Results of Competition: Smart Local Energy Systems: Concepts and Designs

Competition Code: 1804_ISCF_SMART_ENERGY_DESIGN

Total available funding is £1.5million

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
CONSORTIO LIMITED	BankEnergi - Providing local energy systems for the London South Bank community	£57,711	£40,398
BOUYGUES E&S FM UK LIMITED		£26,483	£13,242
BUILDING SUSTAINABILITY SERVICES LIMITED		£28,096	£14,048
King's College London		£13,440	£13,440
London South Bank University		£27,970	£27,970
QBOTS ENERGY LTD		£28,759	£20,131
SOUTH BANK EMPLOYERS GROUP		£6,880	£6,880

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

Funders Panel Date: 11/10/2018

Project description - provided by applicants
The vision is to create a energy marketplace in the South Bank area with the desired outcome being socio-economic and environmental benefits. Specifically, there are under-exploited opportunities in micro-generation (including storage), demand side response, utilisation of heat networks and energy efficiency. New technologies will be central to our approach to reduce business risk and include energy storage, predictive algorithms and IoT sensors. There are two main locations: Waterloo where stakeholder are drawn from members of the South Bank Employers Group (SBEG, an association of the major organisations in the South Bank and Waterloo dedicated to achieving the best possible experience for employees, residents and visitors to the area) and London Bridge. The objective is to challenge the status quo and achieve disruption in an industry sector that has profited whilst at the same time not providing sufficient improvement in customer outcomes such as fuel poverty and air quality. "Smart Buildings" will help balance the local grid so that it is able to respond to shifts in local and national electricity demand and derive revenues. There is also the preparation of the coming transition to electric vehicles that will create new demand for energy supply. This is an opportunities to use vehicle batteries to improve the resilience of building energy supplies by deploying Smart Chargers which match supply and demand. By going "off-grid" using proven energy storage technology, this will improve security of supply as well as lower bills.

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

Results of Competition: Smart Local Energy Systems: Concepts and Designs

Competition Code: 1804_ISCF_SMART_ENERGY_DESIGN

Total available funding is £1.5million

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
CENIN RENEWABLES LIMITED	Intelligent Bridgend Energy System Designs	£24,975	£17,482
Bridgend County Borough Council		£30,880	£30,880
Cardiff University		£20,889	£20,889
FIRST CYMRU BUSES LIMITED		£24,917	£12,458
HITACHI EUROPE LIMITED		£70,954	£35,477

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

Project description - provided by applicants

Decentralisation of heat, power and energy generation to areas of local usage provides the opportunity for more efficient use of resources (both energy and network infrastructure) -- if the needs of the different vectors are balanced against one another. Bridgend County Borough provides a replicable use case for developing a concept of balancing local energy generation with local energy needs across both urban and rural environments.
 	
The county is embracing decentralisation of energy generation, with substantial existing and planned assets across the three energy vectors; heat, power and transport. Including:
 	
* Parc Stormy Energy Park (PSEP), with a solar farm, wind development, AD CHP plant, battery storage facility, EV charging points and plans to develop into a renewable energy transport hub and business enterprise park
* The Council's plans to encourage decarbonisation of heating provision, including the initiation of two district heating networks in separate locations of the county in 2019 and 2020, to be integrated with local electricity generation from wind and solar and additional EV charging infrastructure to provide satellite transport hubs.
 	
The project will explore the opportunity to integrate heat, power and mobility through the creation of a digital platform; monitoring and predicting energy demand and generation, and provision of low carbon transport micro-hubs within the heat network schemes to support a central hub at PSEP.
 	
