
Net Zero Innovation Portfolio – Flexibility Innovation Programme:

Flex Markets Unlocked – Engagement Session

11th May, 2-3pm



Agenda

Item	Schedule
Introduction and Housekeeping	14:00-14:05
Purpose of today	
NZIP and Flexibility Innovation Programme	14:05 – 14:15
Background and Policy Context	14:15 – 14:25
Proposed innovation activity	14:25 – 14:40
Considerations for SBRI's	14:40 – 14:45
Next steps and feedback	14:45 – 14:50
Close	14:50

Housekeeping

- This event is not being recorded. This presentation will be published on the [Flexibility Innovation Programme website](#).
- Please type any feedback into the Q&A function.
- Feedback can also be submitted via email to flexibilityinnovation@beis.gov.uk until **17th May, 2pm.**
- We will not be responding to questions at this event.
- Please note, the proposed innovation activity is under development and therefore proposals in these slides are **subject to change**

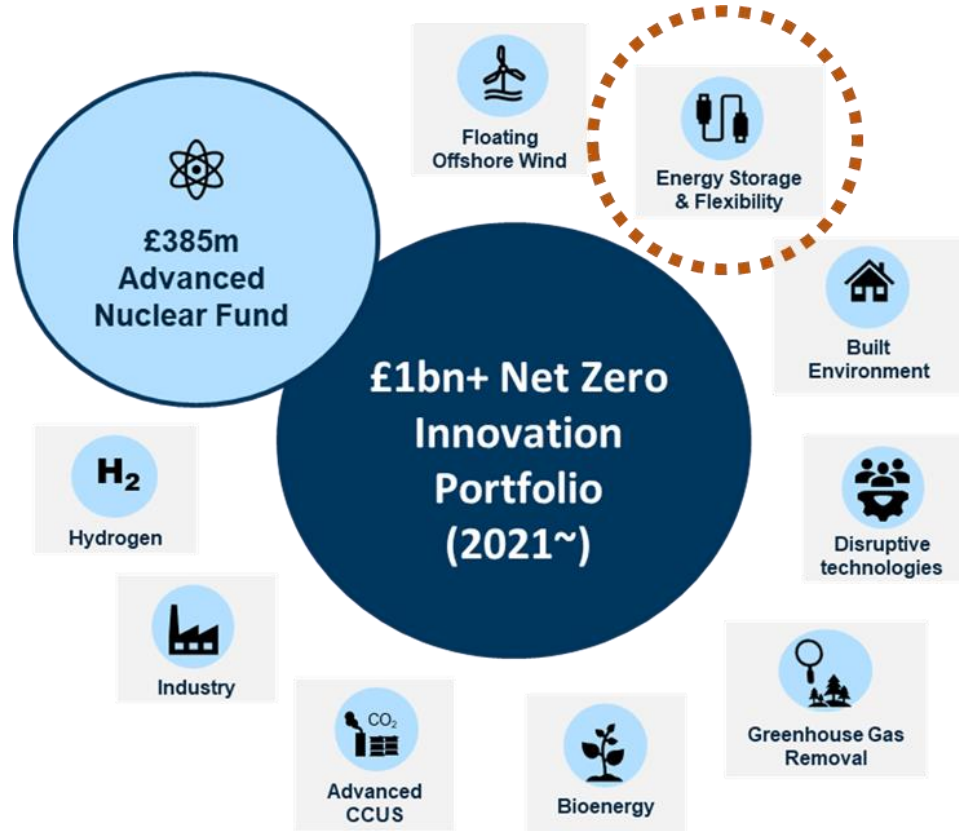
Purpose of today

The outcome of today's market engagement session is to provide an overview of the proposed innovation activity and to give an opportunity for attendees to provide feedback

Net Zero Innovation Portfolio: Background

NZIP Overview

NET ZERO INNOVATION PORTFOLIO



Flexibility Innovation Programme - Overview

Flexibility Innovation Programme (up to £65m)

