Hy-One

Hy-One is a comprehensive hydrogen storage test facility designed for plug-and-play testing and demonstrations of hydrogen storage systems, prototypes, and accessories. It is funded by the Scottish Government as part of the Hydrogen Innovation Scheme, a £7m capital funding stream of the Emerging Energy Technologies Fund (EETF). Through a partnership between Robert Gordon University and the Scottish Government, the facility will support the development, demonstration, and implementation of compressed hydrogen storage vessels and accessories, from small to large scale. Its goal is to support increased renewable hydrogen production in Scotland and across the UK. The facility is also poised to contribute to the Scottish Government's target of achieving 5 GW of installed hydrogen production capacity by 2030.

Key Capabilities / Centres	Descriptions
Prototype and concept development	Hy-One will support prototypes and concepts across TRL 1 to TRL 9, focusing on early stage concept evaluations. The team will offer advice to businesses on prototype development and guide storage vessel developers on best practices for testing, improving and evaluating new technologies.
Hydrogen Vessel and component testing	Hy-One will produce technical reports on current and future understandings of hydrogen storage technology and inform government standards for the development of compressed hydrogen vessels. It will also conduct various testing on different hydrogen storage technologies and associated accessories using sensors, measurement equipment and data acquisition systems.
Certification	Hy-One will offer certifications and compliance qualifications in line with national standards, supporting the development of compressed storage vessels in Scotland and advancing renewable energy production and integration into energy systems.

Value Chain Areas	Testing & validation	Pilot manufacturing	Digital tools & simulation	Open innovation spaces	Skills development
Production	X	X	✓	✓	✓
Networks	✓	X	✓	✓	✓
Storage	✓	✓	✓	✓	✓
Transport	✓	✓	✓	✓	✓
Industry	X	X	✓	✓	✓
Power	X	X	✓	✓	✓
Heat	X	X	✓	✓	✓

*Tick = yes, O = potential, X = no

Collaboration opportunities

Hy-One offers collaboration in the following areas:

- Development of a Scottish hydrogen cluster to support job creation
- Providing training and development for the local and regional supply chain within the hydrogen cluster
- Certification and compliance qualification services
- Facilities for developing proof-of-concept to prototype stage
- Support for prototypes and concepts in the hydrogen sector through research facilities and business advice

Centre location

Hydrogen case studies

- **Hybrid Hydrogen Storage and Distribution Vessels** - The project seeks to identify low cost, lightweight hydrogen storage and distribution vessels that can be utilised in many industries on a global scale.
- **H2Gen Hydrogen Fuel Cell UPS** - The project aims to develop a Hydrogen Power Generation that acts as a back-up Uninterrupted Power Supply (UPS) to replace the non- environmentally friendly backup batteries (Li-ion or Lead-acid) and diesel generators currently used as domestic and commercial UPS.

Key hydrogen contact:

Tomi Ibukun
Business Development Manager
tomi.ibukun@rgu.ac.uk

Prof. James Njuguna
Director, Research & Innovation
j.Njuguna@rgu.ac.uk

Scottish Enterprise