GB

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HydroGlen is an exciting new green hydrogen powered farming community demonstration project being developed by Water to Water, built at the James Hutton Institute's Glensaugh research farm in north-east Scotland.

Hydrogen is emerging as a key component of Scotland's decarbonisation plans and there are significant opportunities for Scotland's farming sector and rural communities to contribute to the energy transition through green hydrogen production, storage and use.

GLENSAUGH
Climate-Positive Farming Initiative

water to water

HydroGlen

Green Hydrogen Powered Farm

This project has received support from the Scottish Government's Community and Renewable Energy Scheme (CARES) and the Scottish Government's Just Transition Fund.

LOCAL ENERGY SCOTLAND

Greener Scotland
Scottish Government

JTF Just Transition Fund

Hydrogen as a community energy source

Energy storage, transport fuel, heating and electricity.

About HydroGlen

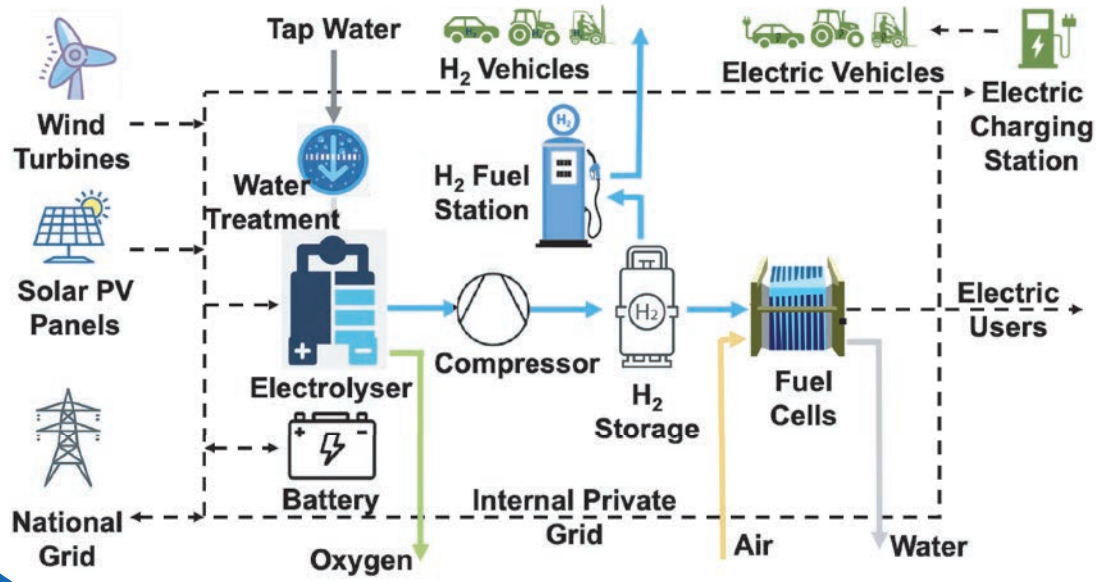
HydroGlen provides a scalable and replicable concept for farming and other rural communities to become self-reliant, low-carbon energy producers and exporters, generating 100%+ of their energy requirements (electricity, heating, and transport) through a combination of renewable electricity and green hydrogen production.

HydroGlen will provide a practical demonstrator to help inform communities about technical and economic requirements to become energy-independent and potentially green hydrogen fuel producers themselves.

HydroGlen gives an exciting, transformative model for contributing to Scotland's net-zero ambitions and bringing greater energy resilience to rural communities into the future.

Intermittent renewables

The Scottish Government has set clear targets for reduction of emissions to net zero by 2045. Renewable electricity (e.g. wind and solar) will play an important role in achieving these targets; but renewable energy is intermittent (wind does not always blow, sun does not always shine) and needs **storage solutions.**



HydroGlen key system components

A hybrid solution

Hydrogen is both an energy storage medium and source of power. Batteries can be used for short-term energy **storage** and are an important part of the HydroGlen system alongside **hydrogen,** produced by an on-site electrolyser for long- term, **flexible storage** and transport fuelling solutions. HydroGlen provides for both **electric and hydrogen-fuelled vehicles.**

An on or off-grid solution

The HydroGlen feasibility report (from the website: glensaugh.hutton.ac.uk/renewable-energy) considers both **grid-connected** and **off-grid** configurations. A grid connection allows excess generated electricity to be sold to the national grid and simplifies system design.

Benefits of the HydroGlen system approach

- ✓ Addresses renewable energy intermittency.
- ✓ Supports wider adoption of hydrogen technology.
- ✓ Will contribute significantly to net-zero emissions targets.
- ✓ New source of income for rural communities.
- ✓ Can be scaled to almost any community/ farm site.
- ✓ Addresses fuel, electricity and heating requirements.