Seeks to enable large-scale widespread electricity system flexibility through smart, flexible, secure, and accessible technologies and markets

Integrating systems for Flexibility

- Interoperable Demand Side Response Programme (over £12.8m)
- V2X Innovation Programme (up to £12.6m)
- Inclusive Smart Solutions Programme (up to £2.75m)

Data and Digitalisation

- Automatic Asset Registration (up to £2m)
- Energy System “Digital Spine” (~£200K)
- Smart Meter System based IoT Applications (up to £1.8m)
- SM Energy Data Repository (up to £1m)

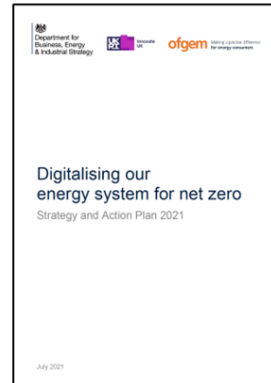
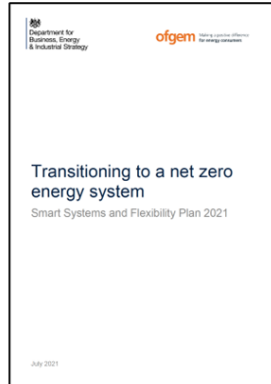
Markets for Flexibility

- Alternative Energy Markets (up to £18m)

Longer Duration Energy Storage Programme

(up to £68m)

- Cross programme engagement
 - Knowledge sharing
 - International leadership
 - Evaluation



Flexibility Innovation Programme - Progress

Announced October 2021; finishes March 2025

To date:

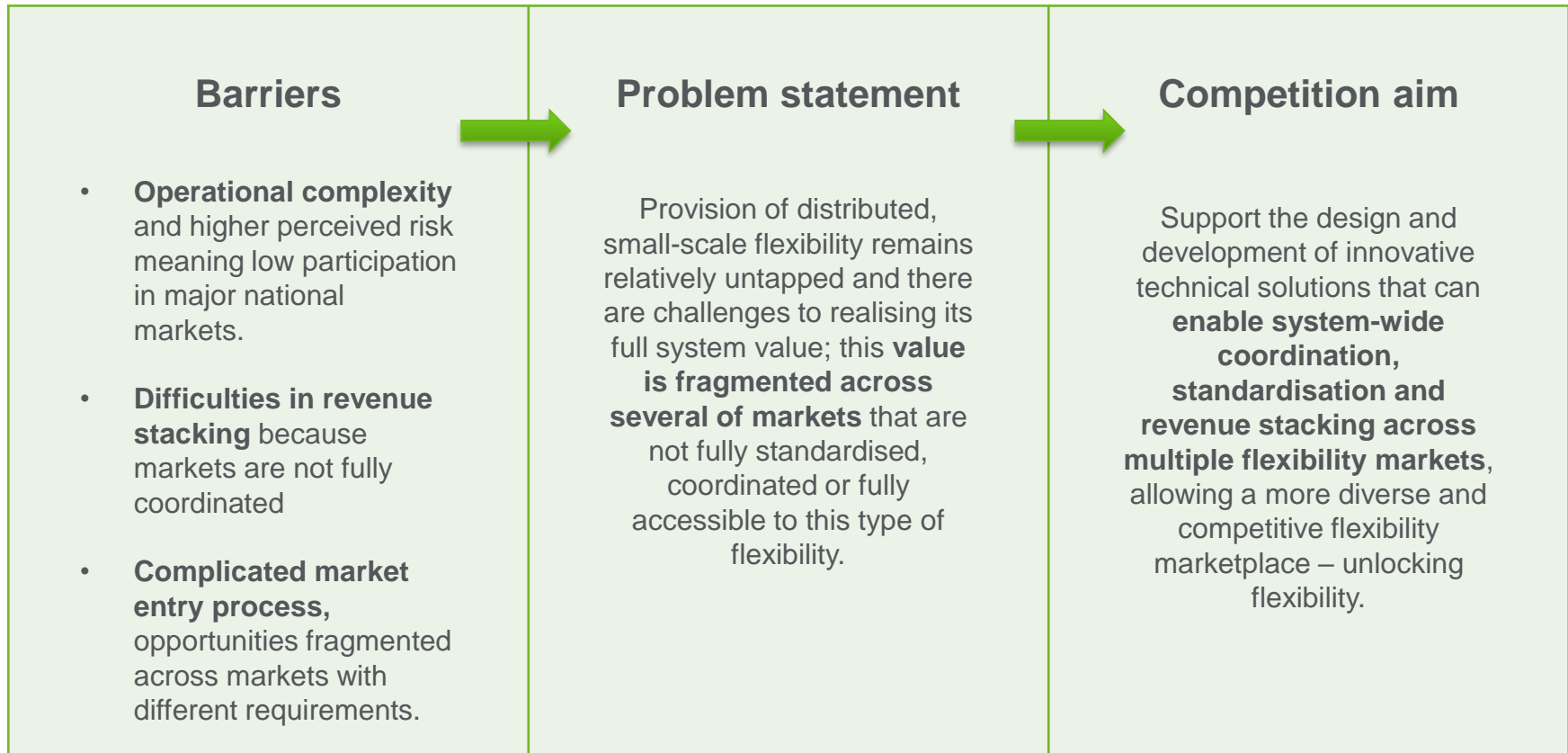
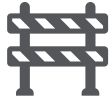


