



UNIVERSITY OF
NEWCASTLE

CENTRE FOR

INNOVATIVE ENERGY TECHNOLOGIES (CINET)

Embrace the Green and Change the World with Us

The Centre for Innovative Energy Technologies (CINET) brings together a multi-disciplinary team from across UON (both well-established and emerging leaders) to help resolve technical, economic, and environmental challenges of clean energy technologies and importantly train the next generation of researchers capable of resolving the multidisciplinary issues associated with energy productivity.

R&D AGENDA AND PARTNERSHIP

CINET delivers innovative low-cost technologies for a clean energy future through strategic partnerships with industry and government. With input from the key stakeholders, the research strengths of CINET have been classified into thematic areas of:

- Electrification and digitisation
- Proliferation of renewable energy
- Sustainable fuels and chemicals
- Energy efficiency and recycling
- Green infrastructures
- Cross-cutting

PROVEN IMPACT

Development of 14 new technologies over the last 10 years:

- 2025 - KrakTek (Green ammonia to hydrogen reformer)
- 2025 - AMMONIAC (Green ammonia synthesis process)
- 2025 - Hydro Harvester (Atmospheric water generation)
- 2025 - PFAS Harvester (Destruction of PFAS contaminated media)
- 2024 - Shenavar (Buoyancy compressed air energy storage system)
- 2024 - TAME (For capturing fugitive methane emissions from air)
- 2022 - VGA (For production of green hydrogen from air)
- 2021 - KIMIYA (for conversion of solid waste to hydrogen)
- 2020 - PRC2 (for utility scale thermal energy storage)
- 2018 - CLAS (Chemical looping process for production of oxygen)
- 2017 - VAMCO (For point source capture of GHG emissions)
- 2016 - GRANEX (Engine for power generation from low grade heat)
- 2015 - GRANSAL (Portable / mobile desalination system)
- 2015 - GAPG (For geothermal assisted power generation)

KRAKTEK TECHNOLOGY

Launched in 2025 by the Prime Minister Anthony Albanese, this technology platform converts green ammonia to high purity hydrogen (99.9999% purity) for applications in sectors as diverse as fuels / chemicals, manufacturing, transport / mobility, maritime / shipping, and Defence.



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