



**THEME:**

Research and Innovation

**FUNDING (ERDF+MATCH):**

€6,462,927.87

**MATCH FUNDERS:**

Department of Business, Enterprise and Innovation, Ireland and the Department for the Economy, Northern Ireland

**LEAD PARTNER:**

Ulster University

**PROJECT PARTNERS**

Queens University Belfast; Ulster University; Arbarr; Dundalk Institute of Technology; University of Strathclyde and Sunamp.

**Start Date:** 01/01/2017

**End Date:** 30/09/2022

<https://www.ulster.ac.uk/spire2/the-project>

[@Spire2Project](https://twitter.com/Spire2Project)

## SPECIAL EU PROGRAMMES BODY

# Project Case Study: Storage Platform for the Integration of Renewable Energy (SPIRE 2)

SPIRE 2 is addressing how consumer-owned energy storage can resolve the problem of the variability of renewable energy (RE) output. It will explore how homes and businesses can store renewable energy effectively, allowing very high levels of RE to be integrated into power grids globally, at the same time as maximising the benefits to consumers.

SPIRE 2 is evaluating, developing and facilitating the wide-scale deployment of Mass Energy Storage (MES) technologies to operate profitably in new market structures of UK, Northern Ireland and Ireland. It will generate a deeper understanding of the role and commercial viability of MES in enabling increasing levels of intermittent power generation

*“Collaboration between research institutes and businesses is key to the success of this project and we are excited to be working with so many partner organisations. Working together, we can intensify technological innovation in the region and create pathways to commercialise advanced energy storage solutions.*”

*“We want this region to be internationally recognised as an energy storage innovator as this will attract global industry interest and investment.*”

**Project Leader Professor Neil Hewitt, Director of the Centre for Sustainable Technologies at Ulster University.**





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The SPIRE 2 project involves collaboration between lead coordinator Ulster University, 3 research institutes and 12 businesses and enterprises via a cross-border Virtual Research Graduate School. It will develop computer simulation packages to allow advanced modelling of the new electricity markets in GB and Ireland.

The project will also use simulations to guide investment decisions for mass energy storage (MES); inform system/network operators, energy retailers and government departments on potential for (MES); and quantify how (MES) could benefit the region as a whole.

Upon completion it will have produced 78 peer reviewed journal and conference publications with cross-border authorship and the potential to create economic impact.

*“The SPIRE 2 project will also look at how energy storage resources owned by homeowners and businesses can resolve the problem of the variability of output from renewable energy. If consumers can store energy effectively, that will allow very high levels of renewables to be integrated into power grids globally, at the same time as putting consumers at the heart of the energy system.”*

*“It will create 17 PhD studentships and will further develop six post-doctoral researchers. By creating this supply of highly-educated developers, able to transform research ideas into commercial reality, SPIRE 2 will also contribute to local economic growth.”*

**Project Leader Professor Neil Hewitt, Director of the Centre for Sustainable Technologies at Ulster University.**



Visit by Queens University Belfast SPIRE 2 team and associates to NIE Networks' Castlereagh Substation (275 KV) on May 3rd 2019.