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Flex Markets Unlocked: Background and Policy Context



Background and Policy Context



Other relevant work

The proposed innovation activity builds and takes learnings from:

ENA Open Networks Programme

- Aims to standardise and align processes to make connection to the networks easier
- Developed a common evaluation methodology
- Launch of primacy rules

Previous Innovation Programmes

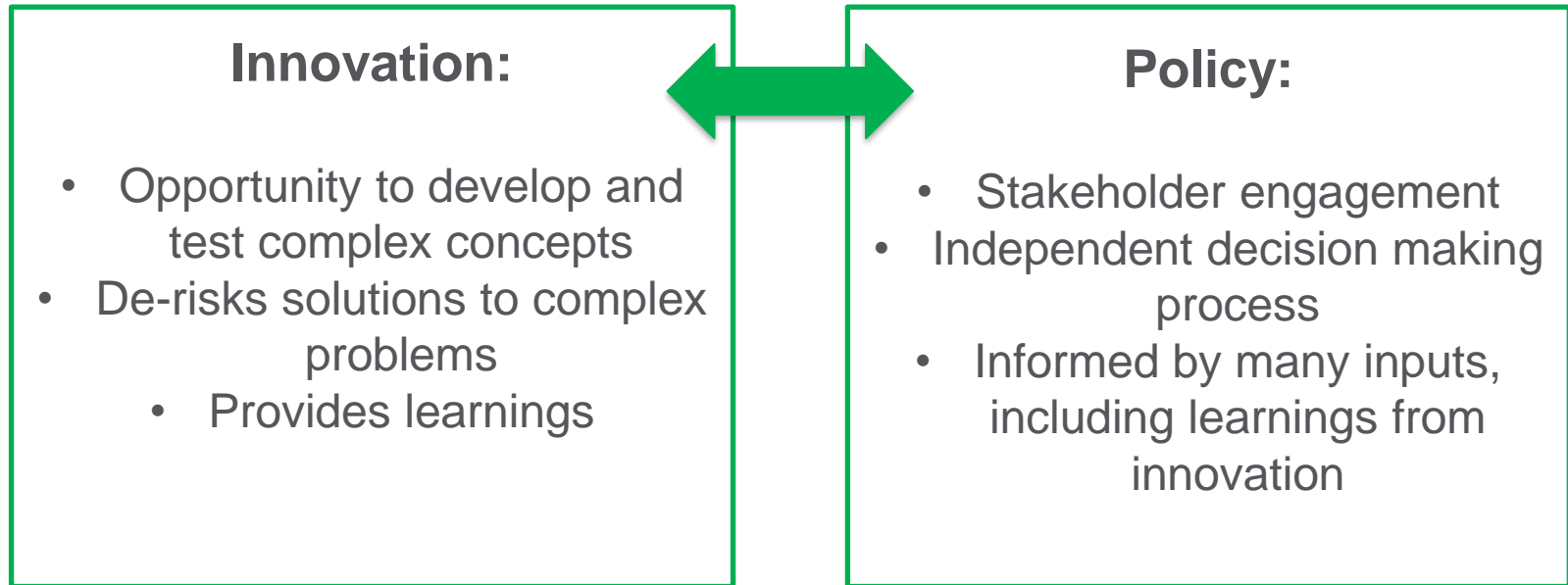
- Flexibility exchange demonstration competition (FleX) – supported the development and demonstration of innovative energy flexibility exchange solutions.
- Projects demonstrated the benefits of a neutral market facilitator within specific market elements and locations

