

electricity
north west

Bringing energy to your door



ICE Introduction to BiTraDER

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www.enwl.co.uk



Safety moment

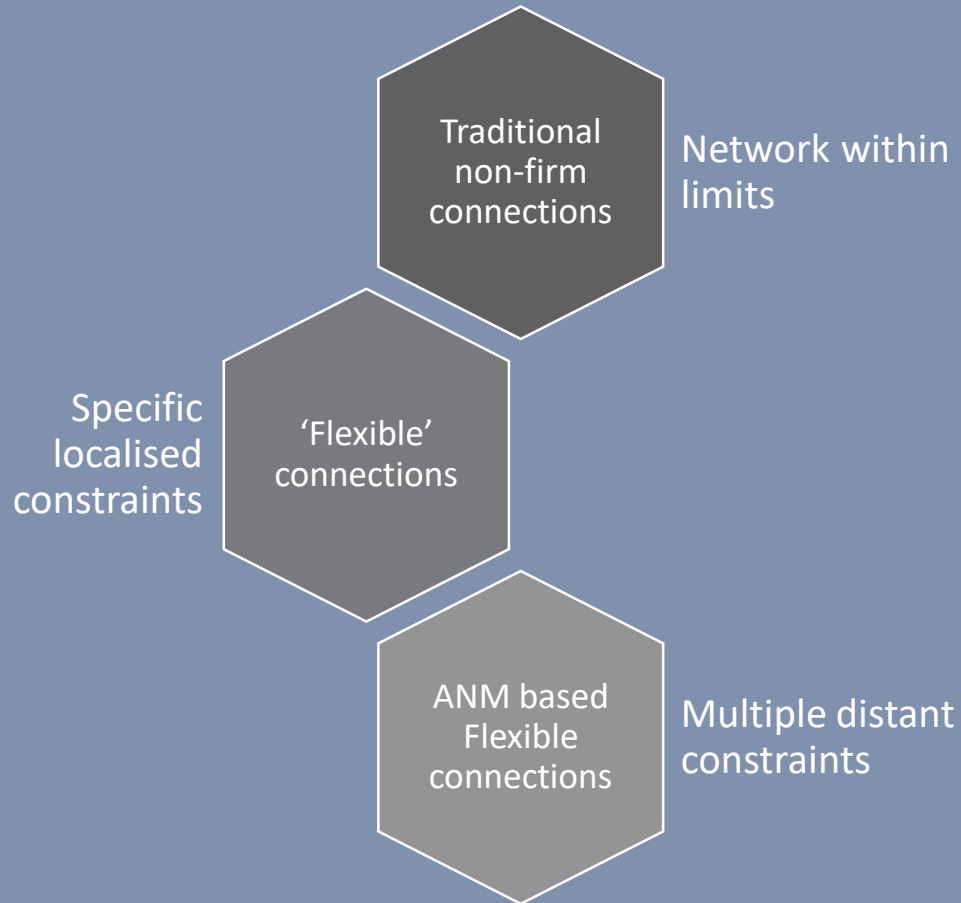


Planning ahead and staying safe while driving in winter weather

'Firm' or 'Non firm'?



- We now offer firm and non firm options for new connecting customers, but 'non firm' options come with advantages and disadvantages



'Non firm' options allow quicker and cheaper connections, but...

- Risk of curtailment impacting business case for connection
- *Relative* unknown of curtailment impact (though limit imposed via curtailment cap)

BiTraDER – our innovative new solution



Investigate, develop and trial peer-to-peer trading of curtailment obligations



Reduce barriers for the uptake of RES and choice for connected customers



Encourage use of flexibility and reduce whole system costs



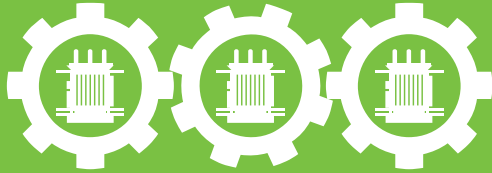
Enable DNOs to meet the challenge of net zero

