REACT

Rapid **E**valuation **A**real **C**onnection **T**ool

Energy Innovation Summit

6th November 2025

Scottish & Southern Electricity Networks

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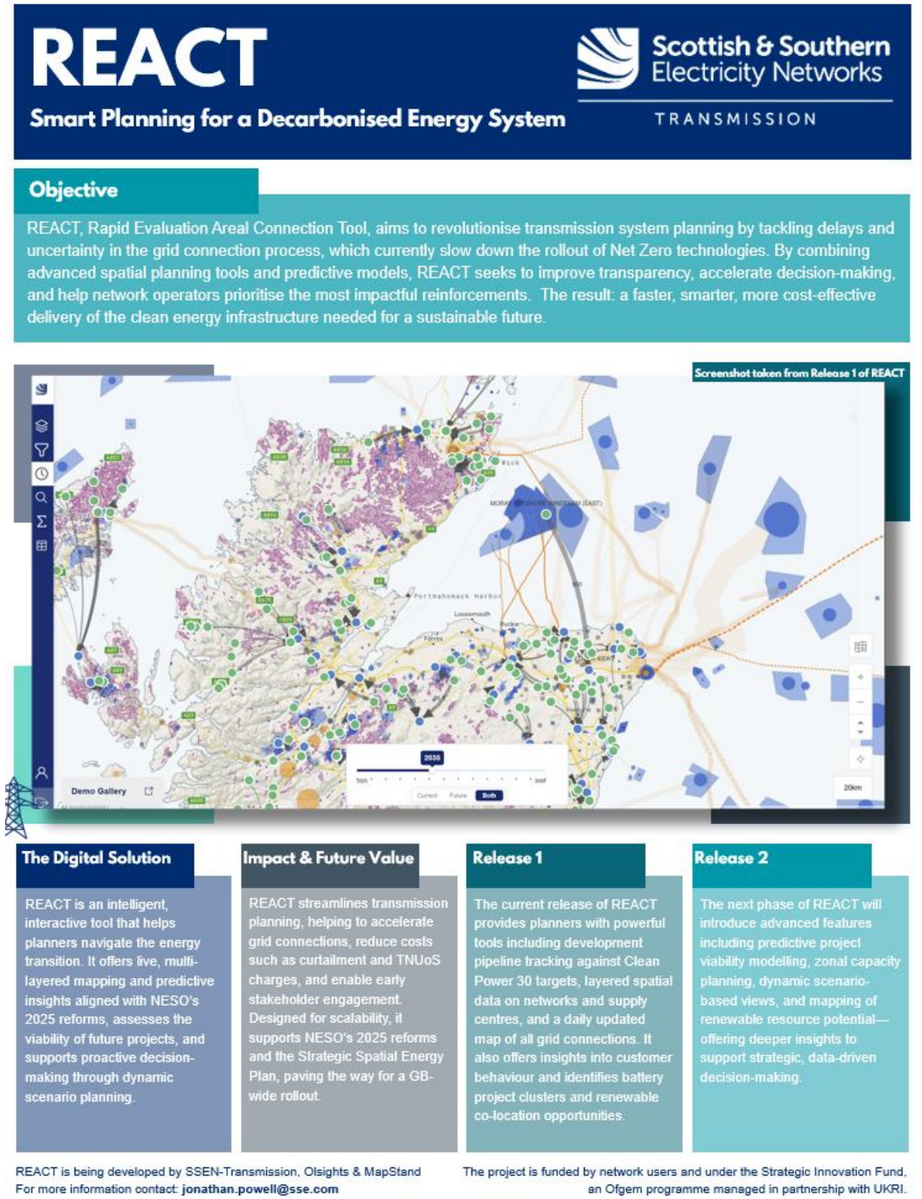
What will be covered

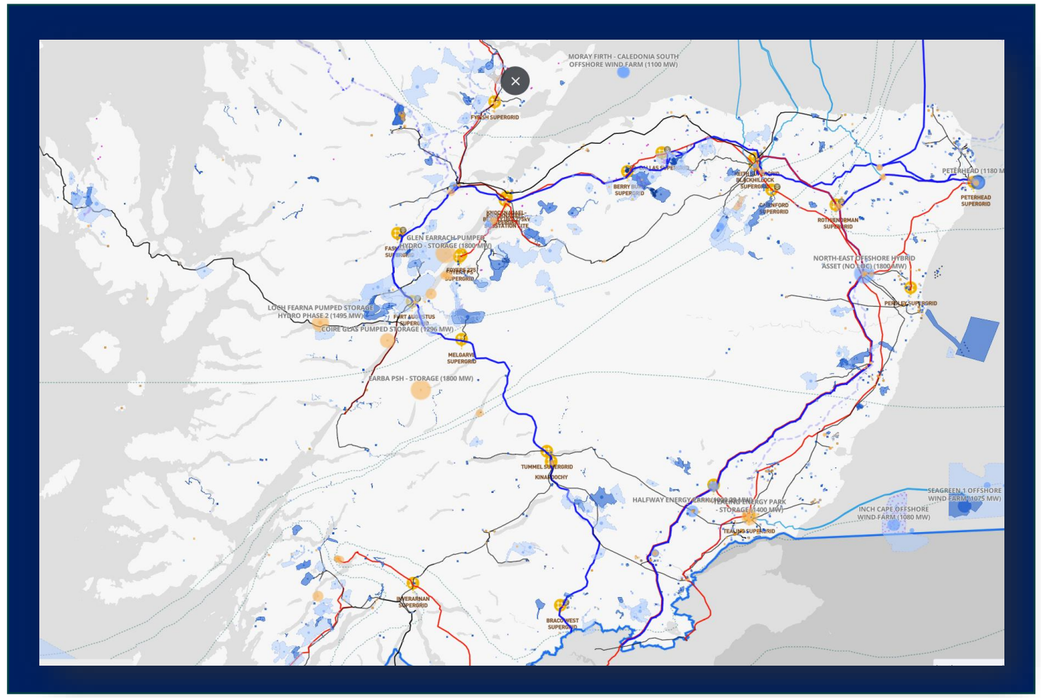
- Problem & Background
- REACT Features & Functionality
- What's Next



olsights® MapStand® LOCATION INTELLIGENCE Scottish & Southern Electricity Networks TRANSMISSION

The Problem

- The timely connection of renewable energy, new power demand and storage is crucial to realise UK's net zero targets.
- Delays are threatening the decarbonisation of the energy network in the targeted timeframes.
- Lack of early engagement with planning, consenting and community stakeholders creates planning risk and delays.



