Can we accelerate development of co-located storage assets?

EIP041

28 February 2023

Background

- Co-location of renewable intermittent generation with flexible assets such as storage and/or flexible demand such as hydrogen electrolysers can make the overall site dispatchable. It can also provide a range of grid services
- However, there are multiple challenges with co-location
  - Technical: Metering challenges to meter each co-located asset separately
  - Operational: Co-located assets can be constrained by the available TEC at the PoC
  - Operational: Co-located but not co-optimised, each co-located asset is operated separately as there is no real concept of a hybrid BMU
  - Regulatory: For ROC sites accreditation for co-located site is done after commissioning thus creating a risk for the developer. There is no clear guidance for hydrogen co-location
  - Markets: Current BM does not incentivise co-located assets to operate more flexibly and REMA does not take co-location into account

Enablers and Constraints

- Enablers for co-location
- Shared connection reducing overall CAPEX costs
- Improved output in case of solar PV co-location and DC or AC coupled BESS
- Availability of technical solutions such as optimisers and hybrid controllers effectively managing co-located assets
- Launch of new ancillary services markets for stability and restoration services

- Constraints and Barriers
- Outdated metering technology and metering requirements
- Lack of hybrid asset model which allows co-location to co-optimise and better manage price volatility
- No flexible payments in BM encouraging co-optimised flexible operation
- No flexible demand status for hydrogen electrolysers
- Lack of overall industry strategy for co-location

Involvement and Implementation

- Developers, Generators, NG ESO, ELEXON, BEIS, Ofgem, TOs and DNOs
- Optimised operation of co-located sites could potentially reduce balancing services costs and reduce reliance on fossil fuel plants for providing flexibility and stability services
- Co-located sites could reduce system constraints especially in case of large volume of offshore wind connecting to the grid
- Improve and smooth out energy output from intermittent generation esp in case of solar PV

- Mid-2024/25

Energy Innovation Basecamp

28 February 2023
ICC Birmingham

#Basecamp28

Participant joining code
Slido.com

Can we accelerate development of co-located storage assets?