

Energy Cloud partner with Ulster University and SPIRE 2 - RULET (Rural Led Energy Transition) initiative to create solutions to reduce the environmental, social and economic impact of energy waste.

SPIRE 2

Storage Platform for the Integration of Renewable Energy



THE CHALLENGE

In 2019, approximately €75 million of zero carbon energy from wind generation was dispatched down in Ireland and Northern Ireland when it could have been used to power homes and businesses. Energy Cloud, through partnerships with Climote, the Irish Wind Energy Association, Cluid Housing, and ESB Networks seeks to use this energy to power social housing homes and reduce fuel poverty.

On the power system today, there are times when the Transmission System Operator, EirGrid, will need to dispatch down surplus wind generation because the power system cannot safely manage the surplus as there is not enough electricity demand from industrial, business and residential consumers. At other times, local power system bottlenecks or limitations will mean that there is a surplus of wind generation in an area of the country and power cannot be transported to where the electricity consumer is. During these times, EirGrid will reduce wind generation output from the National Control Centre.

THE RESEARCH

Energy Cloud proposes an alternative to this. At times when EirGrid would otherwise need to reduce wind generation across the country or in a particular location for these power system security reasons, Energy Cloud proposes that a signal is sent to social housing homes across the country, or in a particular location, to turn on their heating systems. This will create additional electricity demand across the country, or in a particular location, and the power system will be able to increase the amount of wind generation being used as a result and reduce, or eliminate, the need to dispatch down wind farms.

Energy Cloud exists first and foremost to reduce the environmental, social and economic impact of energy waste. They do this by redistributing surplus energy from wind and solar renewable generators to fuel poverty citizens via partnerships between Local Authorities, housing associations & charity partners. Solutions focus on using surplus energy as a tool to increase social inclusion. Energy Cloud inspires others through actions that have measurable outputs. They develop innovative and practical solutions that can be activated at a small scale in communities but scaled nationally and globally. Energy Cloud is a social enterprise and aim to create solutions that are financially sustainable.

THE CONCEPT

Energy Cloud will collaborate with Ulster University and the SPIRE 2 - RULET (Rural Led Energy Transition) initiative. The SPIRE 2 - RULET project will quantify the system value which could be created by significant uptake of flexible electric heating in NI social housing. The interactions, regional and national partnerships and field trials and demonstrators in SPIRE 2 - RULET will support the work and data gathering for Energy Cloud by evaluating the smart demand in NIHE-owned homes that will provide flexible load to make use of low - or zero-cost wind energy thereby creating value.



THE IMPACT

There are many benefits to wind generation of proceeding with this business model:

- A very positive Corporate Social Responsibility story showing how the company's wind farms have powered several thousand social houses across Ireland and reduced/eliminated fuel poverty for thousands of families.
- There will be a clear connection drawn between wind energy generation and free electricity powering the social housing. This will result in thousands of new supporters and advocates for wind energy right across Ireland. Communities in areas of the country where wind energy will be developed over the next decade can be told that the new wind energy will help to power homes in fuel poverty for free in the area.
- Developing new, consumer-focussed market arrangements.