- **Currently** the process for reviewing connection requests is carried out in isolation with limited opportunity to explore more creative solutions that could be optimal for Network, Developers and Consumers/ Community.

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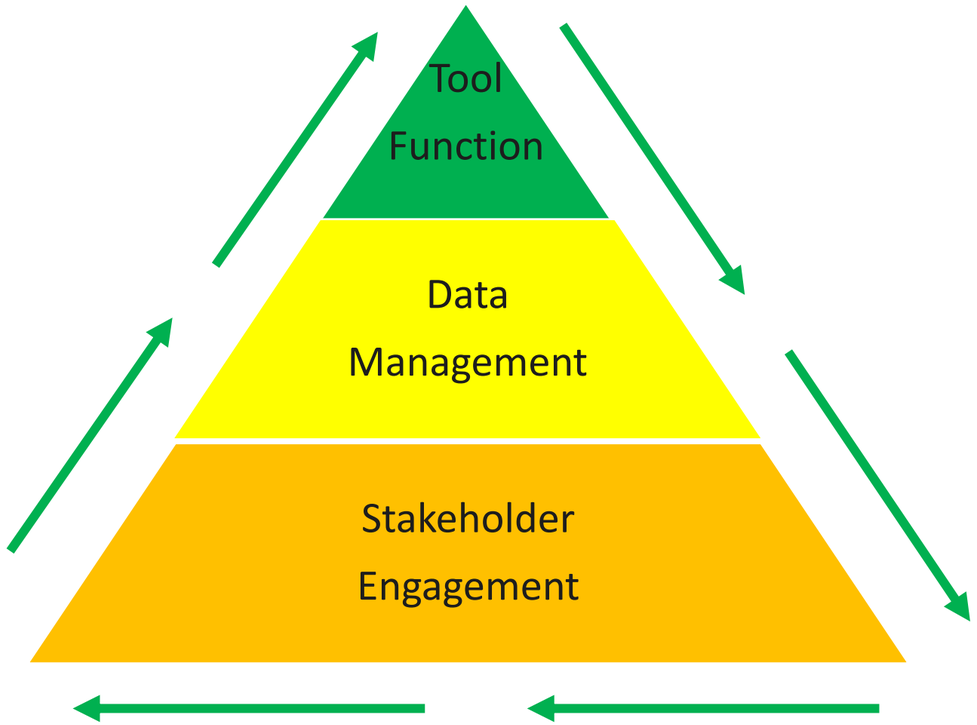
Background: What is REACT?

An easy-to-use data-driven digital transmission-level geographical planning tool that:

- Brings together data to help us understand the complexity involved with planning the energy system
- Provides insights and forecast on current and future generation, storage and demand connection requests
- Has functionality that is driven by the requirements of the key stakeholders



The REACT spatial visualisation is built upon an automated and live data model to deliver insight that enhance the efficient use of assets now and in the future

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Background: Project Phases

- **SIF Round 2 Project: Discovery and Alpha**
  - Hydrogen opportunities as a use-case
  - **Externally** facing spatial planning tool
  - Helping developers understand the network

- **Decision to proceed as an NIA**
  - Looking at the full connections pipeline (especially onshore wind + battery projects)
  - **Internally** facing spatial network planning tool
  - Helping network system planners and analysts interpret and classify the connections pipeline

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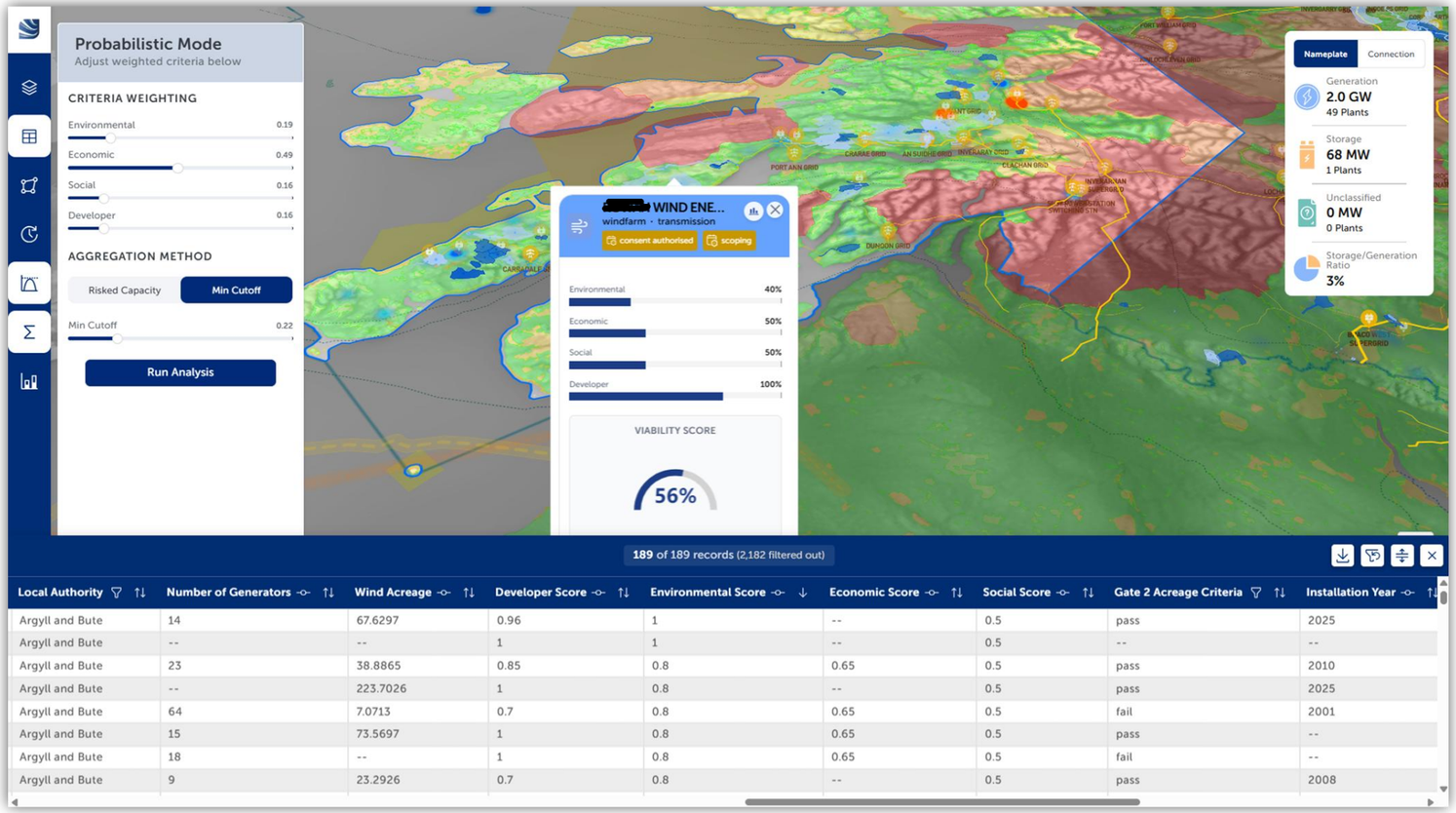
Use Case: Areal Viability & Risked Capacity

