



pixie energy

Local Energy and the Energy System Transition

Nigel Cornwall

14 February 2019



What is Pixie Energy?

- Pixie Energy: established in 2016 to develop and implement local energy market ideas and innovations. Focus has been on East Anglia
 - Official launch July 2017
 - Now building on knowledge and relationships by scoping and establishing innovation projects with local partners to yield “learning by doing”
- Now focussing more broadly:
 - Build regional maps, highlighting opportunities and challenges, to be made available through local LEPs
 - Support local thinking, solutions and players
 - Demonstrate business case for new commercial mechanisms and models

Our projects take national knowledge and relationships and apply them for the benefit of the East Anglian region and beyond

An outmoded framework

Today

- Settlement meter sole gateway to customer
- FiT export usually with host supplier, no clear framework for new sites
- No coherent rules for domestic storage
- HHS is expensive, with few meaningful ToU offers

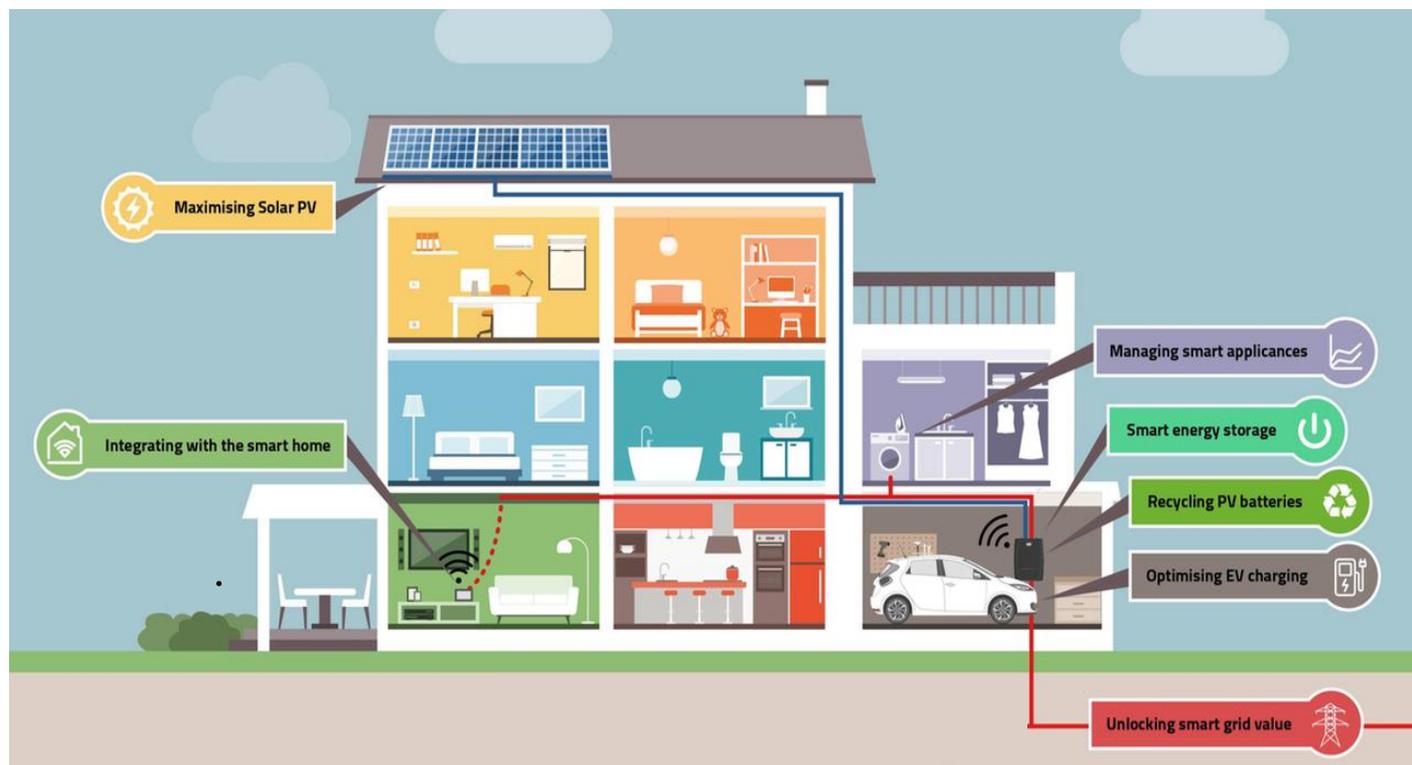


Tomorrow

- Meter splitting without complexity
- Separable import and export registers
- Liquid, competitive market for bundled services and exports
- Removal of barriers for storage behind the meter (also in front)
- ToU tariffs reflecting household circumstances, enabled by cost-effective HHS