- Offers ‘flexibly’ connected customers an opportunity to trade their curtailment obligations
- Mitigates business risk associated with curtailments
- Offers opportunity to ‘test’ out flexibility market on an ad hoc basis





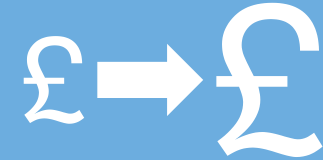
BiTraDER contains highly innovative, and as yet untested, aspects



A GB first, connected DERs will be able to trade their curtailment obligation bilaterally, in a transparent market independent of the DNO



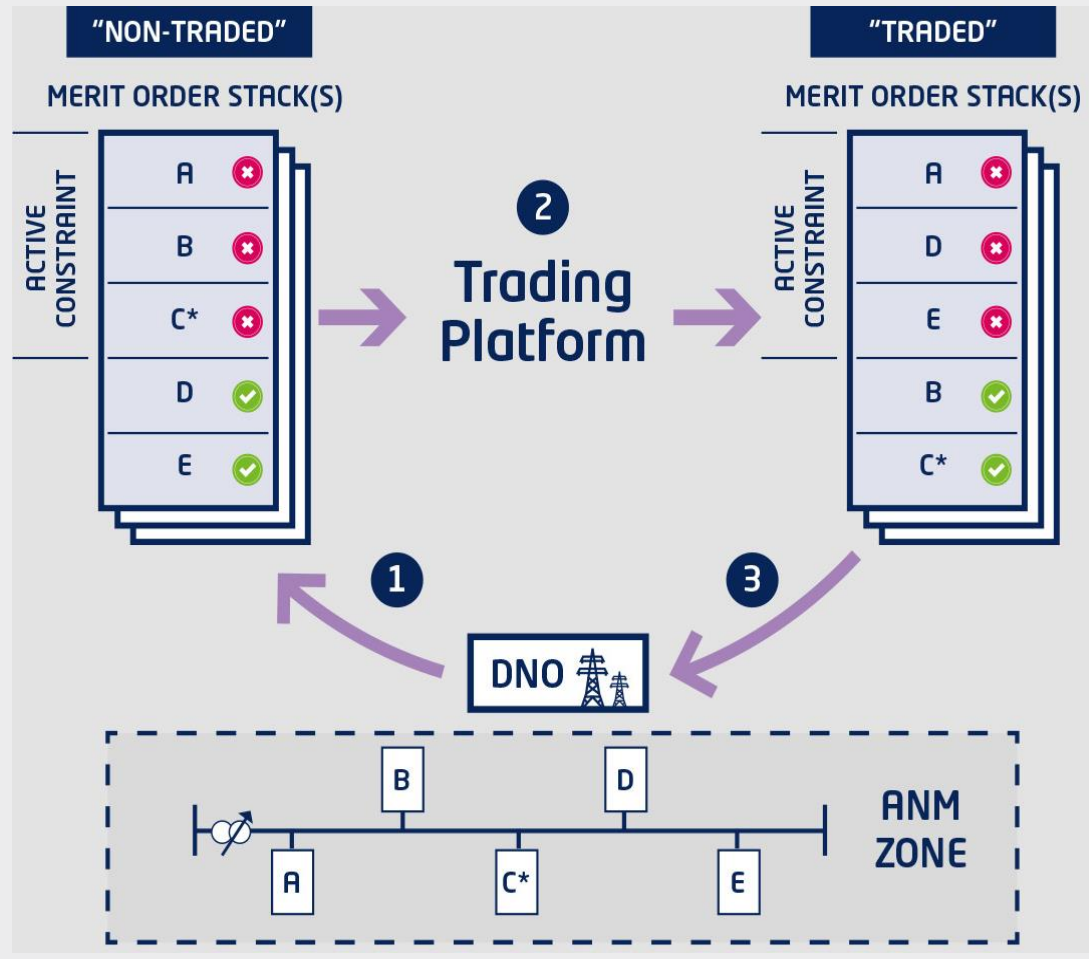
Ability to trade in near real time addressing long term capacity and investment challenges



By exploring operational conflicts, BiTraDER will boost the value proposition for connected resources allowing them to provide services to both ESO and DNO

BiTraDER will demonstrate how access to a neutral market allows connected resources to trade their obligations bilaterally, encouraging more of them to offer flexible services, increasing availability of flexibility and thereby reducing whole system costs.