User Need:

- Key risk & success factors in ultimately connecting?
- Likelihood of early schemes achieving Gate 2 connection offer?
- Aggregate individual viability over an area to estimate ‘expected capacity’?

Users: Power Transmission Strategic Energy Planning



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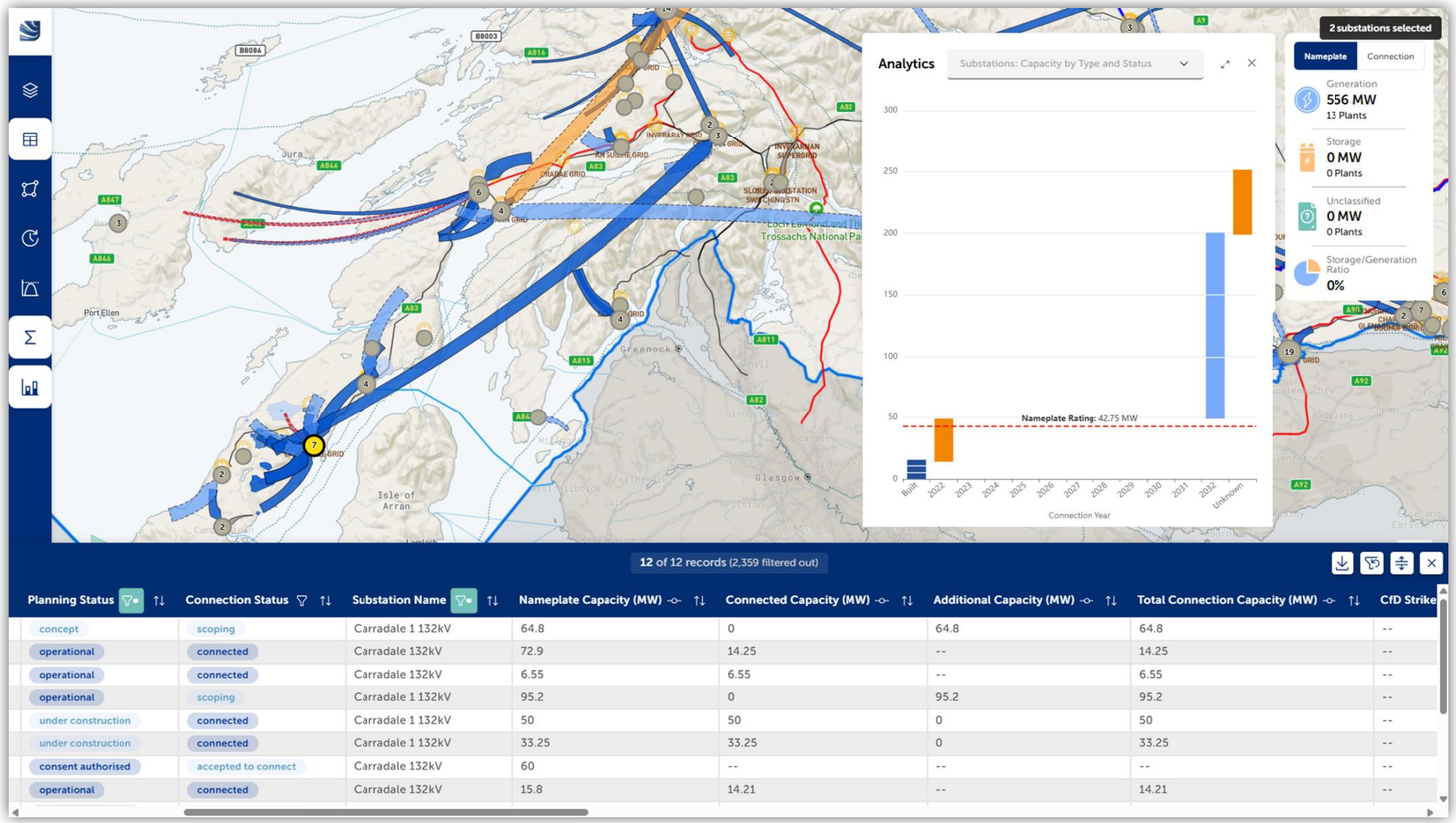
Use Case: Substation Capacity Buildup vs Rating

User Need:

- How to see connectivity between schemes & substations (within area)?
- What does capacity buildup look like + when does it exceed transformer rating?
- How much is generation vs storage?