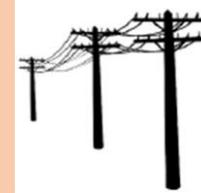


The vision behind the meter



Value(s) of flexibility

- DNO – avoid network reinforcement, services to the national or local system



- Consumer – lower charges and increased choice

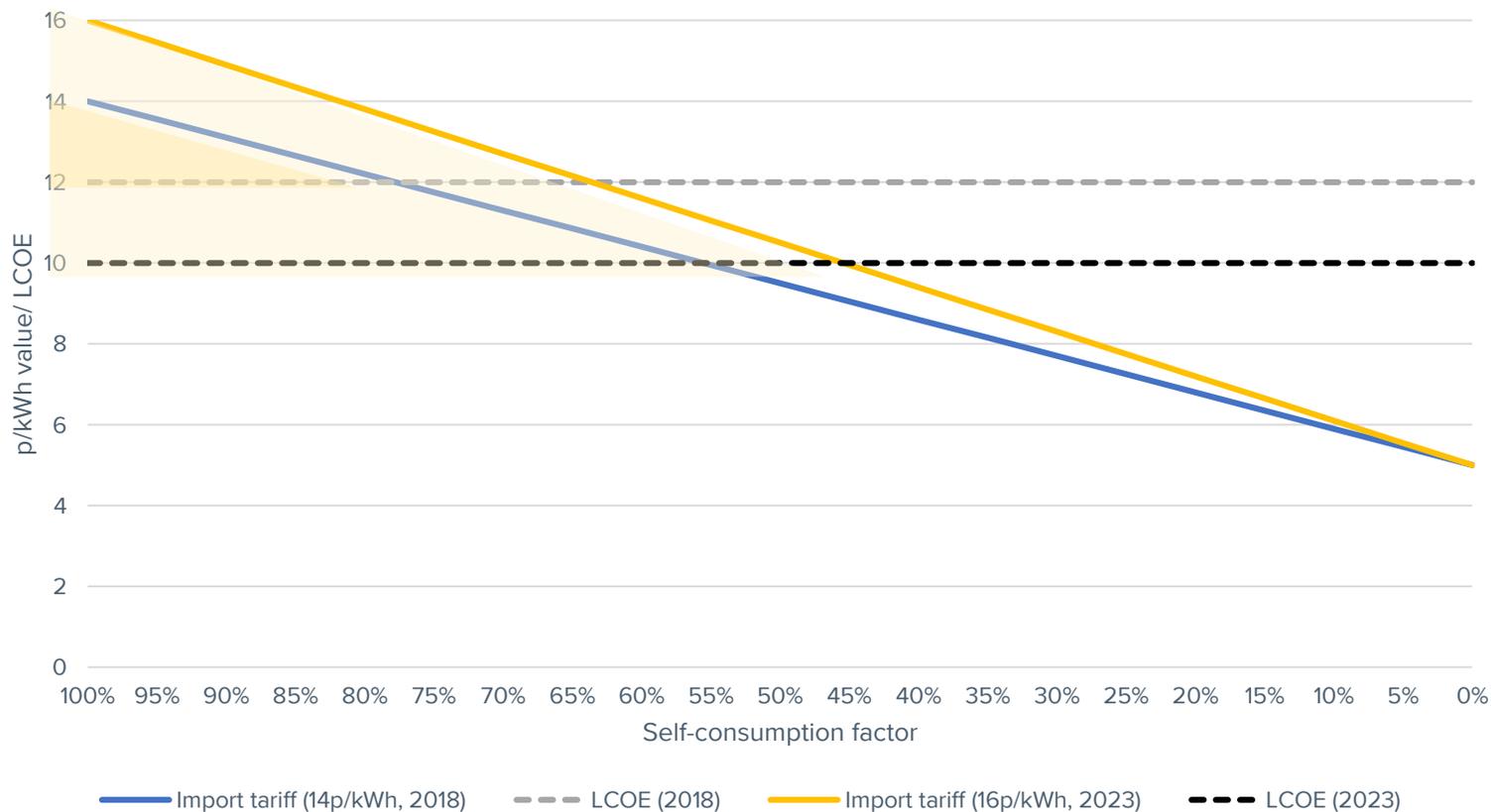
- Supplier – avoid imbalance



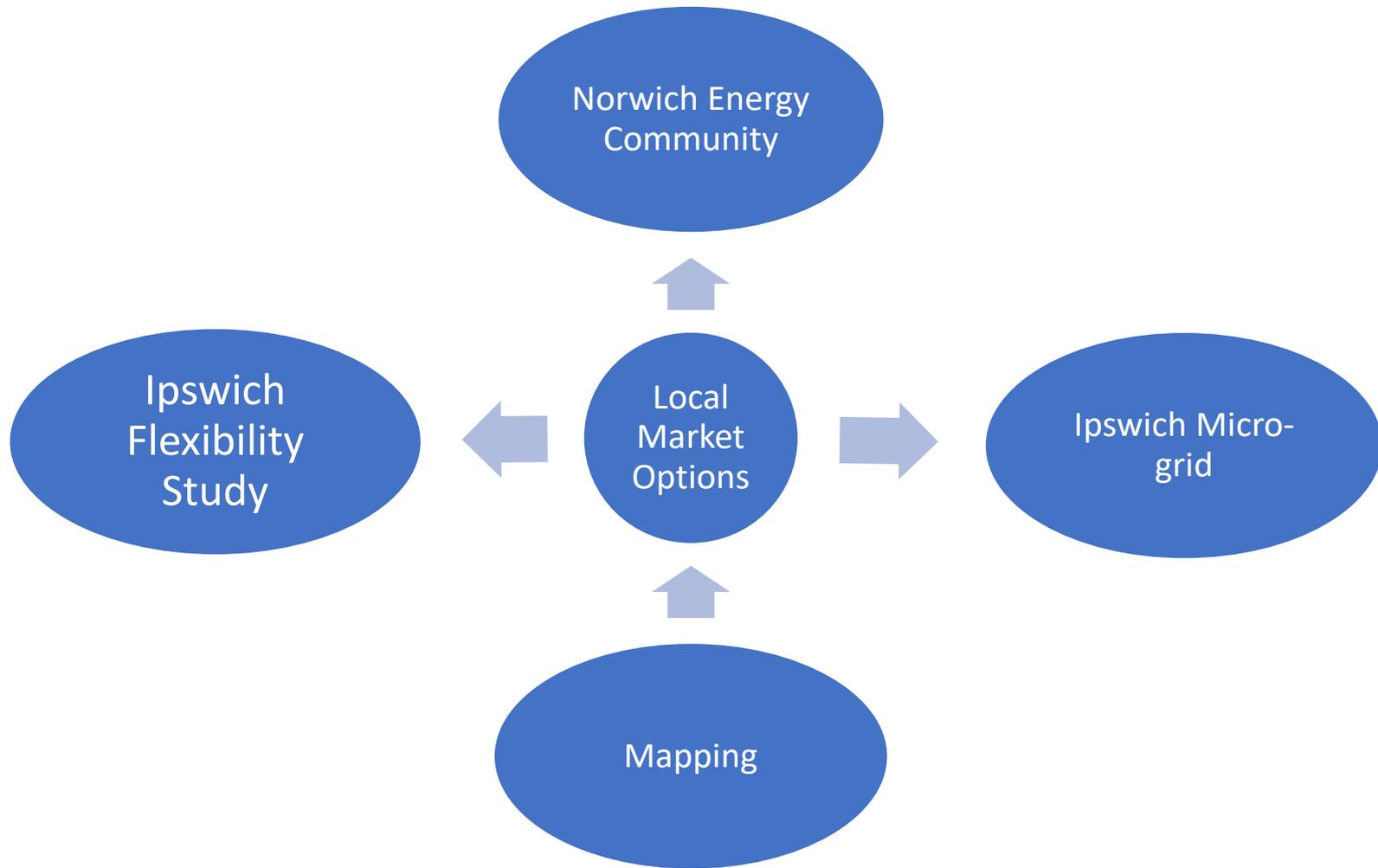
- Market arbitrage

Enabled by smart tariffs and technology

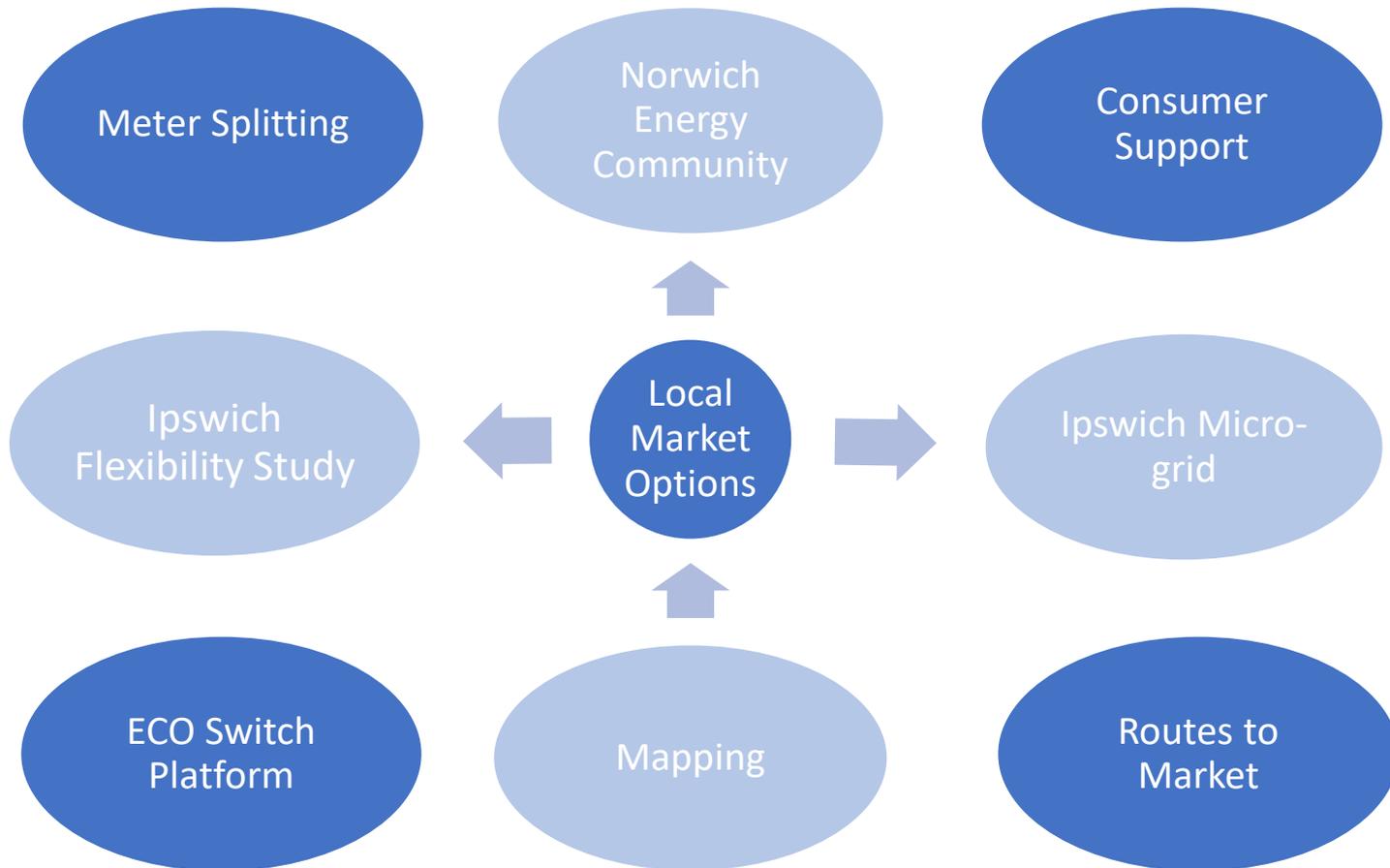
Powerful forces are at work



