. WPD would call us to dispatch 1 MW once or twice during the month for say three minutes randomly. It would then use our one minute metering data to verify a response. This should work fine for EV chargers, batteries, electric HVAC controls and many other processes.

Key takeaway messages:

1. The ENA flex contracts are already super if we got a commercial site running an electric Arc welder. And we can phone them up eight hours a month and ask them to take a long coffee break.
2. The flex contracts could be super for aggregated domestic electric HVAC systems and EVs.
3. The flex contracts (at least DYNAMIC/RESTORE, SECURE looks interesting but I've not reviewed) aren't specialised enough to be of any use where we have 1-10 second response time inverter based equipment behind a class 0 half-hourly metered grid connection, e.g. a solar and storage farm.

The reason #3 is not useful for next generation highly responsive equipment is that ENA's document says it doesn't stack in the same time period, only adjacent periods.

(<https://www.energynetworks.org/assets/files/ONP-WS1A-P5%20DSO%20Revenue%20Stacking-PUBLISHED.pdf>)

The number we look at is the £5/MWh availability number, not the £300/MWh utilisation number. If we can't stack in the same time period, then it's much more valuable to us to simply be 'available' for the National dispatch trading optimisation revenues. These trade in six blocks of four hours across the day in our national contracts. Possibly we might find one or two of those four-hour blocks let us be available but then we're talking about so little money it's hardly worth it.

I actually don't believe DNOs can offer a product that fits for the Arc Welders on the end of a phone line **and** assets that already have access to national markets from what I've seen.

I really think ENA/DNOs need to be developing flex products that stack properly ***in the same time period*** with ESO products. By analogy Enhanced Frequency Response and Firm Frequency Response are different but similar products. The only thing distinguishing them is the capability requirement of the assets that can participate.

An ***Enhanced*** Flex product that was properly stackable but had a much higher barrier to entry supporting only fast response inverter systems would be a fantastic product for the projects community energy is developing going forward.

Forum participants

- Anthony Woolhouse – West Solent Solar Co-op
- Benny Talbot – Community Energy Scotland
- Damon Rand – Clean Energy Prospector
- Daniel Blackburn – Cwm Arian Renewable Energy
- Duncan Law – Community Energy England
- Emma Bridge – Community Energy England
- Felix Wight – Repowering London
- Mary Gillie – Energy Local
- Penny Shepherd – Orchard Community Energy
- Pete Capener – Bath & West Community Energy
- Tim Crisp – Southill Community Energy
- Jodie Giles – Regen (chairing)
- Randolph Brazier – Energy Networks Association (presenting)
- Farina Farrier – Energy Networks Association (presenting)
- Matthew Hindle – Energy Networks Association (presenting)
- Ky Hoare – Regen (facilitating)
- Courtney Madden – Energy Networks Association (observing)
- Daniel Clelland – Energy Networks Association (observing)
- David Bowman – National Grid ESO (observing)
- James Kerr – National Grid ESO (observing)

Forum agenda

14.00 Welcome and roundtable introductions

Jodie Giles, senior project manager, Regen

14.10 Aims of the session

Jodie Giles, senior project manager, Regen

14.15 ENA Flexibility Consultation

Farina Farrier, Open Networks Project Manager, Energy Networks Association

14.20 The community energy view on the ENA's flexibility work

Roundtable discussion on:

1. Common evaluation methodologies – flexibility vs. non-flexibility solutions
2. Procurement processes
3. Residential and community flexibility

15.10 Overview of ENA's Innovation Strategies, Gas Goes Green Project and Data

Randolph Brazier, Head of Innovation & Development, Energy Networks Association

Matt Hindle, Head of Gas, Energy Networks Association

15.20 The community energy view on the ENA's workstreams

Roundtable discussion on:

1. Whole systems
2. Gas Goes Green
3. Innovation

15.50 What can the ENA do to help you participate in our future energy system?

Feedback on stakeholder engagement

15.55 Feedback and closing remarks

Jodie Giles, senior project manager, Regen

16.00 Close