Users: Power Transmission Investment Planning



Planning Status	Connection Status	Substation Name	Nameplate Capacity (MW)	Connected Capacity (MW)	Additional Capacity (MW)	Total Connection Capacity (MW)	CfD Strike
concept	scoping	Carradale 1 132kV	64.8	0	64.8	64.8	--
operational	connected	Carradale 132kV	72.9	14.25	--	14.25	--
operational	connected	Carradale 132kV	6.55	6.55	--	6.55	--
operational	scoping	Carradale 1 132kV	95.2	0	95.2	95.2	--
under construction	connected	Carradale 1 132kV	50	50	0	50	--
under construction	connected	Carradale 1 132kV	33.25	33.25	0	33.25	--
consent authorised	accepted to connect	Carradale 132kV	60	--	--	--	--
operational	connected	Carradale 132kV	15.8	14.21	--	14.21	--

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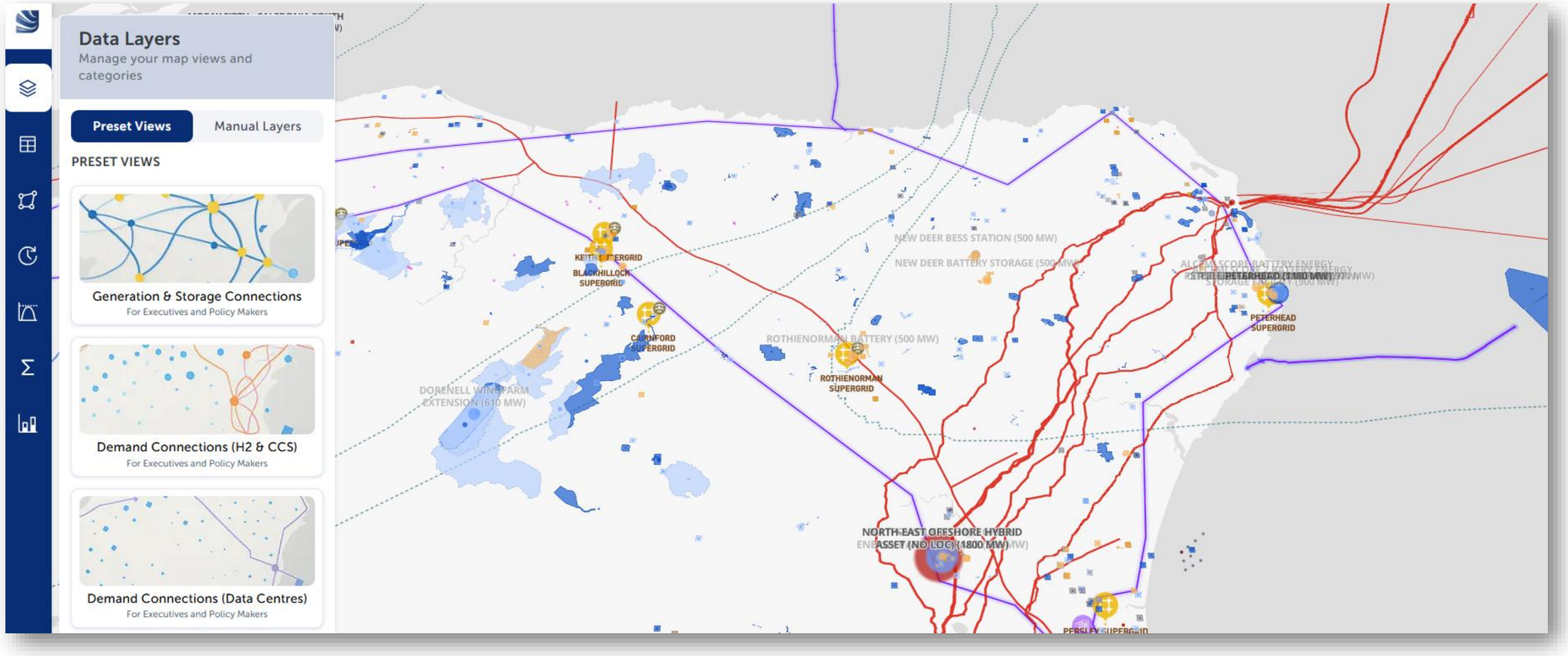
Features: Multiple Energy Systems/Networks