It is envisaged that this digitisation and integration of energy vectors will give rise to the following benefits:
 	
* Reduced costs, for:
  * The energy system, through efficient use of existing infrastructure
  * Consumers, from development of local energy markets and service plans
  * Energy suppliers, by enabling access to the flexibility services market
  * Transport providers through bus fleets optimisation and management
* New Consumer Offerings:
  * Heat service plans, selling comfort rather than kilowatt-hours of energy and offering stability of costs and health and well-being improvements
  * Mobility service plans, selling access to a range of different sustainable transport options to suit an individual's needs
  * A more reliable and transparent transport service, with digital applications enabling users to access real-time information about service provision and journey times.
* Improved Environment, through
  * Lower carbon energy provision across all energy vectors, reducing air pollution and contributing to carbon targets
* Local Resilience
  * Through local energy resource use and economic growth stimulus via new business opportunities, associated with low carbon USP credentials and supply chain opportunities.

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

Results of Competition: Smart Local Energy Systems: Concepts and Designs

Competition Code: 1804_ISCF_SMART_ENERGY_DESIGN

Total available funding is £1.5million

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
ORE CATAPULT DEVELOPMENT SERVICES LIMITED	Whole Energy System: Levenmouth Integrated Demonstration (WESLID) - Concept and Design Study	£144,296	£101,007
PASSIVSYSTEMS LIMITED		£24,750	£17,325
University of Strathclyde		£23,623	£23,623

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

Project description - provided by applicants
The United Kingdom has made significant progress towards achieving its commitments under the Climate Change Act to reduce CO2 emissions to 80% of 1990 levels, particularly in the areas of de-carbonising the electricity grid and in the uptake and planning to substantially shift to electric vehicles for short domestic journeys. However, historically the various constituent vectors of our energy system (i.e. electricity, heat, transport) have been operated as independent functions with limited interactions and integration. To make the next key step in our transition to a decarbonised energy system we need to move forward from viewing these vectors in isolation to create a dynamically balanced and flexible low carbon energy system. Enabling a whole systems approach to local energy systems will provide new services and value streams, further driving direct benefits to the UK and enabling developments in the areas of system control, software development and aggregation services, establishing the UK as the world leader in this field. Levenmouth has been chosen as the initial test bed for the design study of a vector integration platform (VIP) to be designed through this project. Levenmouth has a diverse range of assets including a hydrogen microgrid, a deployed fleet of electric and hydrogen vehicles, a 7MW offshore wind turbine, an industry CHP plant and heat network. Due to the local demographic, significant levels of fuel poverty and low social mobility, the direct benefits of operating a smart local energy system will be tangibly realised. This project will develop the technical software specification for a VIP with the capabilities to control supply and demand assets across multiple energy vectors under a variety of different regulatory and market arrangements whilst returning a profit margin for both the owners and end users. Through working closely with the utility companies, local energy network owners and regulators, the VIP developed will provide a test bed for hardware testing and modelling policy on a local level with a significant focus attributed to testing public opinion and reaction to a de-carbonised energy system. Interactions with national models will be facilitated for accurate forecasting of multi-vector outcomes and to enable roll out of an evolved VIP across the UK and for exporting internationally.

Results of Competition: Smart Local Energy Systems: Concepts and Designs

Competition Code: 1804_ISCF_SMART_ENERGY_DESIGN

Total available funding is £1.5million

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
EA TECHNOLOGY LIMITED	E-port Energy	£32,729	£19,637
Burns & McDonnell Europe (UK) Limited		£148,997	£74,498
CADENT GAS LIMITED		£0	£0
CHESHIRE & WARRINGTON LOCAL ENTERPRISE PARTNERSHIP		£0	£0
MERSEY DEE ENERGY LIMITED		£4,957	£0
PEEL ENVIRONMENTAL LIMITED		£0	£0
SP Energy Networks		£0	£0
University of Chester		£10,000	£10,000

