

PRESS RELEASE



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Ricardo plc
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Ricardo innovative grid expertise helps community build renewable generation

Ricardo has supported Awesome Energy Dalriada Limited to implement an innovative connection to the local electricity distribution network as part of a 350kW hydropower scheme on the River Avich – which is predicted to provide £1.2 million worth of energy benefits to the local community over the next 20 years

The Awesome Energy project is based in the village of Dalavich, in Argyll & Bute, Scotland, and is named in recognition of the local importance of Loch Awe. The system became operational in February 2018 and will provide a valuable revenue stream for the local community in the years ahead.

The hydroelectric scheme is underpinned by an innovative private active network management (ANM) system. Ricardo identified this solution and supported each stage of implementation. The ANM overcomes the limitations of connecting to the local electricity network and was instrumental in making the scheme viable for investment.

Connection of generators to the grid in Dalavich is restricted to 50kW until at least 2021. Relying on this connection capacity alone would have restricted the energy output of the hydroelectric plant, which means it would not have generated sufficient income from day one of operation to repay the scheme's investors.

The private ANM system uses electricity generation monitoring and control technology to identify the times when an existing grid connection is not being fully used by a generator. Unused capacity is then made available to another generator, in this case Awesome Energy's hydro scheme, so that it can operate without restriction.



Implementing the ANM provides a cheaper, quicker and more feasible option to handle the electricity output from the new generator than traditional capital-intensive efforts to increase grid capacity.

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“Access to the grid is vital for renewable energy schemes,” said Simon Morris, Ricardo project manager. “However, new and existing renewable energy generators face a conundrum in getting a connection that is affordable, can be constructed on time, and is able to carry the full power output. What Awesome Energy has demonstrated is that making use of emerging smart grid solutions, can offer a profitable and sustainable path to local energy generation and distribution.”

Speaking about the impact of Ricardo’s support, Carol Thomas of Awesome Energy (Dalriada) Ltd, said: “Ricardo provided clear, concise technical advice through the options appraisal, due diligence, and implementation of the identified innovative solution to our grid constraint. Without the support and advice from Ricardo’s experts, we would have struggled to deliver this project – they were simply awesome.”

Ricardo’s renewable energy team are working with several developers, distribution network operators and community benefit groups throughout the UK to identify and develop solutions to local energy generation and distribution.

To find out more about the Awesome Energy project, and the role of ANM or private wire systems in solving grid connectivity challenges, download the complete case study <https://ee.ricardo.com/awesome-energy>

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NOTES TO EDITORS:

Awesome Energy Dalriada is the Community Benefit Society set up by Dalavich Improvement Group (DIG) to install and manage a Community Hydro Scheme. Awesome Energy (Dalriada) Ltd was set up to develop and operate renewable energy projects for the benefit of DIG's operating area. DIG is a charitable organisation supporting the rural communities of Inverinian, Dalavich, Lochavich, and Kilmaha, situated by Loch Awe in Argyll, on the west coast of Scotland. Profits from the hydro scheme will be gifted to DIG and used to fund a range of projects that support DIG's charitable purpose, benefitting residents, visitors, and the local environment in line with the Community Action Plan, thus improving the long-term viability of the area

Ricardo Energy & Environment is a leading sustainability consultancy, helping clients to respond to environmental challenges and opportunities around the world. Its team of over 450 staff draws on an impressive heritage supporting governments and businesses for over 40 years. The consultancy is an operating division of Ricardo plc.

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