



Consumers at the centre of Ireland’s new Community Grid energy research project

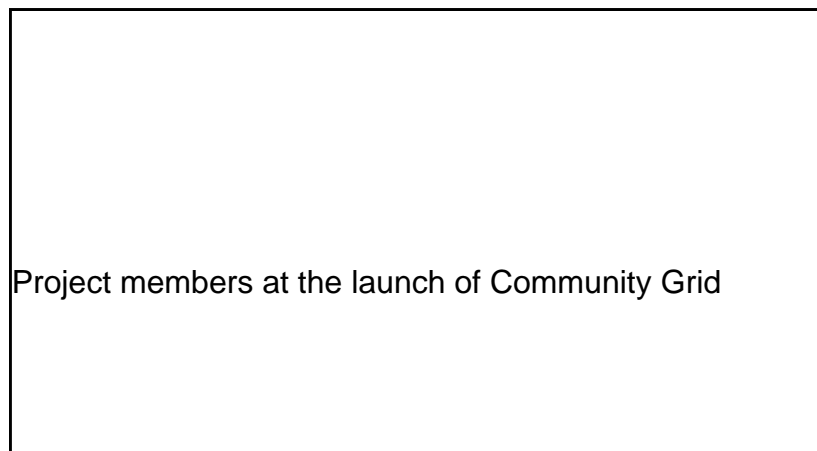
The International Energy Research Centre (IERC), hosted by Tyndall National Institute, is pleased to announce an innovative research project that places the consumer at the heart of the energy system as it investigates how best to increase the clean energy production from local community systems. This €1.62m project, launched at an IERC workshop in Dublin, involves the participation of prosumers, or active consumers, as they participate the trading of energy.

As Ireland pursues a decarbonisation pathway that requires a transition towards more sustainable energy sources, consumers and organised communities become integral in managing their own generation of energy and the trading of this renewable energy within their local (community) grid. This project will develop a community grid prototype solution that allows much more electricity from renewable energy sources to be produced within communities, accelerating the Energy Transition toward cleaner energy.

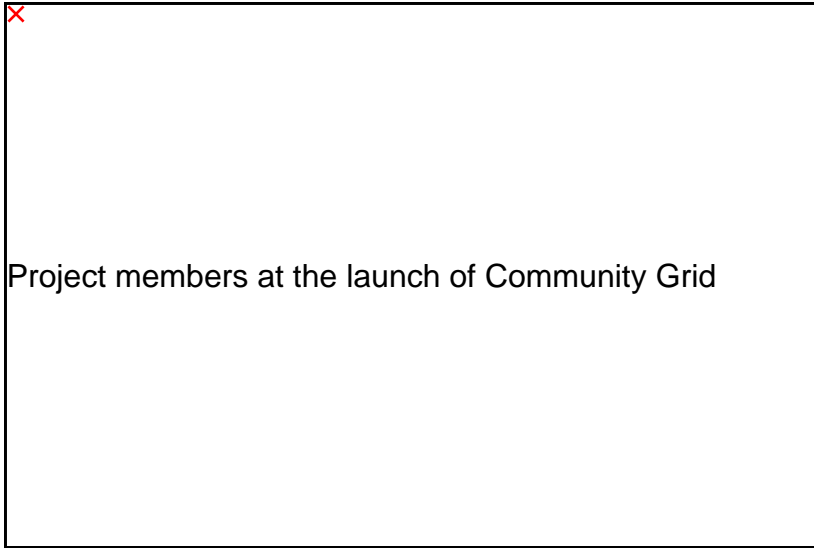
The IERC supported Community Grid project will feed into an existing grid network in Tallaght and will demonstrate local potential to external stakeholders such as regulators and grid operators. The project will recruit 20 prosumers from the existing pool of 200+ residential and commercial prosumers, most likely from the Glenasmole area. The project focus is on these organised prosumer Groups, including local communities, Energy Supply Companies and co-operatives. The Principal Investigator of this IERC project is Rene Preen of Dublin Institute of Technology (DIT) with active collaboration from industry, civil society and the public sector, including Siemens, MPower, South Dublin County Council, Community Renewable Energy Supply, MSemicon and Systemlink.

Professor Tony Day, Executive Director of the IERC described “through the Community grid project, the IERC will work with Irish SMEs alongside multi-national companies, local government and communities to demonstrate how technologies can be used in new community led, smart and low carbon energy systems.” IERC’s Dr. Shafi Khadem added that the enerXchange prototype will allow Irish consumers to trade short-term energy contracts locally within the Tallaght Community Grid.