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

URENCO UK LIMITED		£0	£0

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

Project description - provided by applicants
The economy of the North West of England is driven by energy; the Cheshire Energy Hub - centred around Ellesmere Port - comprises 100km2, and currently consumes around **5% of the UK's energy**. It contains some of the UK's most significant and energy intensive infrastructure. This project represents a significant step in the development of the Cheshire Energy Hub Energy Innovation District, based around the main energy users including Ineos Chlor, Essar's Stanlow Refinery, CF Fertilisers, Encirc and URENCO, together with network operators, innovators and partners including EA Technology, Burns & McDonnell, Cadent, SP Energy Networks, Peel Environmental, Cheshire & Warrington Local Enterprise Partnership, Cheshire West and Chester Council and University of Chester, with the objective of driving down the cost of clean energy for all consumers in the area. The project will develop a concept and design for a local, smart energy system (the "E-Port Smart Energy Master Plan"). It will show how energy use across electricity, gas, heat and transport energy vectors can be optimised to permit energy intensive industries to benefit from low-carbon, low-cost energy - improving their competitiveness in the global market while improving the lives of local people through access to the same low-cost, low-carbon energy sources, while ensuring economic security through increased post-Brexit employment opportunities in this industrial heartland. The E-Port Smart Energy Master Plan will be based on _existing energy consumers_, _existing and planned_ _renewable energy sources_ and _existing energy network infrastructure_ wherever possible, thereby avoiding the need for significant infrastructure investment. It will bring together a diverse blend of energy consumers, from energy intensive industry to commercial and domestic users - linking their need for clean, low-cost energy with renewable energy resources, including wind, solar, biomass, energy from waste and hydrogen. The focus for innovation will the application of emerging technology including internet-of-things devices, data analytics, measuring and monitoring technology combined with advanced digital intelligence to enable market trading platforms that will give consumers seamless access to clean, low-cost energy using the full range of energy vectors to best meet their needs. The output of the E-Port Smart Energy Master Plan will be an optimised concept design with an associated ten-year investment plan, identifying opportunities for private sector investment and providing a nationally-replicable model for delivery of multi-vector, low-cost, low-carbon energy.

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

Results of Competition: Smart Local Energy Systems: Concepts and Designs

Competition Code: 1804_ISCF_SMART_ENERGY_DESIGN

Total available funding is £1.5million

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
Isle of Wight Council	Energy Autonomous Community (Isle of Wight)	£2,784	£2,784
E.ON ENERGY SOLUTIONS LIMITED		£135,992	£67,996
FUTURE ISLE OF WIGHT CIC		£0	£0
KNOWNOW INFORMATION LTD		£12,026	£8,418
Newcastle University		£4,800	£4,800
University of Portsmouth		£24,999	£24,999
WIGHT COMMUNITY ENERGY LIMITED		£0	£0

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

Project description - provided by applicants
Energy Autonomous Community will investigate the opportunities arising from the development of a Virtual Power Network (VPN) and flexibility marketplace on the Isle of Wight. It will create a local smart system, with the flexibility marketplace at its heart, which will allow the Island to improve its local energy management and usage and to progress its energy autonomy vision, to be self-sufficient in electricity from renewable sources. The Isle of Wight is already experiencing many of the grid capacity issues that are expected to occur nationally as the energy revolution gathers pace. It has identified the need for a smart grid solution to facilitate its vision, given the physical and financial obstacles to further traditional reinforcement. The concept and design study will focus on the West Wight area which contains approximately 15,000 households, including a significant proportion (20%) of off-gas properties. It will investigate how consumers can utilise electricity in a smart way by storing (both thermally and electrically) and using electricity during periods of high renewable generation, and reducing demand during low production periods. This process is known as 'load shifting' and various means of achieving this will be investigated. This includes domestic systems which integrate rooftop PV, domestic battery storage and electric vehicle (EV) charging systems with the heating component; public EV charging points which have variable tariffs depending on the amount of local generation available; and large battery storage systems connected to solar farms. Together, these solutions will ensure maximum power usage of real time renewable generation. The study will investigate how flexibility can give all generators the option to sell power into the local flexibility market and connect local generation more directly with local consumers. This is likely to require new commercial models such as peer-to-peer (P2P) trading and a platform which manages the flexibility system by informing consumers when cheaper local power is available. These new models will be fully investigated to ensure that they can deliver consumer choice and energy security. This concept and design study will explore the transition to low carbon generation. Whilst it will take place on the Isle of Wight, the results are likely to be replicable in any area in the UK with a desire for high levels of distributed generation and a wish for the community to be a primary beneficiary of that generation.