Ofgem’s “The Future of Distributed Flexibility” Call for Input and Technical Annex

- Seeks views on a technical solution- a common digital energy infrastructure- to deliver information provision, market coordination of operations and access, and trust and governance.
- The overarching aim is to tackle these issues and ensure that DER and CER are actively engaged in all GB energy markets.

Why is innovation important in this area?

Innovation to inform policy work:



Flex Markets Unlocked: Proposed Innovation Activity



Proposed Innovation Activity

This innovation activity aims to support the design and development of **innovative technical solutions** that can enable system-wide coordination, standardisation, and revenue stacking across multiple flexibility markets (markets within which flexibility can be bought or sold), allowing a more diverse and competitive marketplace – unlocking flexibility

Phase 1 – Feasibility Studies

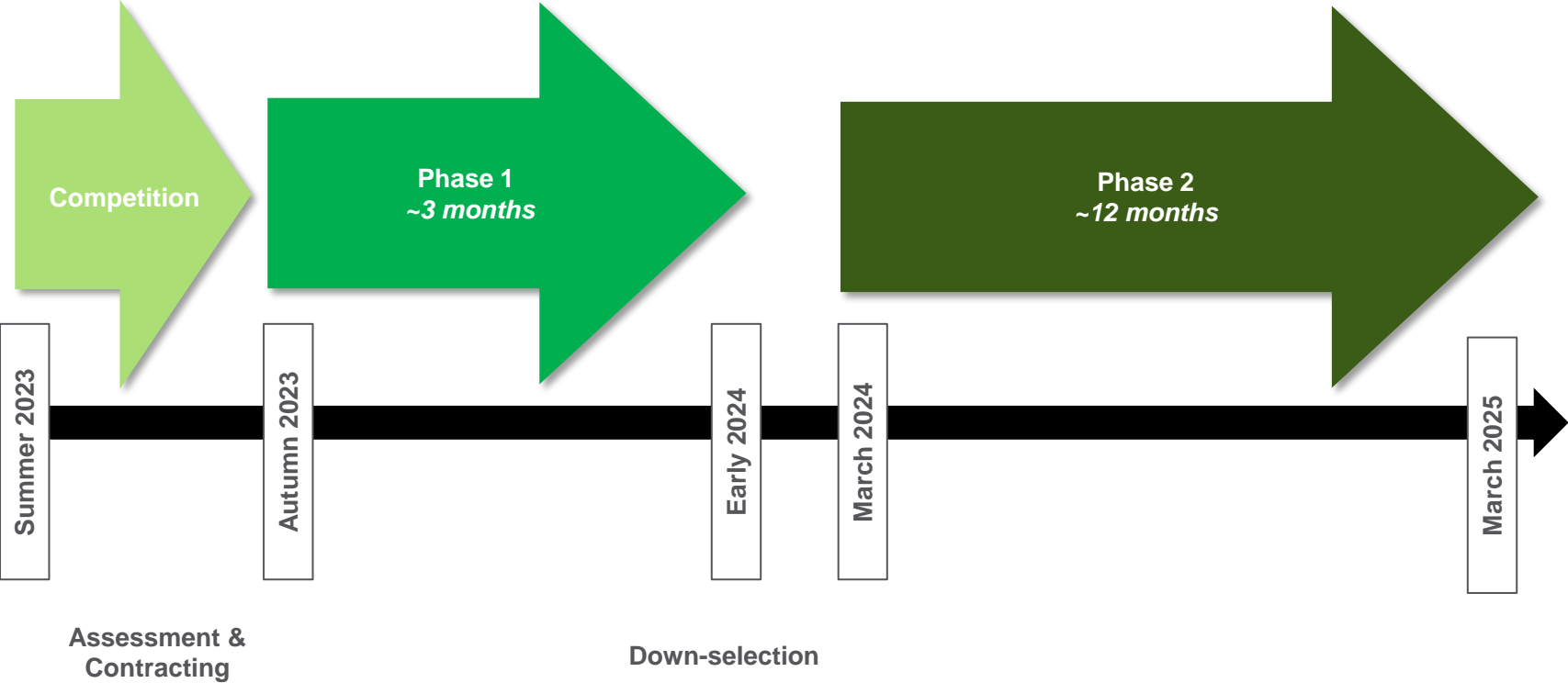
- Feasibility studies to develop robust technical specifications for proposed technical solutions
- **No. projects:** 3
- **Funding route:** SBRI
- **Length:** ~3 months
- **Funding amount:** ~ £200k / project



