

System level modelling to improve the performance of Offshore Sustainable Power

Summary

Reliability and safety are critical for any successful power system operation. A well-designed power system ensures robust performance and maximises the withstanding capability under all normal and transient operating conditions.

Moreover, a power system primarily supplied by renewable energy sources needs to be able to accommodate highly fluctuating input due to the inherent variability of the sources. Power analysis tools and methods can be used to evaluate the performance of newly designed power systems before the actual implementation.

The project on System Level Modelling of Power Systems underpins the development of BE CRC's offshore phase of hydrogen DCMG infrastructure. The state-of-art electrical/power system analysis and modeling are used as tools to achieve optimal performance scenarios.

This project is designed in association with bench-scale Hydrogen DCMG to carry out real-time and hardware in the loop analysis to determine some vital factors such as energy forecasting, fault protection, energy storage, and demand-side management. The outcome of the project will provide a solid grounding of the fine technical details supporting the decision-making of the offshore hydrogen DCMG architecture.



Project ID

3.22.002

Research Program

Offshore Renewable Energy Systems

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Duration

42 months

Participants

- » Auckland University of Technology
- » BMT
- » Carnegie Clean Energy
- » Griffith University
- » HENSOLDT
- » OceanPixel
- » Optimal Group
- » Pitt & Sherry
- » The New Zealand King Salmon
- » University of Tasmania
- » University of Western Australia