

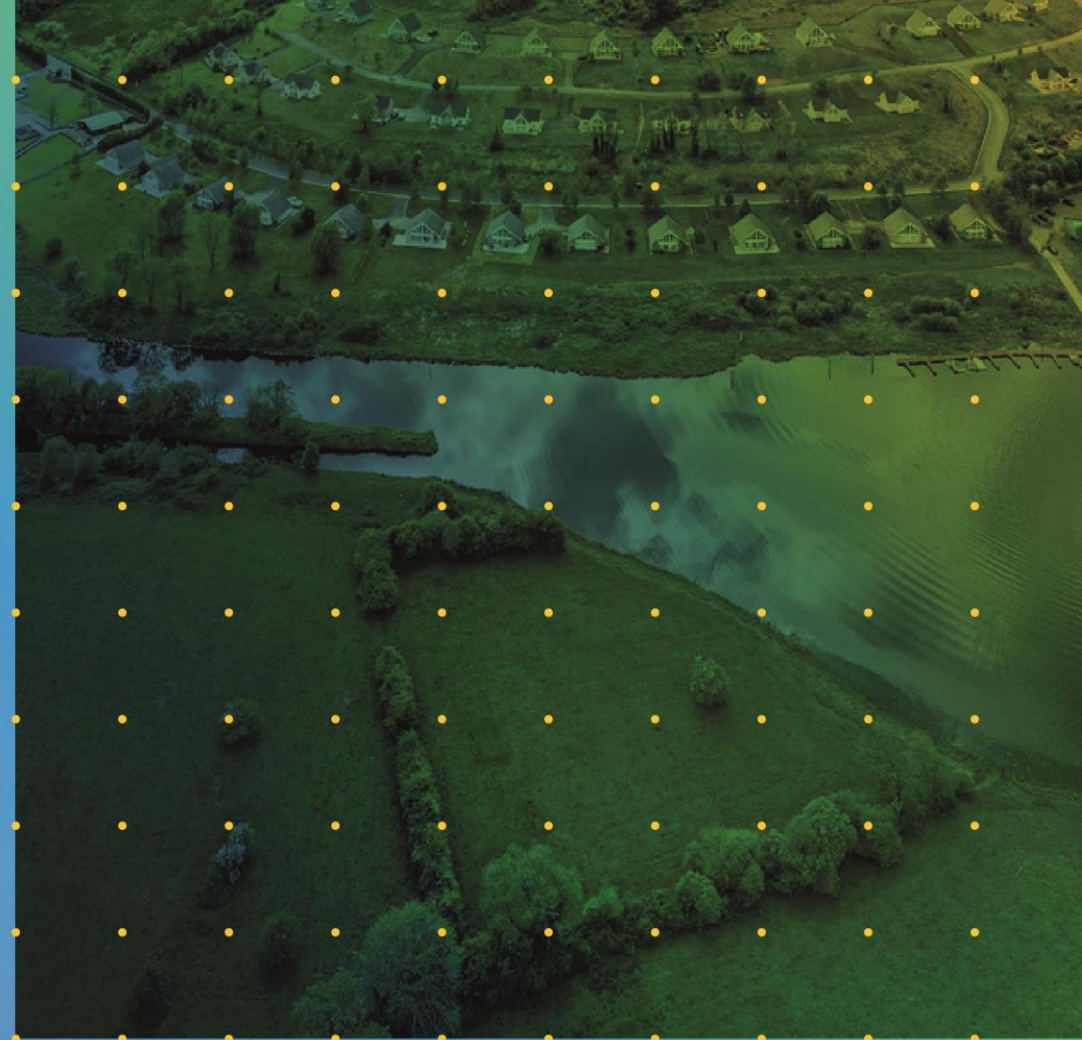


NETWORKS

NATIONAL NETWORK LOCAL CONNECTIONS PROGRAMME

Market Design Strategy

Document number: DOC-110823-HTP



OVERARCHING · VISION · NORTH STAR

Our Vision

Ireland's climate action and net zero targets are met

Our Mission

Our mission is to drive climate action by building the DSO's capability to cultivate customer participation and flexible, whole-of-energy-system solutions

Our Enabler

'Flexible system demand' is demand with the ability to respond to changing states of generation, demand, storage and network conditions. It is characterised by direct system operator actions, coupled with individual/collective customer behaviour

How will we enable our purpose, vision and mission?