Phase 2 – Development and Delivery

- Development and delivery of a proof-of-concept technical solution, demonstrating its core functionalities and capabilities in both a simulated and subsequently live trial environment.
- **No. projects:** 1
- **Funding route:** SBRI
- **Length:** ~12 months
- **Funding amount:** ~ £2 million (1 project)

Structure of Proposed Innovation Activity



Scope of Proposed Innovation Activity

Delivered across two phases, the aim is to support technical solutions which deliver the following four key outcomes:

- 1 Information transparency:** enabling greater visibility of asset, product and market data for all market participants
- 2 Market access:** enable improved access to flexibility markets via common and streamlined processes
- 3 Market coordination:** enabling of operational efficiency and coordination across multiple market products
- 4 Trusted governance:** enabling transparency in decision making, fostering trust in the marketplace

Scope of Proposed Innovation Activity

Is it achievable to target these 3 markets at a minimum?

Markets:

Ambitious and scalable solutions that cover a minimum of 3 markets including at least:

- ✓ wholesale market
- ✓ one local market e.g. DNO services
- ✓ national market e.g. ESO services

Solutions could cover additional markets such as the capacity market or peer-to-peer markets

Innovative and deliver net new functionality:

Solutions:

- Introduce new functionality, avoiding duplication of existing work, market participant systems and other innovation-funded work
- Consideration of integration with existing systems where possible

What would help support engagement with existing work?

User*-centred:

- Solutions that are user-centred and provide a trusted and robust user experience

Modular and scalable:

- Solutions that are scalable, future proofed and of a modular design that allows functions and use cases to be added/removed

Out of scope:

- Undertake decision making on institutional arrangements for network and system operators.
- Undertake decision making on governance, enduring business models and delivery routes.
- Provide ongoing funding for any technical solutions.
- Provide funding for technologies or approaches which are already widely or commercially deployed (in the UK or elsewhere) or which are very similar to those being tested in other existing or planned innovation projects.

