Intelligent Community Energy (ICE) european project

1. What is ICE?

Supported by Interreg VA France (Channel) England, the Intelligent Community Energy (ICE) project aims to design and implement innovative smart energy solutions for isolated territories in the Channel area. It runs for 50 months, from June 2016 to August 2020, but aims to deliver durable impacts beyond its duration.

2. Why ICE? What is its relevancy?

Islands and isolated communities face unique energy challenges. Many islands have no connection to wider electricity distribution systems and are dependent on imported energy supplies, typically fossil fuel driven. The energy systems that isolated communities depend on tend to be less reliable, more expensive and have more associated greenhouse gas (GHG) emissions than mainland grid systems. In response to these problems, the ICE project considers the entire energy cycle, from production to consumption, and integrates new and established technologies in order to deliver innovative energy system solutions.

3. Where does it take place?

These solutions will be implemented and tested at our two unique pilot demonstration sites – Ushant island and the University of East Anglia's campus – to demonstrate their feasibility and to develop a general model for isolated smart energy systems elsewhere.

4.What are its objectives?

Its initial ambition to improve, develop and promote new smart, optimized and appropriate production, storage and consumption solutions integrating low carbon renewable energy sources and improving energy efficiency for isolated territories, with efficiency, durability and transferability.

5. Who is involved?

The ICE consortium brings together researcher and business support organizations in France and the UK, and engagement with SMEs will support project rollout and promote European cooperation. Among the consortium are Bretagne Développement Innovation,Technopôle Brest-Iroise, Technopôle Quimper-Cornouaille, the Syndicat Départemental d'Énergie et d'Équipement du Finistère, the Pôle Mer Bretagne Atlantique, the University of East Anglia, the University of Exeter, the University of Plymouth and Marine South East Ltd.

6. Which technologies are used?

The project designs and produces an innovative low-carbon energy system (smart grid, SG), able to significantly reduce the greenhouse gas (GHG) emission of the territories concerned (50% to 100% compared to a fuel-based system) and secure energy access security. It will cover the entire energy cycle from production to consumption, exploit local renewable energy sources and integrate new and existing technologies currently at different levels of readiness (TRL 4 to 8), in order to deliver a comprehensive innovative solution (TRL8). Among those technologies are, on the one hand, sensors to control energy production, storage and consumption, a power battery solution dedicated to the tidal turbine, an IT solution for the regulation of the energy system, on Ushant island; and, on the other, efficient automation tools and sensors, a new software, and digital tools for data collection and smart management, on UEA campus.