

CLIENT SUCCESS STORY

7GW of generation brought to grid 3 years earlier, saving 500m in congestions costs.

A major electricity transmission utility faced the task of integrating approximately 7 GW of new generation capacity within a constrained timeline.



From 12 months to just 2 months to develop a regional plan.



Early identification of environmental, feasibility, and permitting challenges in line with the regulator's requirements.



3 year reduction in 'earliest in service' date, leading to a possible £500m saving on constraint costs.



THE CHALLENGE

Traditionally, labour and budget constraints mean early-stage transmission planning overlooks critical feasibility and permitting risks.

The utility's standard transmission planning methods relied heavily on electrical system studies, like power flow and contingency analyses, with minimal assessment of environmental, permitting, and constructability factors.

This approach often led to late-stage discoveries of overlooked environmental, regulatory, and feasibility challenges.

THE PROCESS

Previously, the utility used Optioneer for detailed routing between fixed endpoints. After recognizing Optioneer's AI-driven ability to rapidly assess environmental, permitting, and constructability factors, they saw value in applying these capabilities to early-stage planning alongside their traditional electrical performance analysis.

Building on this expanded use-case of Optioneer, **within 8 weeks the utility rapidly evaluated 5 distinct strategic network scenarios with over 500km of assets each.**

Each scenario included multiple high-voltage projects—spanning overhead lines, underground cables, and submarine cables—with a combined route length of over 400 miles. These scenarios aimed to tackle complex regional network constraints, regulatory pressures, and the significant growth in new generation and load.

This approach gave the utility **early visibility into key project risks and opportunities**, enabling faster decision-making and greater confidence in their strategic network planning.

THE RESULTS

Processes traditionally requiring 12 months were completed in just 2 months, dramatically accelerating the overall project delivery timeline.

The utility discovered their initially preferred scenario, optimal from a purely electrical standpoint, was likely to face substantial permitting challenges extending project timelines by approximately three years.

The ability to identify these critical issues early, allowed the utility to pivot to an alternative scenario. Although marginally less optimal electrically, this scenario offered significantly better feasibility, reducing expected permitting and construction timelines by up to three years.

Without requiring additional labour, Optioneer's comprehensive assessments brought previously unseen opportunities to the forefront, often obscured in traditional methods due to significant time pressures and manual limitations in scenario evaluations.

£500m

potential saving on constraint costs.

>500km

of assets evaluated for each network layout.

83%

reduction in network scenario planning time.

Reach out today and see how Optioneer can help streamline your project planning.

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