How does it work?



Constraint is forecast; ANM creates a 'merit order' list



'Merit order list' is sent to trading platform; customers choose to trade (*subject to validation checks)



'Re-traded' merit order list is sent back to ANM for dispatch instruction

Selection of Trading Use Cases



Excess generation

G1



Curtailable Connected Generation trading with Non-curtailable Connection Generation

For example, a flexibly connected generator trading curtailment obligations with a firm generator (*generation turn down*).

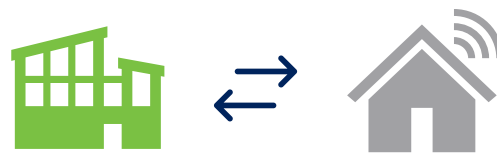
G2



Curtailable Connected Generation trading with Non-curtailable Connection Demand

For example, a flexibly connected generator trading curtailment obligations with firm demand assets (commercial or aggregators) (*demand turn up*).

D3



Curtailable Connected Demand trading with Non-curtailable Connection Demand

For example, a flexibly connected demand asset trading curtailment obligations with firm demand assets (commercial or aggregators) (*demand turn down*).

D4



Curtailable Connected Demand trading with Non-curtailable Connection Generation

For example, a flexibly connected demand asset trading curtailment obligations with firm generator (*generation turn up*).

Excess demand



Principles	Outcomes	What do we want to learn?
Maintain operational integrity of distribution network	Optimise access	Does it work?
Promote lowest whole system costs	Unlocking efficiencies	Does it facilitate carbon reduction?
Peer to peer facilitated by DSO	New solutions to constraint management	Is it effective?
Transparent and fair trading	Visibility of values and trades	How can the DSO and ESO interact better?
Accessible digital platform	Common, intuitive use	Is inter-market co-ordination possible?