Priority focuses



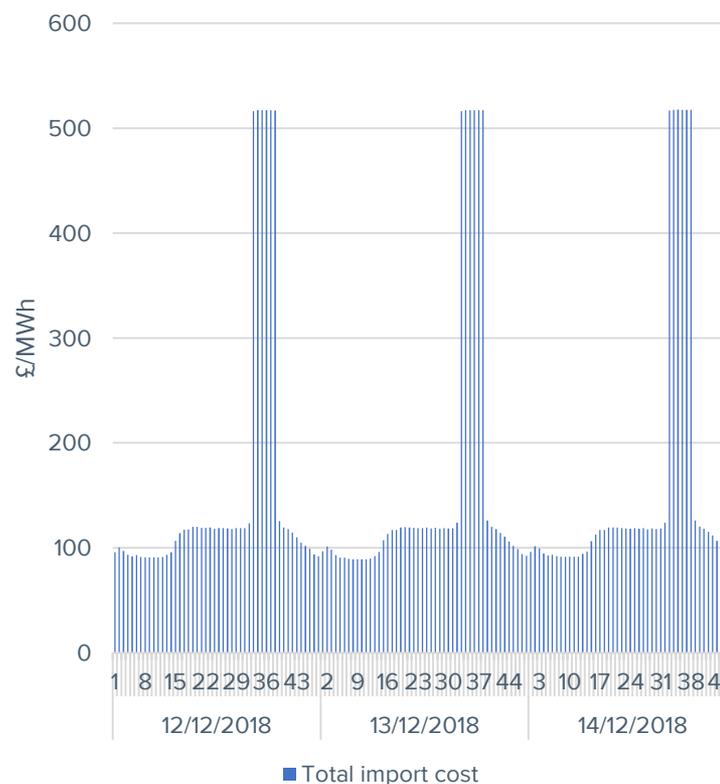
Other focuses



Ipswich Flexibility Study

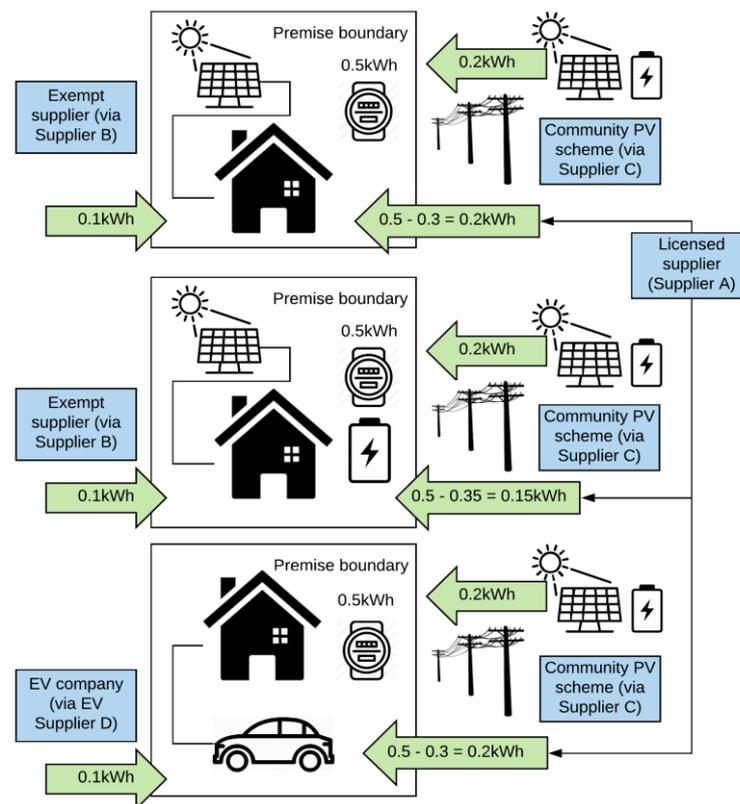
- The task
 - Deliver a feasibility study based on Ipswich about innovative approaches that can be used to value and trade flexibility in the UK electricity system
- Our approach
 - How can integrated solar PV and battery storage behind the meter provide maximum value to domestic customers
 - Regular large pricing differentials behind the meter