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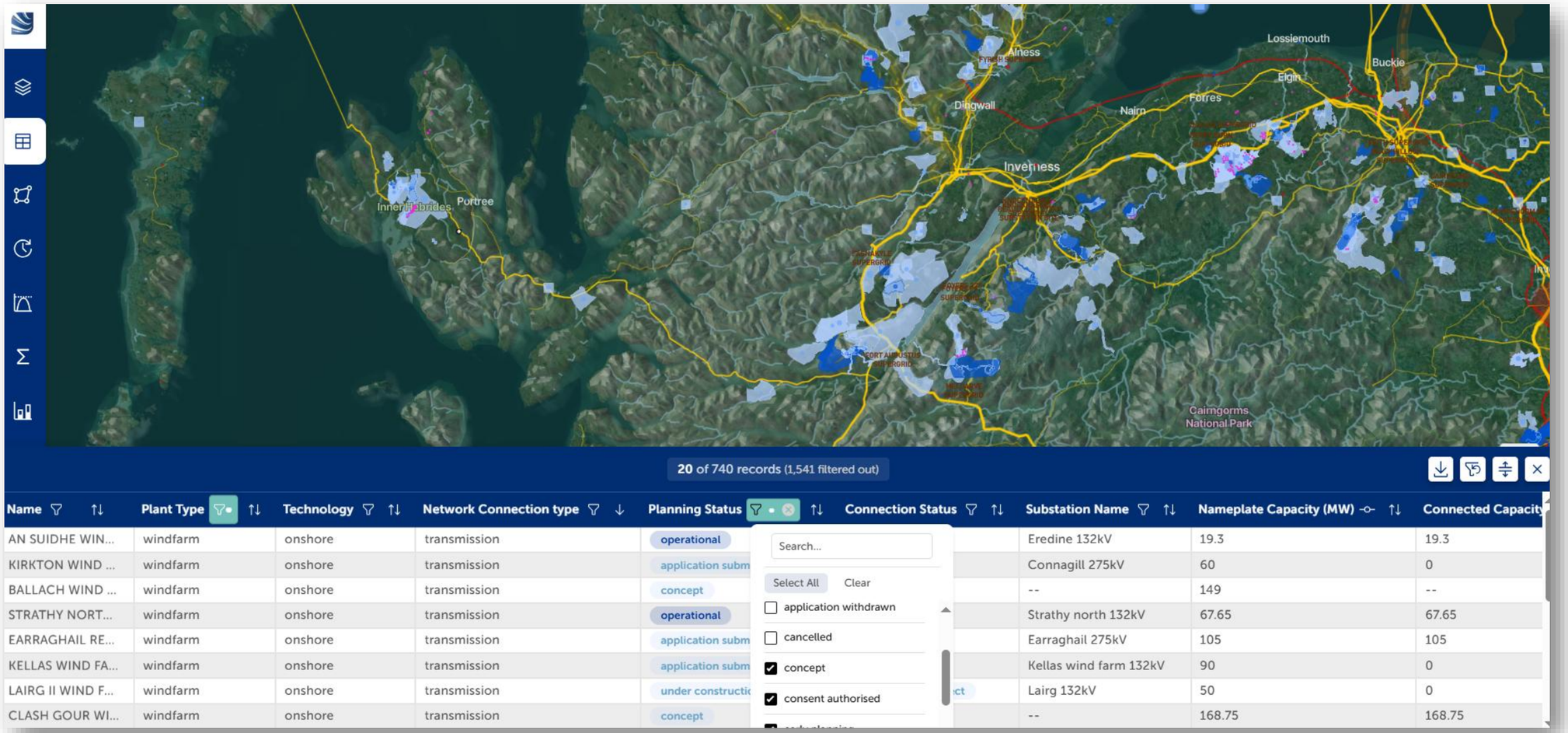
Features: Table View



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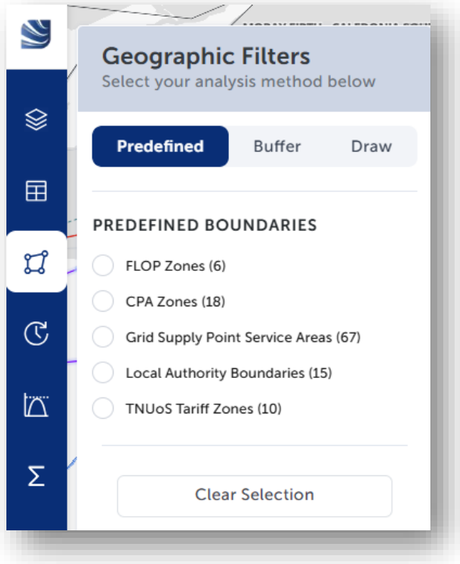
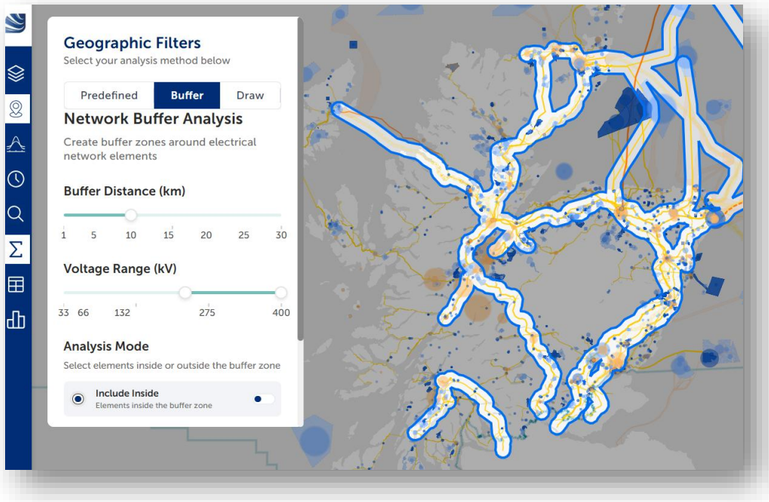
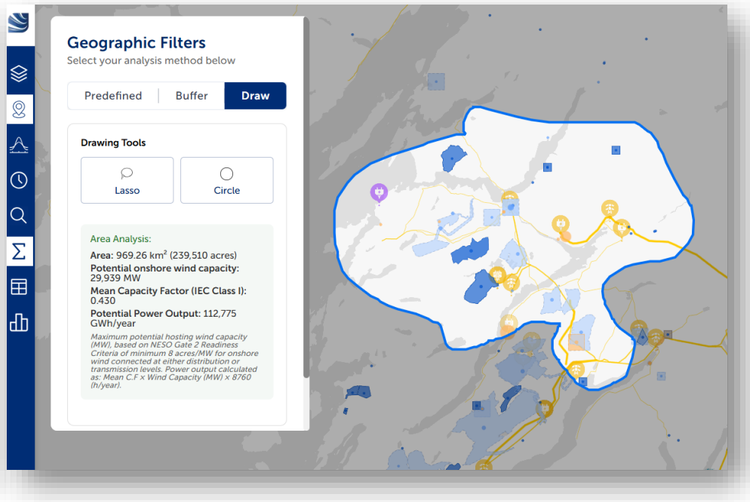
Features: Geographic Filters

