Results of Competition:Energy Catalyst - Early Stage - Round 5Competition Code:1703 CRD1 ENRG ENCATES5

Total available funding is up to £13M (BEIS, DfID & EPSRC)

Note: These proposals have succeeded in the assessment stage of this competition. All are subject to grant offer and conditions being met.

Participant organisation names	Project title	Proposed project costs	Proposed project grant
Scene Connect Ltd	Establishing Mutually Beneficial	£144,956	£101,469
Swanbarton Limited	Local Energy Markets (EMBLEM)	£144,034	£100,824
Iona Renewables		£10,061	£10,061

Project description - provided by applicants

Most of the remarkable growth in renewable energy production has occurred among variable technologies (wind power and solar PV), raising concerns about the challenges of integrating large shares of variable generation into power systems. Establishing Mutually Beneficial Local Energy Markets (EMBLEM) aims to test the feasibility of a pioneering energy trading system for local energy economies, that aims to be a cost effective demand response solution to securing efficient energy supply. The concept is a win-win-win for producers, consumers (and prosumers) of energy, and also national grid and distribution systems, aiming to reduce network stress and power outages. EMBLEM integrates cutting-edge UK innovations - Scene Connect's Cloud Solar, off-grid energy metering and control hardware, and Swanbarton's Smart Trading platform - to deliver a product that goes beyond the current state-of-the-art. This product promises to disrupt current energy markets by increasing the viability of small renewable energy installations, and the electrical grid's ability to incorporate them. The key usage of the resultant technology will be in the developing world where grid systems are rapidly expanding and are under significant stress.

Note: you can see all Innovate UK-funded projects here

https://www.gov.uk/government/publications/innovate-uk-funded-projects_Use the Competition Code given above to search for this competition's results

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Participant organisation names	Project title	Proposed project costs	Proposed project grant
M-KOPA UK Limited	Catalysing energy access in Africa	£198,000	£99,000
Il Iniversity of Oxford	management	£97,658 £14,100	£97,658 £0

Project description - provided by applicants

Pay-as-you-go solar home systems are rapidly providing clean and affordable power to the 600 million people in Africa who live beyond the grid. These systems allow people to stop burning kerosene for lighting, to charge their mobile phones, and to have their children study safely at home. However, one core component of the system - the battery - can limit the effectiveness of the system, and the lifetime of the system as a whole. Applying data science and machine learning in an entirely new context, M-KOPA and its research partners will develop new technologies to remotely manage the batteries of its 500,000 customers, and to maximise the lifetime and functionality of these batteries. The research will ultimately lead to reduced product costs, and costs of serving customers, whilst ensuring that solar home system users are able to enjoy the full benefits of clean and safe energy in their homes.

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Participant organisation names	Project title	Proposed project costs	Proposed project grant		
Entrust Microgrid LLP	Entrust Smart Home Microgrid	£97,268	£68,000		
Project description - provided by applicants					
The project will develop an innovative smart home microgrid (Ensmarthome) with integrated solar PV and energy storage system, aiming to maximise self-consumption of domestic solar PV power and significantly reduce end-user's energy bill. Ensmarthome will significantly reduce domestic peak power demand on the electricity grid, allow more solar PV installation under current electricity grid regulations, which will brings maximum benefit to the electricity grid and the public. Ensmarthome enables both on-grid and island operation of domestic solar PV system, which is absolutely essential for homeowners in developing countries where electricity grids are often unreliable or unavailable. Success of the project wif facilitate further large scale installation of domestic solar PV system both in the UK and globally based on its significant benefit to the end-users and the public. Success of the project will promote the UK smart grid business and create/secure high tech/value jobs in the UK. The innovative technology will play a key role in tackling energy security, reducing cost of energy, battling CO2 emission and climate change.					

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Participant organisation names	Project title	Proposed project costs	Proposed project grant
Ulster University	SolaFin2Go	£135,440	£135,440
dpSUN Limited		£65,500	£45,850
Empowered Pty		£60,700	£42,490
SolaForm Ltd		£29,900	£20,930

Project description - provided by applicants

The SolaFin2Go project will address the challenge of providing standalone solar systems to make available cost effective and affordable access to electricity and thermal hot water for off-grid households in sub-Saharan Africa. The objective is to test the feasibility of 'entry level' technological solutions combining novel PV and solar thermal technologies financed through improved business PAYG models (enabled by the innovative FinTech platform through Mobile, Cloud and Blockchain technologies) that fit with household/community circumstances to provide basic electrification and hot water. Combining the partner technologies, resources and knowledge in this study has the potential to create a viable, cost effective off grid standalone solar solution to meet many of the challenges identified by the Sustainable Energy for All (SE4All) [1] initiative and directly relates to the Botswana Off Grid Plan and Energy Efficiencies plan [2]. This unique project combines traditional PV systems with battery storage and solar thermal technologies packaged together under an energy, payment and customer management platform that has customer relationship at the heart of the finance model and also has significant potential to add to economic momentum in rural communities and to Transform Energy Access (TEA) for all.

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