Value of avoided grid import – domestic user, East of England



Norwich Virtual Energy Community

- A local community based supply model allowing
 - Deployment of solar and storage
 - Multi-supplier service provision and work around with key partners
 - Optimisation of consumer flexibility, trading of imbalances
 - Use of innovative time of use tariffs and elective half hourly settlement
- All this enabled under pilot assuming P379 solution
- Develop tool kit that be replicated and scaled based on project learnings



Ipswich Micro-grid

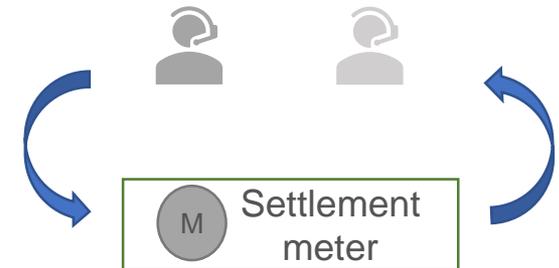
- Pixie Energy's latest project
 - Will trial a local demonstrator project in the East of England to trade power/ flexibility and balance within a substation
 - Numerous funding routes and opportunities
 - Scalable/ replicable
 - Again using range of participants across the energy value chain
 - Attracting international interest

P379 Meter splitting mod

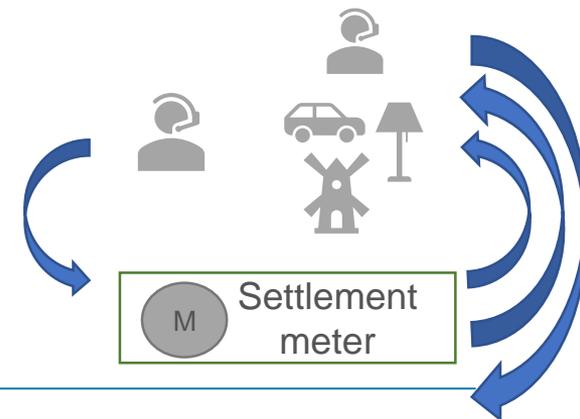


- New Anglia Energy is a recent market entrant
 - Acceded to BSC late 2018
 - Presently an exempt supplier participating in the Norwich Virtual Energy Community and other local market initiatives in East Anglia
 - Side development by Nigel Cornwall, not Cornwall Insight
- Many innovators and disruptors in the market place who do not want to become traditional suppliers
- Had been intending to bring forward sandbox proposal to explore the issues, but wider appetite for rule change
- Working with Ovo Energy, Cooperative Energy, Powervault and Verv on this mod

The current arrangements facilitate limited disaggregation



The proposed change would allow for more effective competition for customer volumes



What is ECO Switch?

- A new route to market for delivering ECO measures regionally
 - A trading platform to allow local authorities and social housing groups initially in East Anglia to pull through measures funded by suppliers and delivered by installers/ solution providers
 - Targeting fuel poor and vulnerable customers
 - Especially by newly obligated suppliers
 - Meet extended market for flexible eligibility and increased regulatory expectations of domestic energy efficiency markets
 - Tri-lateral trading and reconciliation between the three parties

Mapping platform