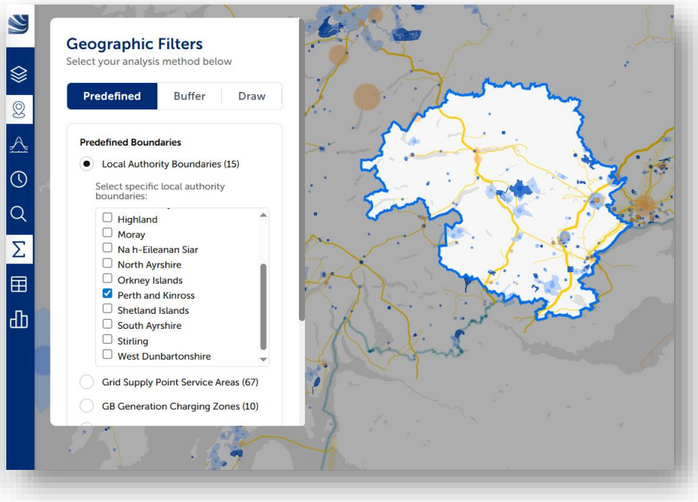
Fast & Flexible ways to Slice & Dice the Data

- Visual representation of area
- Instant filtering of pipeline based on geographic filters
- Totaliser, data tables and other insights updated based on filter









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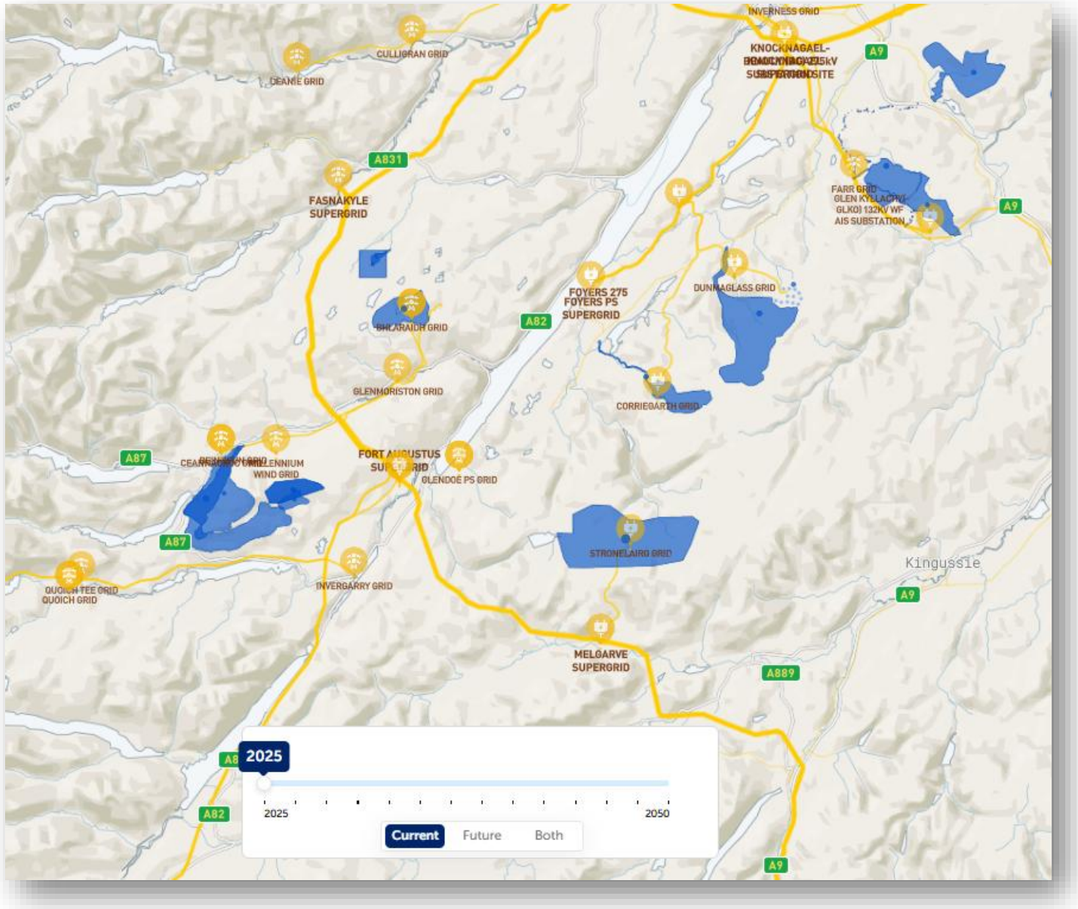
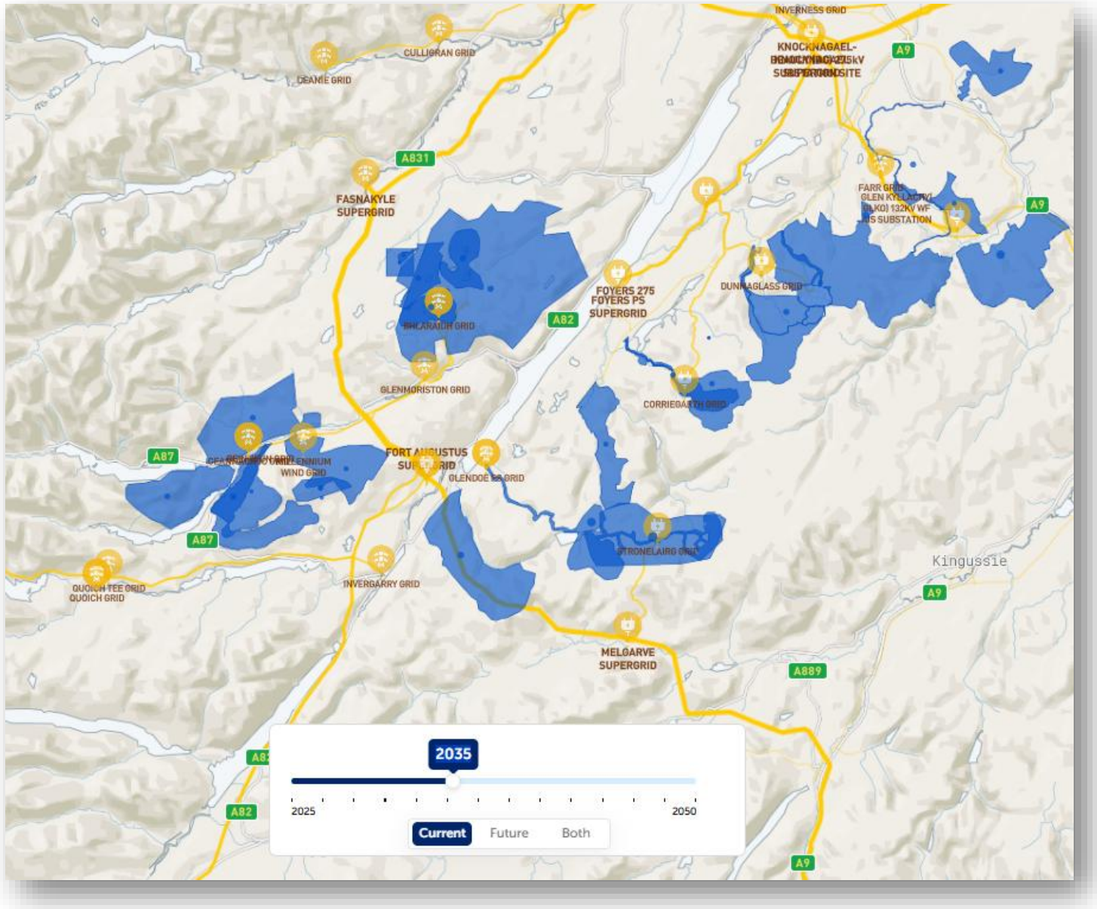
Features: Time Slider

