

## CUSTOMER STORY

# Mainstream study over 100 million routes, with Optioneer™

Optioneer used automation to quickly study 100 million routes for a complex offshore wind project, producing detailed analysis that satisfied regulator requirements. Mainstream used this analysis to swiftly select the best route, meeting tight deadlines for the project's accelerated development.

**100 million**

route and grid connection scenarios studied

**2,000 km**

combined length of connection cables across 3 sites

**150+**

offshore - landfall - onshore connection permutations taken into account

## About



**600+**  
Employees



**16.8 GW**  
Development pipeline



**12 GW**  
Environment consents obtained since 2010

## The challenge of analysing complex route scenarios to tight deadlines, before using Optioneer

Mainstream Renewable Power is currently developing three offshore wind farms off the east, southeast and west coasts of Ireland. These projects support the Irish government's 2030 targets for reducing greenhouse gas emissions.

Mainstream's three offshore sites are located in a highly-competitive area of the Irish Sea due to its strong and consistent wind resources. This has attracted offshore wind developers from all over the world.

The complexity of connecting offshore windfarms to the grid means studying multiple geographical areas, assessing potential locations for offshore substation platforms, identifying landfalls and finding feasible grid connection points. Hundreds of potential combinations need to be assessed in order to undertake a thorough assessment that planning inspectors demand.

The process can prove manual and time consuming, with any changes in data or assumptions adding delays and costs to projects. Strict deadlines can prove demanding for companies that need to submit applications which have a good chance of being approved.

# How Mainstream used Optioneer

With the help of Optioneer, Mainstream was able to explore millions of options with a simultaneous assessment of environmental, social, engineering and cost criteria.

The platform returned a broader range of options with more detailed analysis on dozens of criterions, to ensure a thorough assessment was undertaken, including onshore and offshore routes.

Optioneer's collaborative features enabled the entire team to review route data, input into decision making, and refine preferred options in real time, all on the same platform. This helped the team accelerate the optioneering process whilst providing a reliable single source of truth for the project.



**Consistent set of assumptions** linked to internal guidance for all projects



Identify & assess route options **in hours, not weeks**



**Flexible & rapid iteration** on alternatives



We used Optioneer's AI to efficiently seek the most feasible offshore and onshore cable routes, narrowing down millions of options to a shortlist. We then utilised the platform to further refine these routes, simply and efficiently collaborating across the project team, involving engineering, consenting and stakeholder management along with external consultants – all providing inputs within Optioneer to select the most feasible routes.

**Joe Shinkwin, Civil Engineer, Mainstream Renewable Power**



## The outcome

- **Mainstream was able to significantly expand the number of potential route options and grid connection points they could study within the timeframe needed, with over 100 million assessed. The company achieved this whilst accelerating its consenting programmes and without compromising on the quality of assessment**
- **Optioneer delivered an intelligent solution for Mainstream to automate and significantly expand its route optioneering programme, with a collaborative platform that enabled different departments to work together in one digital workplace. The project team were able to decide on a final route shortlist and refine their preferred options, all within Optioneer**