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

Results of Competition: Smart Local Energy Systems: Concepts and Designs

Competition Code: 1804_ISCF_SMART_ENERGY_DESIGN

Total available funding is £1.5million

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
ELECTRICITY NORTH WEST LIMITED	Greater Manchester Local Energy Market	£48,380	£24,190
BRUNTWOOD LIMITED		£48,211	£24,106
Greater Manchester Combined Authority		£30,685	£30,685
HITACHI EUROPE LIMITED		£50,083	£25,042
UPSIDE ENERGY LTD		£11,774	£8,242

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

Project description - provided by applicants
The Greater Manchester Local Energy market (LEM) project will test the feasibility of a GM region wide local energy market which responds to \`place-based' constraints and market needs. The key driver for the project is to enable and increase the flexibility in the energy distribution network through: novel management tools (including building management systems), Market Aggregators and virtual power plants (VPP) to allow higher penetration and accelerated deployment of renewable energy sources (RES) and demand side(DSR) response opportunities. The project is led by Electricity North West Ltd (ENWL) and brings together the resources of Greater Manchester Combined Authority (GMCA), Hitachi EU, Bruntwood and innovative SME Upside Energy. The projects key objectives are; *identify the requirements for a LEM, ie control and trading platforms. *establish if this needs to integrate with other local control platforms, particularly those operated by project lead ENWL, to provide balancing services locally and an interface to the national transmission system. *Demonstrate the value the LEM can bring to stakeholders in the region including domestic and commercial consumers, smaller renewable projects, vehicle to grid projects and ENWL through providing a platform for energy optimisation across a complex and highly populated region.

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

Results of Competition: Smart Local Energy Systems: Concepts and Designs

Competition Code: 1804_ISCF_SMART_ENERGY_DESIGN

Total available funding is £1.5million

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
Monmouthshire County Council	An Energy Revolution for the market town of Caldicot	£38,127	£38,127
CENEX (CENTRE OF EXCELLENCE FOR LOW CARBON AND FUEL CELL TECHNOLOGIES)		£49,147	£34,403
Wales & West Utilities Ltd		£61,377	£30,688
WESTERN POWER DISTRIBUTION (SOUTH WALES) PLC		£48,386	£24,193

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

Project description - provided by applicants

PROJECT AIMS

Model commercial feasibility of a low-carbon, multi-vector energy system in Caldicot that includes:

1. A retrofitted district heating network, directing heat from water extraction generated by Network Rail at Severn Tunnel (Sudbrook) to homes/businesses via a centralised water sourced heat pump (existing gas network left in-situ as back up).[\[ER1\]][0]
2. Tying in renewable electrical generation from the local Council owned5MW solar farm with additional photovoltaic (PV) capability, utilising batteries and storage walls during excess generation.
3. Creation of a self-balancing virtual private network (VPN) that tests a new regulatory market structure (with consideration given to benefits, avoided costs, value-flow[\[JF2\]][1]), supporting new billing methodologies and other local benefits.
4. Removing single-phase electric cabling and installing 3-phase electric power supply cables to new and existing buildings, supporting electric vehicle (EV) charging, and reducing network transmission losses.
5. Use of Vehicle to Grid (V2G) units to enable EV batteries to be used to balance the LV system and optimise the local use of PV generation and maximise value
6. Modelling the impact of interventions and develop detailed plan for a demonstrator project.