- Current View



- Future View



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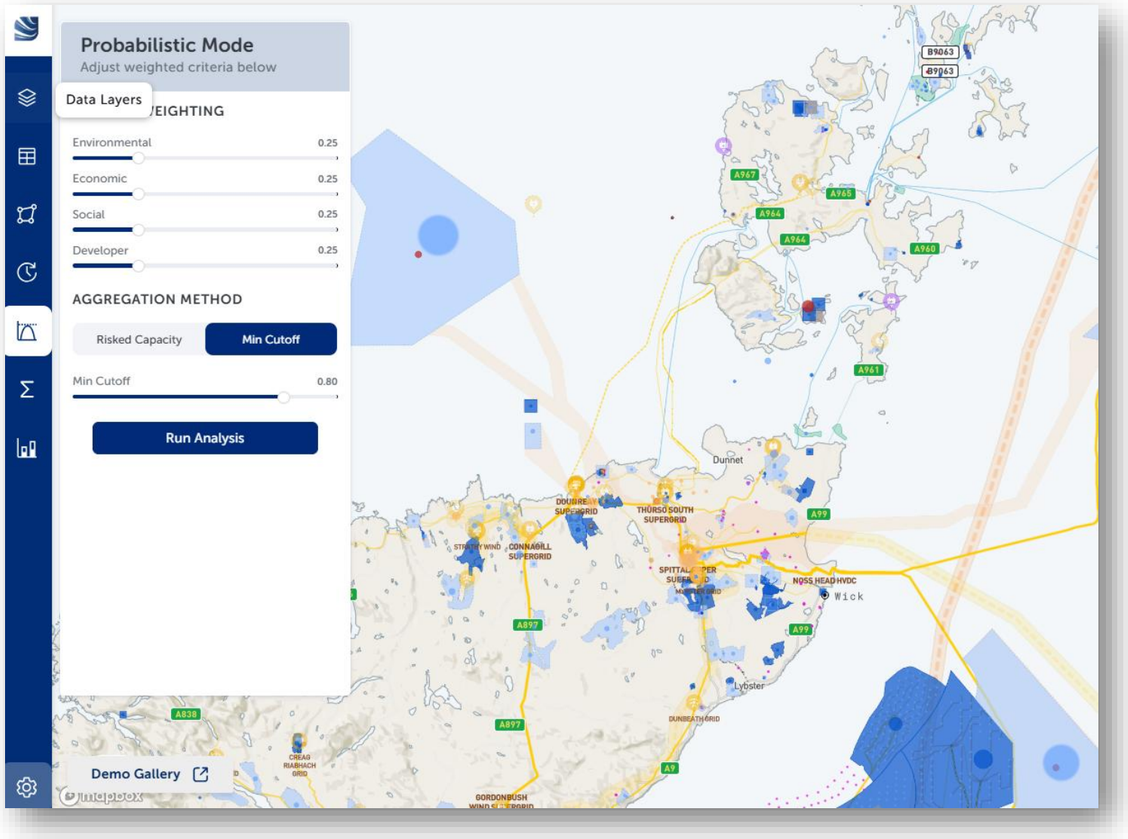
Features: Probabilistic Analysis of Pipeline



- Help inform our view on Gate-2 readiness
- Automated data model
- Pipeline data can be updated daily
- Flexible user driven application of scoring criteria
- Map & data table instantly updated based on criteria
- Allows for fast and flexible “what-if” analysis
- Data export to csv & ppt

