



UNIVERSITY OF
NEWCASTLE

CENTRE FOR GEOTECHNICAL SCIENCE AND ENGINEERING (CGSE)

Pioneering Sustainable Infrastructure Solutions

The Centre for Geotechnical Science and Engineering (CGSE) is at the forefront of geotechnical science and engineering methods, developing multi-disciplinary approaches to underpin the sustainable design and construction of Australia's future energy and transport infrastructure.

PARTNERSHIP CAPABILITIES

- Innovative solutions for civil infrastructure, resources, and renewable energy
- Advanced field and laboratory testing
- Cutting-edge computational methods
- Multi-disciplinary expertise in geomechanics, data science, computer visualization, coastal science, hydrogeology, and renewable energy systems

PROVEN IMPACT

- Pioneering hazard assessment and risk mitigation for landslides, rockfalls and debris flows
- Leading developments in soft soils engineering
- Key role in clean energy resources research
- Training the region's workforce towards 2050
- Projects on Pumped Hydro Energy Storage with industry partners
- Leading role in the Australian Centre for Offshore Wind Energy (ACOWE) initiative
- Research on long-term stability of legacy mines

ADVANCING PUMPED HYDRO ENERGY STORAGE

CGSE has been at the forefront of research on Pumped Hydro Energy Storage (PHES), collaborating with industry partners to develop innovative solutions for clean energy storage. Their work has been crucial in advancing Australia's renewable energy capabilities, contributing to the nation's transition towards sustainable power sources. This project showcases CGSE's ability to combine geotechnical expertise with renewable energy systems, demonstrating real-world impact in the fight against climate change.



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