Modelling this integrated network across demand profiles generates knowledge regarding:

* Electrical, heat and cooling demands
* Storage and backup systems e.g. Flow rates/hydraulics and battery storage
* Space footprint needed for heat recovery and electrical storage systems
* Integration of low-grade heat supply with existing gas infrastructure to obtain required operating temperature
* Impacts on Pumping Station operations (e.g. peak discharging)
* Associated energy cost and carbon savings
* Regulatory/governance and contractual insight across the electricity, gas, storage, water, heat (markets and pricing), rail and insurance sectors
* Industrial Heat Recovery associated with the rail industry (Sudbrook).

KEY OBJECTIVES

1. Test to commercial viability of above for new-build and retrofit homes/businesses
2. Determine social (bill reduction) and environmental benefits (CO2 reduction) from above interventions

DETAILS OF HOW IT IS INNOVATIVE

* Testing the degree to which disparate systems can be integrated and achieve efficiencies by working together in a managed multi vector large-scale

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

combination.
* Modelling the demand profile (by discharging from a range of generators at peak times and charging at high generation/low demand times) to determine reliability and tolerances/constraints, to achieve secure supply, within a Virtual Private Network.
* Creation of innovative controls for 3-phase cables to achieve fully balanced phases, reducing or removing circulating currents in the Neutral.

OUTPUTS

Plan for demonstrator project to create a case studies/best practice for the wider UK.

[0]: file:///C:/Users/Emma%20Richardson/AppData/Local/Microsoft/Windows/INetCache/Content.Outlook/22PZ82ZU/V5%2024-07-2018%20CALDICOT%20BID.docx#_msocom_1
[1]: file:///C:/Users/Emma%20Richardson/AppData/Local/Microsoft/Windows/INetCache/Content.Outlook/22PZ82ZU/V5%2024-07-2018%20CALDICOT%20BID.docx#_msocom_2

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

Results of Competition: Smart Local Energy Systems: Concepts and Designs

Competition Code: 1804_ISCF_SMART_ENERGY_DESIGN

Total available funding is £1.5million

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
BRISTOL ENERGY & TECHNOLOGY SERVICES (SUPPLY) LIMITED	Bristol Energy Smart System Transformation	£133,101	£79,861
Bristol City Council		£5,005	£5,005
BRISTOL COMMUNITY TRANSPORT		£2,982	£2,087
BRISTOL ENERGY NETWORK C.I.C.		£11,621	£11,621
REGEN SW		£26,221	£26,221
TAMAR ENERGY COMMUNITY LIMITED		£14,500	£10,150
UPSIDE ENERGY LTD		£5,305	£3,714

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

Project description - provided by applicants
One of a number of strategic investment projects within the £875 million City Leap Programme, the BESST (Bristol Energy Smart System Transformation) project will design a customer focused way to deploy smart energy (heat and power) and digital technology at scale, to reduce energy system costs and deliver a radically new customer experience for local energy consumers and businesses. Building on the Bristol's track record as green energy pioneer as well as the UK's most creative city, the BESST project aims to create a cluster of smart homes and businesses across four wards in west Bristol including the Avonmouth and Severnside Enterprise area. Putting the consumer at the heart of the project, the BESST project will adopt Bristol's unique approach to engage with local residents, businesses and communities, to develop new customer/community solutions to deliver energy saving and reduced requirements on the network. Digitally integrated within developing flexibility and Smart City Platforms, these energy consumers will then be empowered to take advantage of a number of new and innovative energy service propositions including, for example, new smart and local generation tariffs, "Energy as a Service" models, energy management and optimisation, sustainable community transport and, in the future, energy peer-to-peer trading and local energy markets. Linking energy demand to local generation, and incorporating new demand for electricity for heat and transport, within an overall energy flexibility platform, Bristol consumers will also be able to trade their demand flexibility to provide energy system services and to help balance the local energy network. Thereby demonstrating how integrated local energy systems can further reduce energy system costs and provide network services at both a local and national level. The scale and ambition of the project is intended to demonstrate how public private investment in replicable local solutions, using smart and digital technology, could transform the UK's energy system delivering customer centric solutions at lower cost. In the process showcasing Bristol and the UK's technology innovation and smart energy system capability to international markets.