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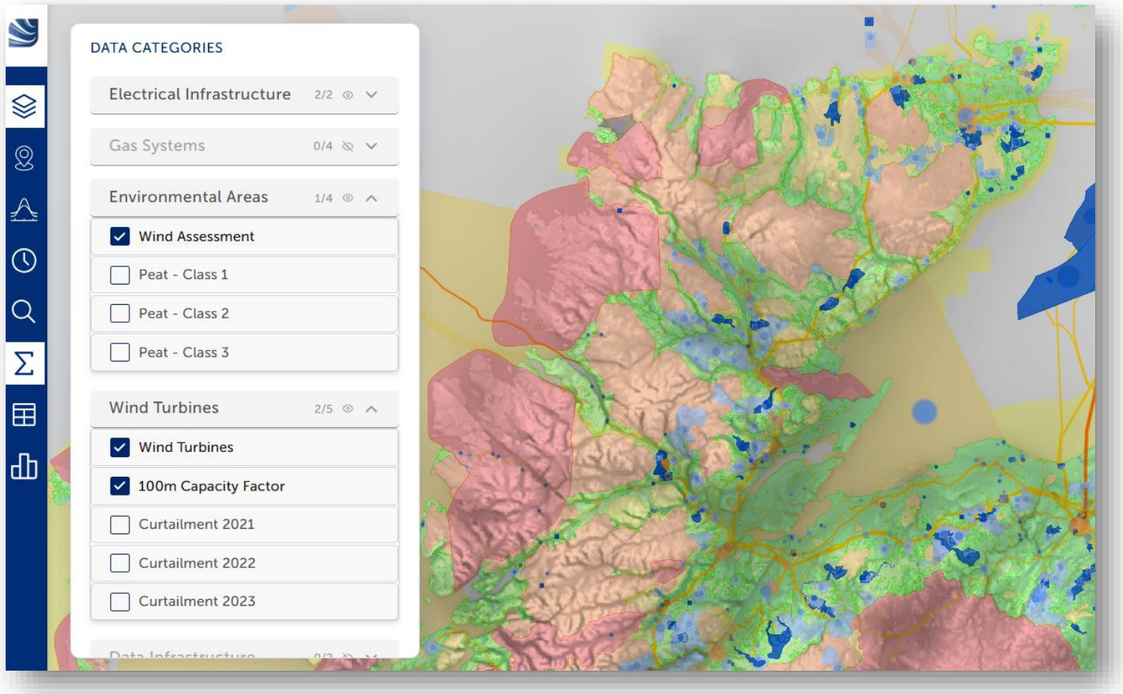
Features: Insights based on Spatial Data

- Windfarm acreage measure

- Windfarm land suitability



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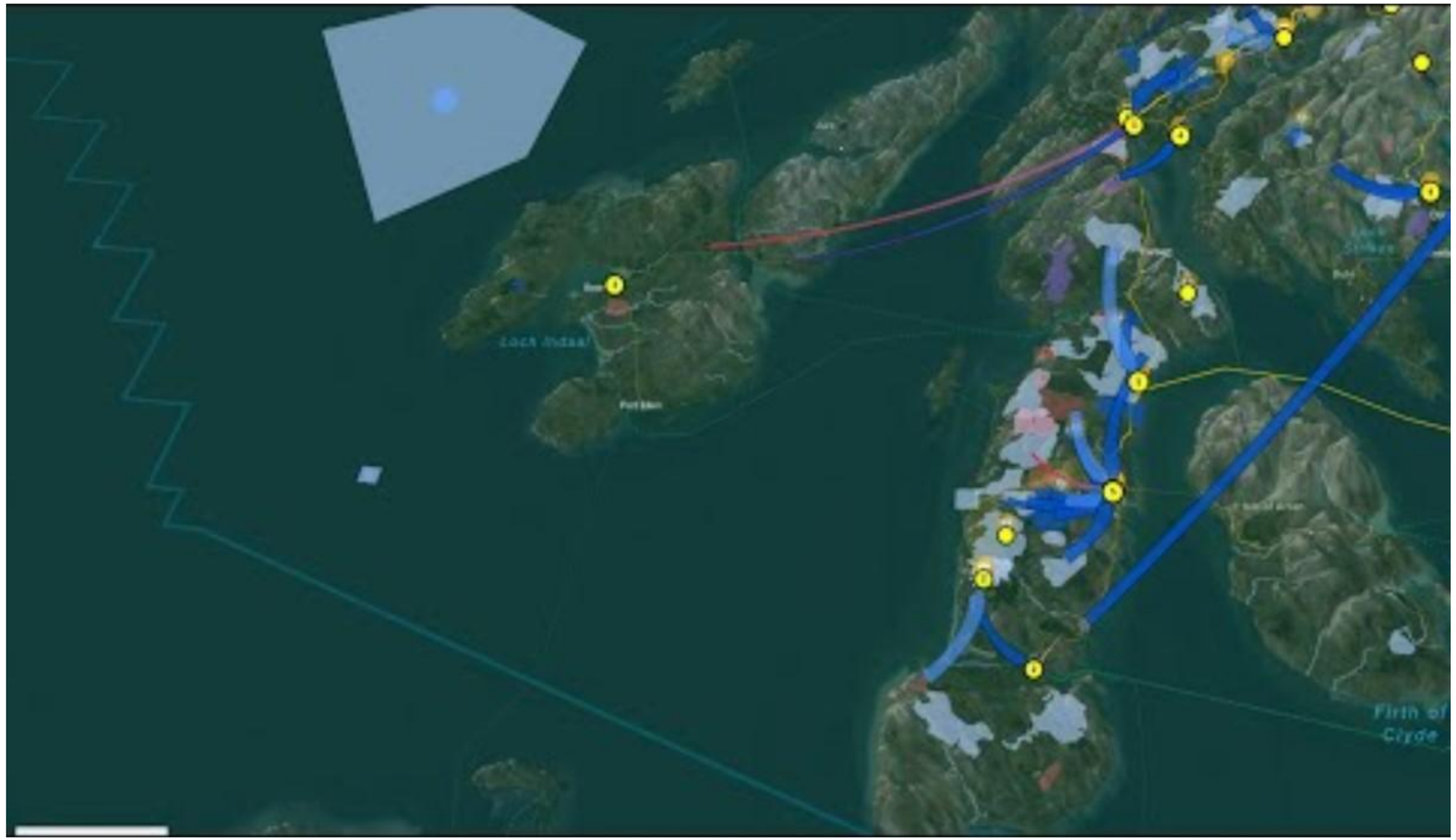
The REACT Tool in Use



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What’s Next

Deployment of REACT within the business

- Supporting the internal assessment of new schemes
- Application of tool to assist with network planning 2035

Further Development Options

- Potential to broaden the REACT platform to UK-wide
- Expand the capabilities of the REACT platform

REACT - Open to Feedback & Collaboration

Please reach out for further details

Johanna Behaim: System Planning Johanna.Behaim@sse.com

Jonathan Powell: Innovation Jonathan.Powell@sse.com

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