

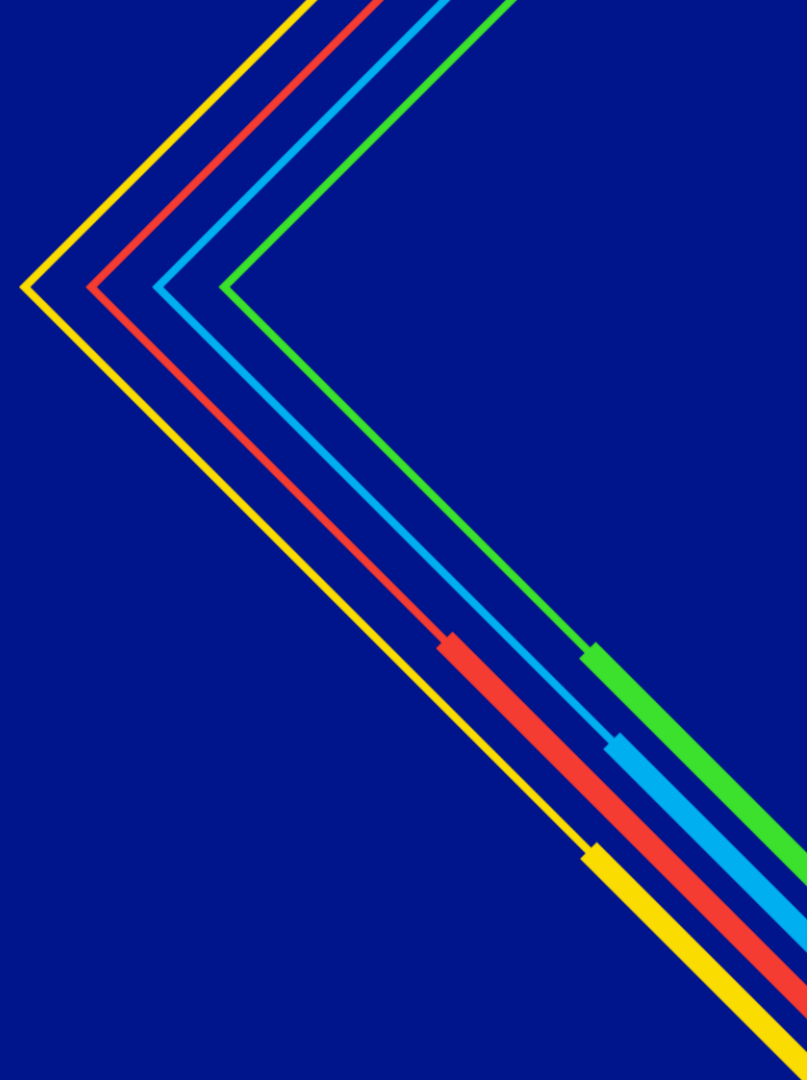


**Electricity
Distribution**

EIP115: Recreating Loading Diversity

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nationalgrid



Contents

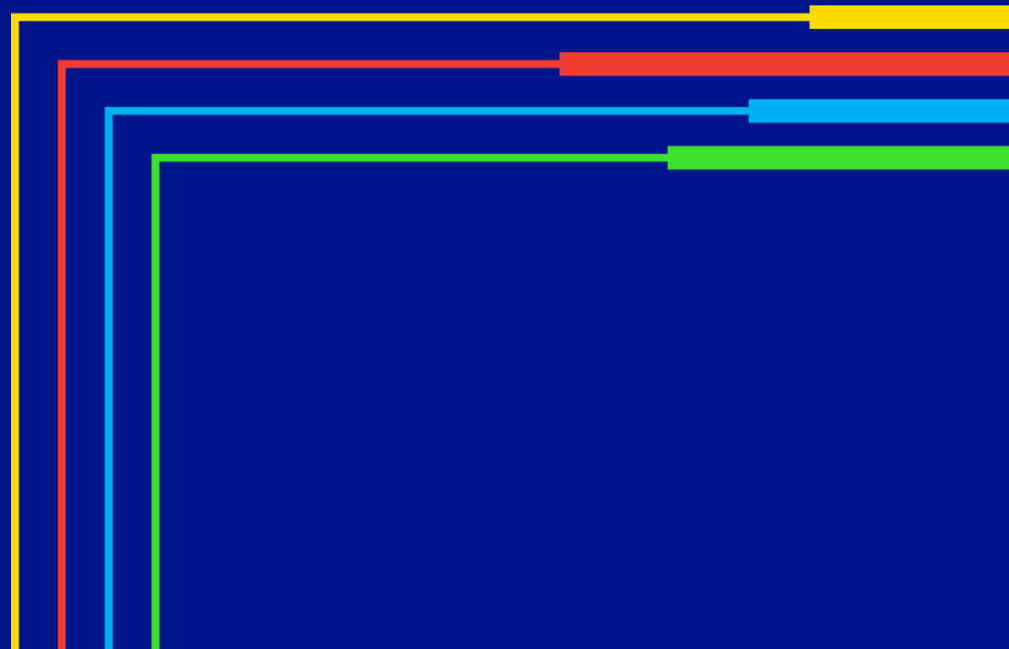
01 Problem & Background

02 Solution Constraints & Expectations

03 Contacts

01

The Problem



EIP115: Problem

The energy transition will increase the assets with automated capability that can and will follow market price signals.

Load shifting would traditionally encourage consumption when there is excess network headroom, e.g. storage heating and EV charging overnight. But at what point could this become a problem due to;

- Creating a new peak at a different time – either predictably via ToU tariffs or via dynamic tariffs e.g. negative wholesale prices due to excess wind generation.
- Making cyclic ratings inappropriate

What mitigations could be applied and are there any other issues that are likely to arise?