Requirements & Deliverables

Phase 1 – Feasibility (~3 months)

- ✓ Description of the technical solution meeting the 4 outcomes
- ✓ Detailed technical specification and architecture for the proposed technical solution
- ✓ An assessment of:
 - key constraints, dependencies and enablers of the technical solution
 - how the solution fits within the wider context
 - the value of the technical solution
 - finance and governance model options for the proposed solution
- ✓ Stakeholder engagement
- ✓ A robust delivery schedule for the development of the proposed technical solution

We expect outputs such as the technical specification to be published; and are interested in ensuring they could be used in the future by DESNZ or those nominated by DESNZ.



Phase 2 – Development and Demonstration (~ 12 months)

- ✓ Implement the specification for the proposed technical solution to build a proof-of-concept which meets the four outcomes
- ✓ Demonstrate the technical solution using simulated market data as well as real market data in a contained live trial.

Update and reassess:

- Constraints, dependencies and enablers
- Value of the technical solution
- Stakeholder engagement
- Finance and governance models

We are interested in outputs of this phase (artifacts, components etc) being published as open source. How could this best be achieved?

Does 3 months allow enough time to deliver a detailed technical specification that can be built in Phase 2?

Project Team and Expertise

- Open to consortiums
- Expertise in developing and building technical solutions
- Could include organisations such as:
 - IT Strategy Service Providers
 - Software Development Firms
 - Independent Market Platforms
 - Flexibility Service Providers
 - Energy Market Consultancies
 - Academic Institutions
 - Standards Organisations
- Open to non-energy sector expertise
- Encourage experience and use of recognised design and development frameworks such as TOGAF, ISO/IEC 42010

Key Considerations for SBRI

- The proposed innovation activity is anticipated to be awarded using the Small Business Research Initiative (SBRI) approach.
 - SBRI is aimed at organisations working on research and development (R&D) of an innovative process, material, device, product, or service prior to commercialisation.
 - Eligible project costs must reflect actual costs as 'fair market value' and suppliers are not permitted to include profit or contingency.
 - Projects requesting funding for commercialisation activities are not eligible.
- The sharing of risks and benefits is an important aspect to the SBRI approach. Projects receive financial support and retain any intellectual property generated, with certain rights of use retained by the Authority.
- Project outputs are also expected to be shared widely and publicly

Next Steps

- We welcome feedback on the proposed innovation activity. The **feedback will not be published** but the department may use it to inform future innovation competitions.
- The Q&A functions will be kept open for 5 minutes after the event has finished to allow for any feedback
- This presentation will be published on the Flexibility Innovation Programme website.
- Feedback can also be submitted via email to flexibilityinnovation@beis.gov.uk until **2pm, 17th May 2023**. Any comments and feedback received will not be published.
- We will not be responding to questions at this event.
- Please note, the proposed innovation activity is under development and therefore proposals in these slides are **subject to change**.

Feedback

We would appreciate feedback and comments in the following areas:

Aims, objectives and scope:

- Are the aims and objectives clear and achievable?
- Are the four key outcomes clear and achievable?
- Is there anything you think is unclear or missing in the proposed scope?
- **Is it achievable to target these 3 markets at a minimum?**
- **What would help support engagement with existing work?**
- **We expect outputs such as the technical specification to be published; and are interested in ensuring they could be used in the future by DESNZ or those nominated by DESNZ.**
- **We are interested in outputs of this phase (artifacts, components etc) being published as open source. How could this best be achieved?**

Timelines and budget:

- Do you think the timescales are realistic and achievable?
- For the budget outlined, what can be achieved within these timescales?
- **Does 3 months allow enough time to deliver a detailed technical specification that can be built in Phase 2?**
- Is 6 weeks sufficient time to prepare and submit an application?
- Would you anticipate submitting a bid for this activity?

Anticipated
launch of
proposed
innovation
activity
Summer 2023

www.gov.uk/government/publications/flexibility-innovation

Thank you for listening

Webpage: www.gov.uk/government/publications/flexibility-innovation

Email: flexibilityinnovation@beis.gov.uk

