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Prospering from the Energy Revolution

Project Girona

Project fact sheet

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The Prospering from the Energy Revolution challenge programme ran from 2018 to 2023.
For more in-depth information on the programme and the projects see:
<https://www.ukri.org/what-we-offer/browse-our-areas-of-investment-and-support/prospering-from-the-energy-revolution/>

Project Girona

Dates: March 2020- May 2022	Project partners: Girona Energy Limited (lead) Poweron Technologies Limited (t/a The Electric Storage Company) Grants Electrical Services Limited	SLES components: Domestic batteries Solar panels Smart grid optimiser
UKRI funding: £2.1m		
Link: https://www.gironaenergy.com/		

What is the project?	The project has installed batteries and solar panels in 62 properties in Coleraine, Northern Ireland, including households and community centres. The operation of these is managed to reduce bills for customers through maximising the use of energy from solar panels in the property, storing excess energy in the batteries, trading in the wholesale electricity energy market, and providing services to the local Distribution Network Operator.
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What has been delivered? What has been successful?	<ul style="list-style-type: none">✓ 62 properties fitted with typically 3.3 kWp of Solar photovoltaic (PV) and 3.68 kW / 11kWh batteries.✓ Generated 172 MWh of renewable electricity from solar panels and exported 31 MWh to the network.✓ Saved social housing tenants £27,000 on their energy bills over 18 months, equivalent to more than 50% in some cases in an area with a 30% prevalence of fuel poverty.✓ Tenants on pre-paid meters started seeing cost savings from day one.✓ In 2022 Girona won a flexibility contract with NIE, the local DNO, in an open tender.
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Barriers encountered and outcomes

Barrier	Covid led to significant issues including customer recruitment, the ability to install batteries inside houses and timescales for the heat electrification elements of the project.
Outcome	Projects needed to respond in an agile way by moving customer recruitment online and developing an outdoor, IP66 certified waterproof cabinet. Heat installations data was taken from a parallel project where we had installed heating in Housing Executive homes.
Barrier	Lack of existing expertise within housing associations and lack of pre-existing contracts and legal agreements for delivering smart electricity management.
Outcome	This led to delays in starting participant recruitment. In response, the project made more resources available, including legal expertise, to draw up bespoke documents which were agreed with housing associations.
Barrier	Tenants were initially sceptical about installations despite no personal financial commitment and a clear benefits case. This was partly because they saw it as 'too good to be true'.
Outcome	The project delivered early demonstrator installations in two community centres leading to clear visibility of the solution and community organisations becoming trusted advocates to encourage early adopters.

Impacts	Forecast GHG savings in 2032:	108.1% (Range: 106.3% to 110.5%)
	Forecast energy and network savings in 2032:	£1.06m (Range: £0.48m to £1.67m)
	Match funding:	£1.05m

Top lessons learnt	<ol style="list-style-type: none">1. Project resilience and flexibility are critical. Girona would not have been delivered without the ability to pivot to address unexpected challenges.2. Identifying stakeholders' own challenges and supporting them in solving these has enabled the project to gain respect and goodwill from the DNO and housing associations and has been a key aspect of a successful trial.
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What's next?	<ul style="list-style-type: none">• The PARIS platform has been commercialised through a 'white label' arrangement with an electricity retailer and underpins a smart local energy system design for a major agricultural food producer, both in the Republic of Ireland.• Expand the Girona model to a second project in Belfast Harbour Estate.• Develop marketing plan for roll out across Republic of Ireland.
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