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

Results of Competition: Smart Local Energy Systems: Concepts and Designs

Competition Code: 1804_ISCF_SMART_ENERGY_DESIGN

Total available funding is £1.5million

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
SWANBARTON LIMITED	LEMDEx - Local Energy Market in Devon and Exeter	£161,010	£112,707
Devon County Council		£6,000	£6,000
Exeter City Council		£0	£0
EXETER COMMUNITY ENERGY LIMITED		£0	£0
University of Exeter		£10,064	£10,064

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

Project description - provided by applicants
The UK government wants to encourage local energy projects, recognising the benefits of wider community engagement. Many UK energy users, including the collaborators in this project, want better access to the energy market. These include organisations such as community energy groups, industrial and commercial energy consumers, distributed generators, local investors in energy assets and prosumer households. The current centralised UK energy system and the single energy supplier model is not providing the engagement opportunities that many of these organisations and individuals desire. We propose that a Local Energy Market (LEM) approach based on peer-to-peer (P2P) energy trading would provide greater opportunities for local engagement and better use of local energy assets. This approach also has potential to deliver a fairer and more scalable approach for network and system management. Swanbarton has already developed a technology platform for this purpose and run some encouraging technology trials. Better management of distributed energy assets, using a LEM approach, will help to reduce greenhouse gases below the 5th carbon budget. The LEMDEx project will study the commercial requirements for deploying a Local Energy Market, including any dependencies on regulatory change, and design a solution. The project will also design appropriate supporting systems, such as billing integration, and the overall business model. Swanbarton Limited will lead the LEMDEx project and work in collaboration with Devon County Council, Exeter City Council, the University of Exeter and Exeter Community Energy. The objective of the LEMDEx project is to design a system that would allow Local Energy Markets to be piloted in Exeter and Devon in 2020\.

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

Results of Competition: Smart Local Energy Systems: Concepts and Designs

Competition Code: 1804_ISCF_SMART_ENERGY_DESIGN

Total available funding is £1.5million

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
POWER TRANSITION LTD	The Development of a Distributed Ledger Technology (DLT) Micro-grid Management Platform	£130,294	£91,206
Cardiff University		£48,991	£48,991
ELECTRIC CORBY CIC		£16,000	£11,200

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

Project description - provided by applicants
Our project demonstrates the production and consumption of renewable energy in three principal areas: Enhanced efficiency of energy management at the local level Improved urban living standards by the deployment of a secure, smart energy infrastructure The ability to report non-financial and financial information derived from energy production and consumption in an integrated way. Our business model encourages the evolution of business and technology through collaboration and integration with supporting systems. This will result in UK business growth in infrastructure systems and services. To support our business model our extended team includes strong ties to legal, insurance, security and finance advisory services. This project will improve our business growth potential, creating significant technology and productivity gains, enabling further overseas exports of our product and services. This expansion will be supported through our partnership with NEC. Our innovations significantly help solve the problems associated with power distribution flexibly by matching changing energy supply and demand profiles for the future. We will demonstrate these smart system solutions that integrate energy generation and demand primarily at the local level and at regional and r national scale by up-scaling. We use storage and advanced power management systems to optimise multiple sources of energy supply and demand allowing flexible energy trading and improving efficiency. Our system delivers solutions that provide optimisation across energy vectors with outcomes that significantly improve energy affordability, security and emissions reduction. The system also provides an urban living solution with hard and soft energy management systems. Our product is designed to be 'citizen-centered' and provide significant 'cities and citizens' benefits that are resilient, scalable and sustainable. The flow of information through our system allows the rollup of quantitative, data-centric information to respond to the UN SDG indicators (UN Sustainable Development Goals). The integrated information analysed and stored will permit the calculation of Natural Capital accounts according to UK, European and UN norms. The database of structured information will permit the analysis of, e.g. Investment Rates of Returns (IRR) of an internal carbon pricing projects and investments; and the gathering of information for and analysis of Environmental Profit and Loss accounts.