Power System Requirements

A deep understanding and foresight of the impacts, characteristics and evolving needs, of a highly distributed, low-carbon electricity system. The technical expertise to develop innovative solutions to support growing customer demand and increasingly distributed generation, and storage

Flexibility Market Design

Local and national markets for flexible demand, run by the DSO as a neutral market facilitator, offering a mix of long-term, day-ahead and intraday arrangements that afford all customers with opportunities to participate

Retail Market Design

Setting the future direction for the smart meter-enabled retail market, with suppliers equipped and incentivised to harness available data to create dynamic, personalised tariffs for their customers. We will work closely with suppliers and the CRU to optimise retail market design, enabling synergies and efficiencies in operating flexibility and retail markets

Customer

Creating the conditions for customers to participate in immersive, personalised experiences of flexible demand. Helping to drive education and the national conversation, about how we can all take control of our energy demand, and share in the benefits. Migrating products and services to third parties when appropriate to do so

Smart Metering

Setting the future direction for smart meters, including use cases – such as harnessing smart meter data to (i) identify faults, and (ii) baseline, measure and validate flexibility services delivered by customers – the implementation of the next generation meter, and the development of an enduring solution for microgeneration

Behind-the-Meter Infrastructure

Behind-the-meter infrastructure, including clear technology requirements and standards for data exchange and communication protocols, to ensure customers' homes, vehicles, solar panels and batteries are flexibility ready

Core Foundations

Regulatory: Mandates, authority, policy, alignment, codes, licences

Legislative and Policy: Climate Action Plan

Stakeholder: Voice of the stakeholder and citizen

FLEXIBILITY · MARKET · DESIGN · OVERVIEW

OBJECTIVE

This document **builds on the Phased Flexibility Market Development Plan** that the National Network, Local Connections Programme consulted on in 2021. The objective of flexibility market development is to:

- Introduce **market-based products** that incentivise and drive participation in flexible demand;
- Facilitate distribution-connected customers' **participation in all relevant markets**.

These solutions need to **facilitate the range of different customer and market participants needs and capabilities**; for example, providing the right balance of long- and short-term trading horizons, reliability and durations of response etc. They must be designed in a manner that **complements existing, established electricity markets** (i.e. wholesale, retail and ancillary services) and enables customers' participation in these multiple markets. To achieve this, our flexibility market design will need to address these issues, as well as:

- Building **transparency in market operations** and decision making;
- Pursuing **price discovery** while also **providing certainty** to early market participants and small customers;
- Putting in place the processes and capabilities supporting **market structures and operations**.

It is important to note that **flexibility market arrangements** – and the associated registration, procurement or auction arrangements, market rules, contractual arrangements, products and services – **will evolve over time**.

STRATEGIC PROPOSALS

- 1 PRODUCT CHARACTERISTICS**
Identify the parameters (frequency and duration of response) needed for flexibility products
- 2 NATIONAL AND LOCAL AUCTIONS**
Grow local flexibility markets through a series of national and local auctions that address flexibility requirements
- 3 NEAR REAL-TIME FLEX PROCESS**
Review procurement process and identify pathways to running auctions closer to real time (day ahead and intraday)
- 4 SYSTEMISE INTERACTION**
Systemise market interaction through the deployment of a Flexibility Auction Platform
- 5 DIRECT & AGGREGATED PARTICIPATION**
Design and introduce different models of market participation, including direct bidding and through aggregators
- 6 STANDING REVENUE STREAMS**
Implement future DSO-TSO operating model to enable distribution-connected resources' stacking of services

STRATEGIC PARAMETERS



ARENAS

Where will we be active?

We want to create and enter into market-based contracts for:

- **Long-term flexibility products**
- **Short-term flexibility competitions** within day
- **Day-ahead** and intraday flexibility auctions
- **Carbon abatement flexibility products**
- **Peer-to-peer trading** and non-firm flexible connections
- Local oversupply-matching contracts
- **Local peak demand flexibility products**



VEHICLES

How will we get there?

- **Long-term contracts** to stimulate forms of flexibility that have high up-front costs and value certainty
- **Market-based pricing** for capital-intensive forms of flexibility
- Simple **fixed price offerings** to stimulate participation initially
- **Rollouts of new products or arrangements** – as required – to achieve targets for flexible system demand, addressing specific needs to stimulate different segments of the market
- **Innovation and streamlining** in the running of flexibility auctions



DIFFERENTIATORS

How will we stimulate the marketplace?