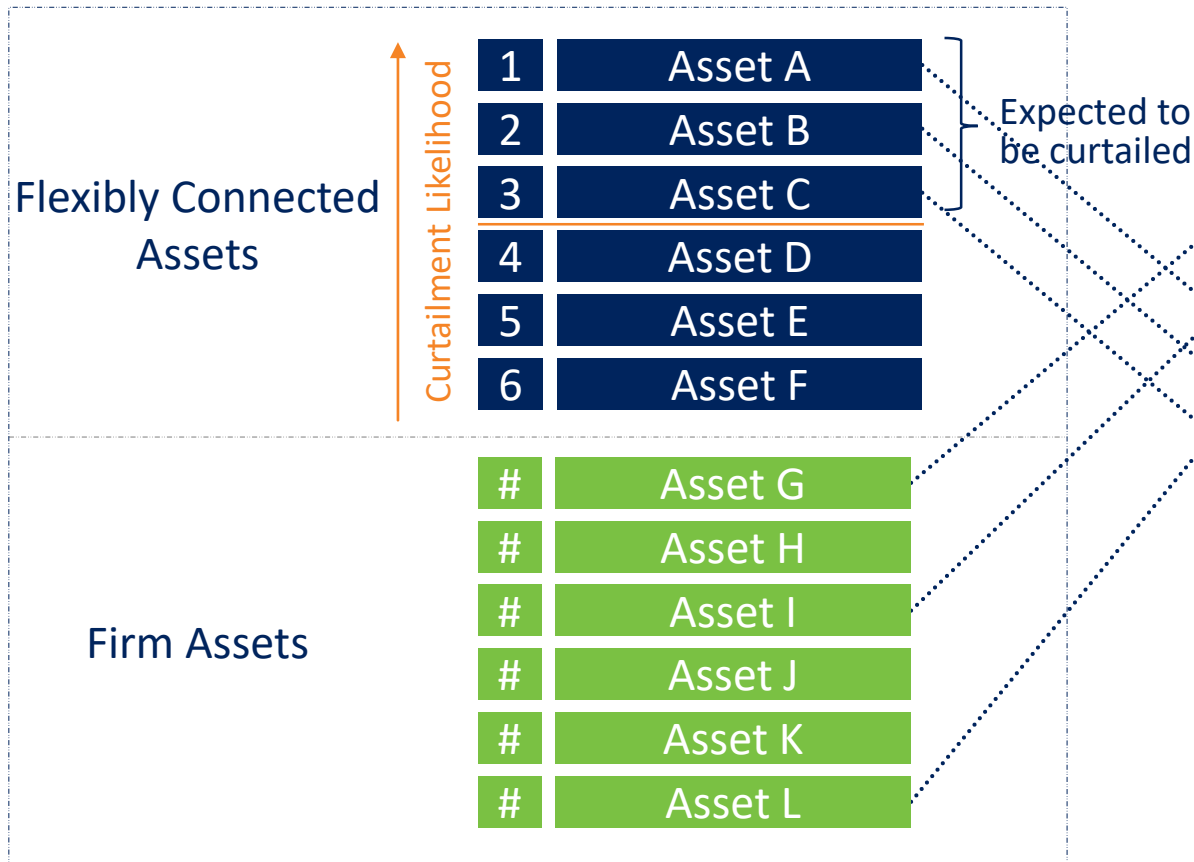


Objectives	Desired outcomes	What do we want to learn?
System security	Operational integrity of distribution network maintained	Can system security be ensured with trading?
Efficient use of grid capacity	Improved allocation of grid access based on value to users	Can trading lead to more efficient use of grid?
Zero carbon	Inefficient restrictions on low carbon technology grid use removed	Does it facilitate carbon reduction?
Practical	Appropriate and workable solution for trading parties	Can trading be easily factored into operations?
Valuable	Market with enough value to be attractive for the trading parties	Can the market bring sufficient value to the trading parties?
Fairness	Fair outcomes for affected parties	Can trading support reasonable outcomes for grid users?
Transparent	Open trading processes and clear trading outcomes	How trading can support revelation of value of grid use?

