Opturion Enables Woodside Energy Plan New Energy Investments of more than $5Bn

Executive Summary

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Intelligent Decision Support

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Woodside Energy is investing in new energy products and lower carbon services by 2030. It has also adopted a new emissions abatement target to take final investment decisions on new energy products and lower carbon services by 2030, with a total abatement capacity of 5 Mtpa CO2-e. To maximise return on investment, Woodside required strategic optimisation tools to make critical decisions on the location and nature of the investments.

Client Background

Woodside has a portfolio of oil and gas assets and is also developing a portfolio of new energy products and lower carbon services, including proposed hydrogen and ammonia production facilities, assessment of carbon capture and storage opportunities and investments in carbon-to-products technologies.

Client Challenges

Woodside has a long history in the oil and gas exploration and production industry. The move into hew energy, such as hydrogen and ammonia from renewable power, presents several challenges, such as:

- New process technology
- New energy markets and demands
- Different fiscal environments

Simulation and optimisation are necessary to understand the performance and return on investment and compare options.

Project Background

Opturion has provided simulation and optimisation tools to support the company's strategic development of future hydrogen and ammonia facilities. By simulating the entire lifecycle of a facility, the software application can inform critical decisions on potential projects, including concept development, investment decisions and power sourcing. Woodside will also be able to estimate the production potential and cost. These decisions encompass physical and financial aspects, such as equipment performance and capacity, future input costs and receipts, requiring accurate and comprehensive consideration.

Project Results

Woodside Energy can now determine the technical and economic performance of new energy production assets over their lifetime and make the best choices concerning location, capacity and process technology, amongst other factors.