Professor Brian O’Neill, Director of Research, Enterprise, and Innovation Services at DIT, added “the Community grid solution allows much more electricity to be produced by communities, without jeopardising the reliability of the grid. It will accelerate the Energy Transition towards renewable energy and opens up the electricity industry to a whole range of young, smaller players. Communities will benefit greatly from local renewable energy potential in e.g. solar, hydro, biomass, and wind. This ‘Grid-Edge’ industry is reflected in the mix of large, established players as well as small, new players represented in the consortium”.



Project members at the launch of Community Grid



Testimonials on the importance of Community grid from Irish industry:

- Dudley Stewart, Founder of MPower, outlined its mission to develop the technology and drive changes in the market to accommodate the new commercial players that Community Grids will enable. “This project is a major step towards achieving our mission, and we are delighted to have worked closely with the IERC to make it a reality.”
- Aiden Cawley, Business Manager at Siemens Ireland, commented how “Community grid is an innovative and important project that will explore new ways of delivering a clean, affordable and reliable supply of energy to local communities. The advanced energy concepts being developed here in South Dublin are of international significance and Siemens is excited to be involved.”
- Gregg Allen, Project Manager at Community Renewable Energy Supply (CRES), a community owned licenced supply company, in explaining the importance of the community grid project stated how “CRES see this concept as major step forward in creating a flexible, devolved and innovative energy system that will re-empower local communities to transition from energy ‘consumers’ into energy ‘prosumers’. We believe that the capability to mobilise and utilise data effectively in a rapidly changing electricity market is key to our future success and the development of community grids will definitely form part of the solution.”
- Eddie Conroy, County Architect described how over the last 6 years, South Dublin County Council have been actively developing the Tallaght Living Lab, with the Micro Electricity Generation Association (MEGA) and MPOWER, pioneering prosumers and local grids. These have now become strategic components in our ambitious plans to develop self-sustainable communities in South Dublin County, and attract new, high-tech industry. “We are very excited to be involved in this project, and that the Tallaght Living Lab will be the first to use the enerXchange prototype that the project will develop.”
- Ciaran O Breartuin, General Manager of mSemicon, an Irish supplier of innovative connected devices, is very excited by where this project could lead, "especially as regards potential opportunities for the development of new products and methodologies geared towards maximizing the benefit of distributed renewable energy sources."

Terry Madigan, Director of Systemlink Technologies, outlined how “the Community grid project will aid our business by tracking the latest technologies and interactions of renewable energy within the national power grid.”

Dr. Matthew Kennedy, Head of Strategy & Business in the IERC ,described how “ultimately, the project deliverable will save the consumer money on their energy bill and deliver a trading platform that enables the control of energy transactions and the securing of consumer contracts. This will

allow flexibility to the power grid while minimizing grid instability.”

About Community Grid

The project aims to demonstrate the successful management of key technical issues of grid disturbances, capacity management, flexibility, production resources. This project will use a modularised and flexible microgrid infrastructure (MiFIC) developed by the IERC.

This project will propose a new Grid-Edge role in the supply chain: the Community System Operator (CSO). The CSO uses flexibility within a community to respond autonomously, i.e. without interaction with the Demand System Operator, to disturbances caused by production from that community.

Community Grid does not depend on DSO for flexibility, instead using flexibility offered by prosumers in the Community Grid (‘Flexibility as a Service’, or FaaS). It makes response highly dynamic and scalable, maximising the ability to host local production without requiring structural upgrades.

About the consortium

The International Energy Research Centre (IERC) is an industry led, Irish Government supported Energy Technology Centre. Hosted in Tyndall National Institute at UCC, the Centre delivers world leading collaborative research to meet global societal needs for secure, affordable and sustainable energy services. It addresses energy systems integration challenges.

The research is an IERC and DIT collaboration. It confirms DIT’s position in providing world-class innovative R & D in the areas of Energy, Electrical Power engineering, Telecommunications and Energy Economics.

MPOWER was created as a result of a joint research project conducted by the Micro Electricity Generation Association (MEGA) and South Dublin County Council (SDCC). From that joint research project, aimed at enabling community engagement in renewable energy, grew the prosumer driven Community Grid concept.