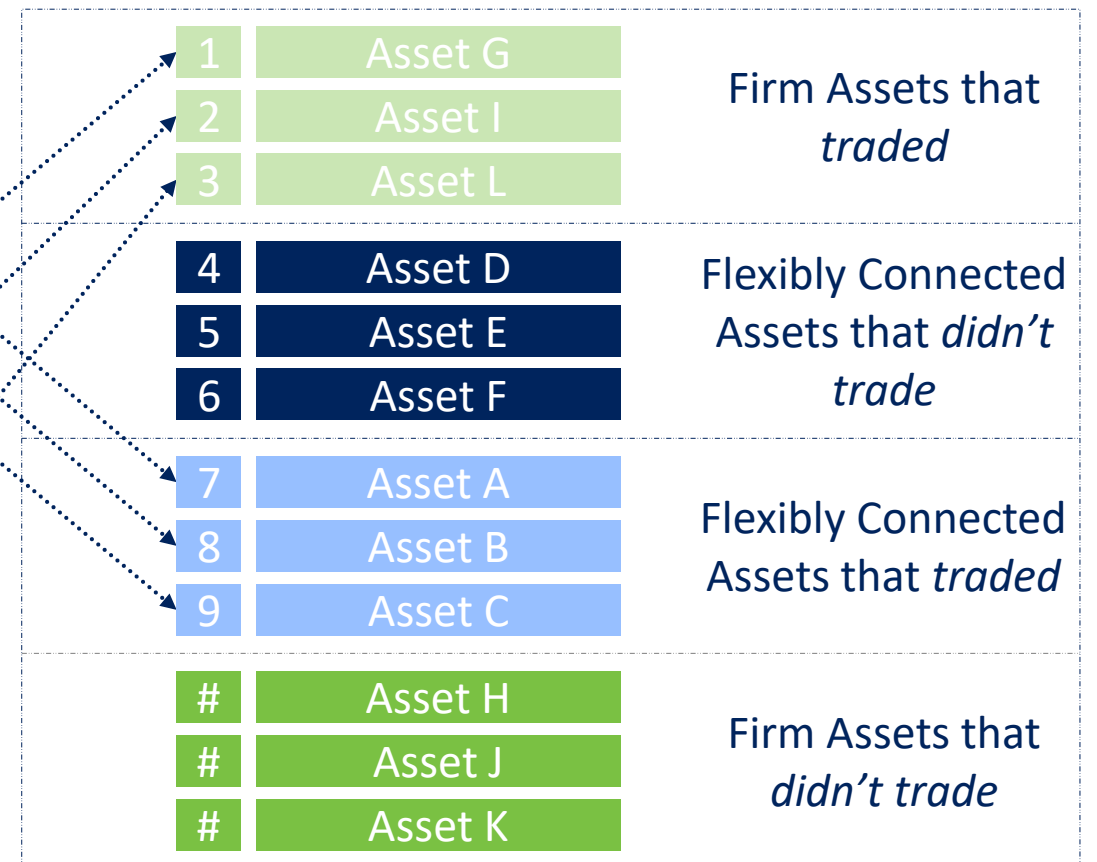
Potential Conceptual Trading Model



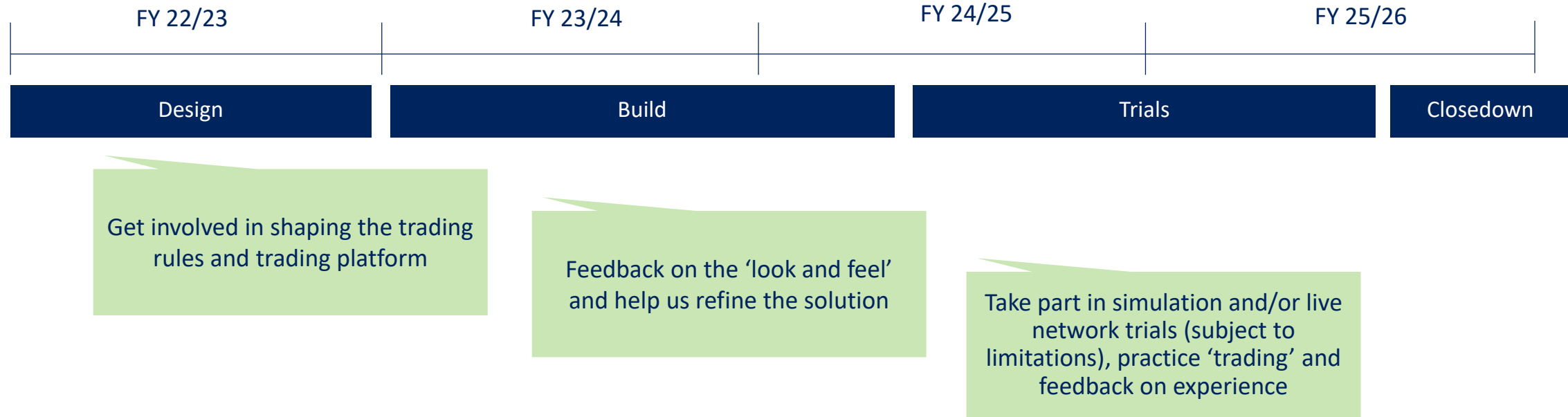
BEFORE CURTAILMENT OBLIGATIONS TRADING



AFTER CURTAILMENT OBLIGATIONS TRADING



Timescales and how you can get involved



- We're engaging with connected and connecting (large >1MW demand and generation customers*) via a combination of:
 - Face to face annual workshops
 - Remote/online webinars
 - Online surveys
 - In depth phone interviews
- Project participants will be reimbursed for reasonable costs associated with time and travel for the project
- Interested? Register on our website: [BiTraDER Recruitment \(enwl.co.uk\)](https://enwl.co.uk) *subject to eligibility



QUESTIONS & ANSWERS



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