Results of Competition: Smart Local Energy Systems: Concepts and Designs

Competition Code: 1804_ISCF_SMART_ENERGY_DESIGN

Total available funding is £1.5million

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
London South Bank University	GreenSCIES - Green Smart Community Integrated Energy Systems	£38,877	£38,877
Building Energy Solutions		£19,655	£13,758
CARBON DATA RESOURCES LTD		£16,150	£11,305
CARBON DESCENT INTERNATIONAL LTD		£30,439	£21,307
E-CAR CLUB LTD		£24,429	£12,214
ENGIE SERVICES HOLDING UK LIMITED		£14,989	£7,494
GRID EDGE LIMITED		£25,064	£17,545
TRANSPORT FOR LONDON FINANCE LIMITED		£10,241	£10,241

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

Project description - provided by applicants
This project involves providing low cost, highly efficient smart energy systems for local communities. It builds upon a district scheme at Bunhill in Islington whereby heat from a London Underground ventilation shaft is used to provide heating for local residents - providing low cost and low carbon energy. This project considers a number of additional secondary energy sources which could be integrated into a smart grid. This includes heat from substations, sewers, supermarkets, canals, cable tunnels and data centres. The smart grid also includes battery storage and electric vehicle to grid points working with the electrical supply grid to make the most of intermittent renewable energy and ensure that consumers always get the best tariff. The feasibility also investigates the business models and legal frameworks associated with the development and implementation of a complex smart system. It will work with key stakeholders in understanding views of end users and others in the supply chain. It is anticipated that this innovative project will result in significant carbon emission savings and much lower energy costs for consumers. A successful feasibility study will identify the benefits for a range of users and lead to the design of a potential demonstration project.

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

Results of Competition: Smart Local Energy Systems: Concepts and Designs

Competition Code: 1804_ISCF_SMART_ENERGY_DESIGN

Total available funding is £1.5million

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
LEEDS ENVIRONMENTAL DESIGN ASSOCIATES LIMITED	A feasibility & development study into local energy frameworks & end user engagement	£88,424	£61,897
Leeds Beckett University		£22,053	£22,053

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

Project description - provided by applicants
The current energy and transport systems in the UK are not fit for purpose for a low-carbon economy. As a result, a few communities are taking control of their energy systems, implementing their own finance structures and working towards better transport options. This feasibility study looks into viability of developing a system tying renewable energy, the circular economy, community engagement and low-carbon transport into one, empowering local people, building community resilience and growing its economy. By using a smart, incentive based system residents and businesses can benefit their communities and themselves by choosing locally produced renewable energy, improving air quality and reducing energy bills. The study investigates creating a "community currency" that is redeemable on public transport and at participating businesses and how wealth can be circulated within local areas. The 'currency' would be awarded when consumers opt to receive their energy from a local renewable means, or choose proactive ways to reduce their energy needs. The amount awarded would be dynamically linked to the levels of local energy production at the time. In order to finance such a system, capital could be raised by businesses and local organisations to install the infrastructure and setup an energy company. In turn, the 'community currency' could be 'created' by businesses, to act as partial payment for their energy, the currency would go on to be distributed to consumers as necessary in return for their energy use. Participating consumers would have access to an App providing information on the reward level, offer ways to improve their rewards and will act as the 'wallet' used to pay for transport and purchase goods and services. The study will investigate options, alternatives and viability of the above, quantifying how it could work, how much it will benefit and how it can be achieved with regards to cost, viability and time.

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