The EQUINOX project has learnt there is less value for money to customers with heat pumps on ToU tariffs due their ‘irregular’ heating usage.

How can we forecast load shifting for different customer groups realistically?⁴

EIP115: Problem



Diversity is applied when predicting demand currently.



Greater incentives for customers to utilise large domestic demands with ToU tariffs.



With the uptake of LCTs continually increasing, is there a point where this may become a problem?



How can we model maximum demand in a world of automatable demands?



How can we incentivise diversity among this population?

EIP115: What are we looking for?

Feasibility & thought leadership analysis covering;

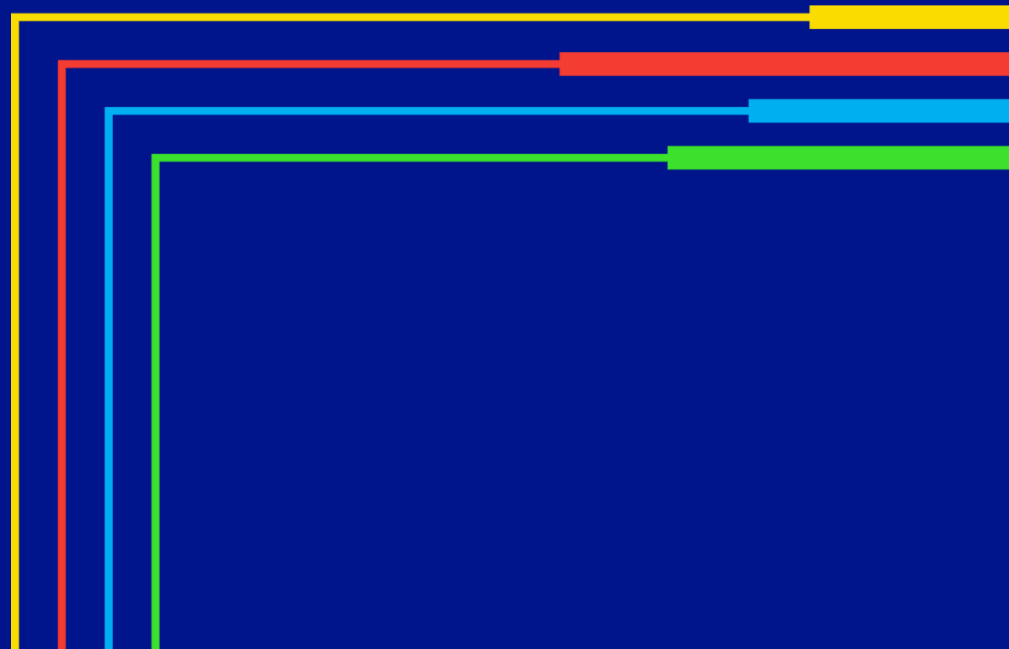
- Likely scale, timing and impact of diversity reduction
- potential mitigations to spread load over a long period of time
- Likely market reaction / regulatory controls and impact on price signals
- Will the natural dynamics of the wholesale market smooth it out?
- Are there any other ways that this could be mitigated and if introduced does it completely negate peak shifting during these periods.

Who are the key players

- Flexibility Service Providers
- Energy Suppliers
- Economic Consultants
- Energy Consultants
- DNOs
- Asset Owners

02

Solution Constraints



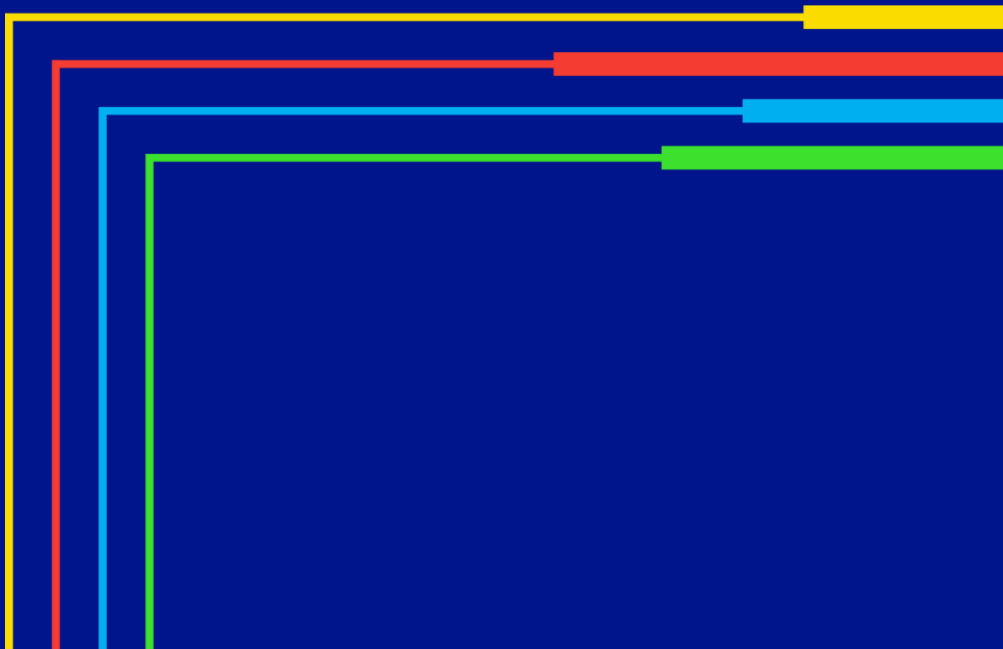
EIP115: Solution Constraints

The solution must;

- Consider a range of assets that could potentially impact the network
- Consider current and potential future market structures
- Consider multiple scenario cases
- Consider impacts on an annual basis

03

Contacts



Contacts

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