- Simple recruitment or tender processes
- Simple pricing mechanisms
- **Simple market rules**
- Industry at the heart of designing market rules
- Working to ensure market participants can **stack services** across multiple markets
- **Trust, fairness and transparency**
- **Lower barriers to entry**, underpinned by **non-discriminatory rules** (leaving nobody behind)



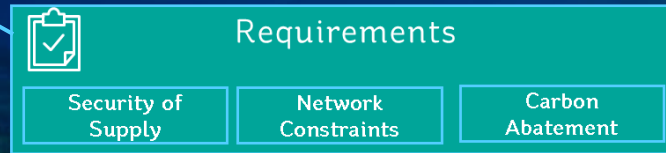
ECONOMIC LOGIC

How will this provide consumer value?

- Price caps calculated based on the **true value of flexibility** versus a relevant counterfactual
- Engaging with the CRU to **consider long-term funding mechanisms for flexibility** (including use of system charges, supplier or generation charges etc.)
- **Additional sources of value considered** including avoided carbon costs, avoided or deferred infrastructure costs, impact on energy and balancing costs etc.

FLEXIBILITY · MARKET · DESIGN · VISION

ESB Networks DSO identifies a series of requirements for flexibility, balancing supply and demand more locally, addressing local network constraints and helping to realise carbon abatement targets



ESBN DSO operates the Flexibility Market to address these flexibility requirements through a series of Auctions. These build on existing Flexibility concepts to include Reactive Power, Carbon abatement and Peer to Peer Trading

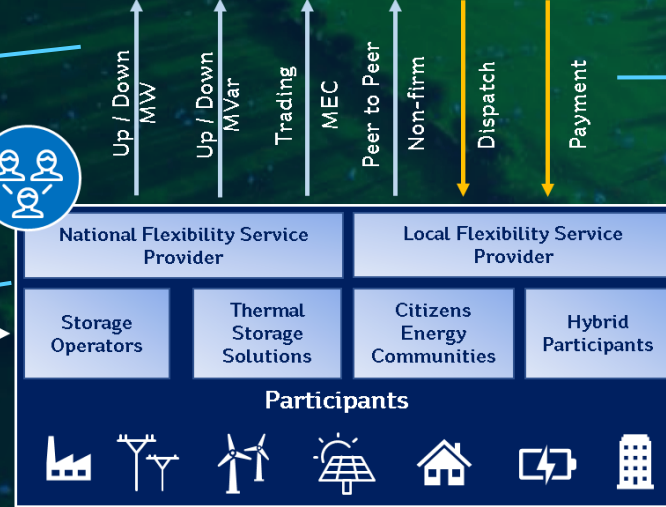
TSO/DSO Co-ordination established to allow customer to participate in both TSO and DSO markets and enable value stacking



Market rules developed by the DSO in partnership with industry, and approved by the CRU

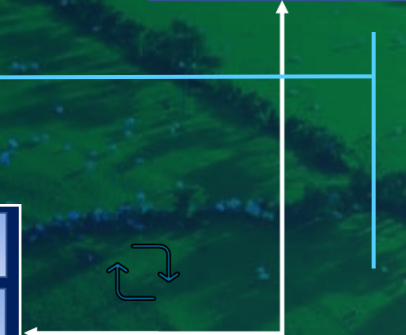
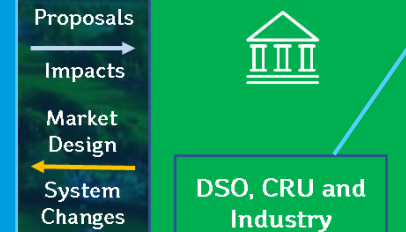
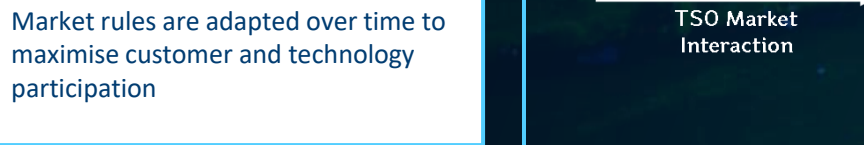
Market interaction and settlement is managed through the use of established rules and integration protocols

Market rules are adapted over time to maximise customer and technology participation



Participants are motivated to offer their Flexibility in return for financial incentive, green credentials or simply to play their part in doing the right thing for Ireland.

Flexibility asset holders (e.g. generators, consumers, prosumers, etc) can bid in directly into the market as Flexibility Service Providers or, more commonly, they participate through overarching "Aggregators" acting as FSPs



STAGING - PLAN TO 2030

