

PEP	Project Title	Organisation	Category	Description	SEAI commitment
109	<b>Methods for Improved Collector Design/Completion - Irish Ground Thermal Properties (IGTP-3)</b>	Terra GeoServ Ltd.	Geothermal	The proposed research seeks to enhance data associated with site-specific rock properties and related parameters used to size heat-collector's. The aim is to increase the number of installations of ground source heat pumps in Ireland and ensure high standards across the sector. GeoServ Ltd. will lead this research in collaboration with the Geological Survey of Ireland, Fastnet Analytical, Roadstone and Wall's Well Drilling. The project follows on from SEAI funded research in 2014 and 2015 that aimed to improve the understanding of mapped and shallow geothermal resources in Ireland, the outputs of which are available through IGTP website <a href="http://www.irishgroundtherm.com">www.irishgroundtherm.com</a> .	€39,800.8
111	<b>Enabling the Bioenergy Sector to Understand and Assess Life Cycle Sustainability</b>	Irbea	Renewable Heat	This project aims to generate new industry-relevant knowledge and guidance on Lifecycle Analysis LCA and sustainability criteria of local bioenergy supply chains in Ireland. The analysis will support the development of a more comprehensive investigation by SEAI on the sustainability of bioenergy, which will inform development of the Renewable Heat Incentive RHI. The project will develop in-depth, comprehensive case studies of relevance to the bioenergy sector. In addition, this project will support the implementation of the Clean Energy Package.	€27,922
112	<b>Planning Guidance Recommendations for the Bio Energy sector in Ireland</b>	Irbea	Renewable Heat	This project will support the development of the bioenergy sector in Ireland addressing a key barrier, in terms of moving through planning, consistently highlighted as an impediment to the sector. This research intends to address a number of areas relating to the town planning implications associated with the development of bioenergy developments in Ireland. The project team will develop planning guidance recommendations following an assessment of third party planning objections lodged against proposed bioenergy schemes in urban and rural contexts to understand the key issues and obstacles.	€26,487.16
114	<b>Creating and Harmonising Energy and Co2 Baselines for the Development of LA's Climate Change Mitigation Action Plans</b>	Dublin Energy Agency - CODEMA	Climate Change	This project aims to create a CO2 emissions and energy baseline inventory at greater resolution than what is currently available for the Dublin Region, disaggregated into four Local Authority areas. The work will complement the national inventories produced by the EPA. CODEMA will share the methodology with other Local Authorities to ensure consistency across future regional emissions inventories. This work will support the National Mitigation Plan and the development of policies and measures at a Local Authority scale.	€37,483
116	<b>National Building Energy Retrofit Testbed NBERT Research Portal</b>	CIT	Energy Efficiency	The project aims to deliver an open-source, performance assessment tool to address the climatic cooling potential of natural ventilation systems in Ireland. The project builds on a previous CIT research, which developed a low energy testbed building in 2012. The proposed SEAI RD&D project will provide a platform for the next phase of the testbed initiative at CIT and will build on participation in	€38,615.3

				IEA- EBC Annex 62 on Ventilated Cooling - <a href="http://ow.ly/xBVW30dgFg3">http://ow.ly/xBVW30dgFg3</a> . The project will help bridge the knowledge gap surrounding overheating risk in low energy buildings and will be the first source of ventilated cooling potential assessment, within an Irish context.	
117	<b>Decision Support System for Energy use in Dairy production DSSED</b>	CIT	Energy Efficiency	This project aims to develop a decision support system for optimal energy use in dairy production. This is particularly pertinent given national targets to increase milk production with the abolition of milk quota's while maintaining strong sustainability credentials of the Irish dairy industry. The project outputs will inform government policy in relation to energy utilisation in dairy production. It will also inform farm managers of optimal operation strategies to reduce energy consumption for on-farm milk production systems and for increasing renewable generation. Farm managers will be able to access the decision-support tool through an on-line open-source web app, which will result in the immediate application of best practice guidelines in energy utilisation on Irish dairy farms. Teagasc are collaborating with the project in terms of using its commercial farm network as a test-bed for the application of the sensor networks and disseminating the tool.	€48,773.5
118	<b>Northwest Energy Communities Start-up NECS</b>	IT-Sligo	Community	The project aims to support the transition from passive consumer to energy citizen on a targeted community scale in line with the ambitions of the Energy White Paper. It will establish a study group of 6 communities within the region of Co. Donegal, Sligo & Leitrim, survey their energy demand and develop a road map to 2025. The data and information gathered as part of this project will facilitate participation in other SEAI programmes such as SEC.	€58,653.44
120	<b>ReBioGen - Development of policy and community based business model underpinning distributed energy recovery from residual biomass involving multiple stakeholder types</b>	tcbb-RESOURCE not-for-profit	Renewable Heat	The project aims to develop a viable business model supporting the mobilisation and exploitation of Ireland's agri-food, marine, forestry and municipal waste residues for recovery of renewable energy. The project is a collaboration between tcbb-Resource, CKEA, Tipp. Co and TEA. The team will consider the sustainable exploitation of these residues through an integrated approach to supply chain development, facilitating aggregation and mobilisation of feedstock together with deployment of energy production technology focusing on AD and pyrolysis. The analysis will focus on the design of a community-based model that can aggregate and mobilise supply of a range of feedstock's within a given locality and that deploys shared (or public) processing infrastructure to recover renewable energy. The project will contribute to Ireland's renewable energy and climate change obligations as well as broader sustainability, circular economy, waste management and rural development objectives.	€46,353
122	<b>Grange Castle Business Park Energy MasterPlan</b>	South Dublin Co. Council SDCC	Energy Planning	This innovative project will establish a 'living laboratory' energy zone in South Dublin County. The project team will develop an Energy Masterplan for Grange Castle Business Park by South Dublin	€24,920

				County Council. The work aims to explore the existing and future energy profile of the Business Park and investigate opportunities for on-site low carbon and renewable energy responses, including waste heat recovery and utilisation. There is high demonstration value and replicability in this project.	
124	<a href="#">Smartblocks</a>	CIT	Smartgrid	This project looks to explore the potential of blockchain technology in the energy sector. The project team will develop and evaluate a proof-of-concept solution to evaluate the viability of using blockchain technology to support the promotion of renewable energy usage and the independent verification of energy transactions (usage, renewable penetration) between prosumers and consumers.	€99,200.64
126	<a href="#">Strategic Planning Toolkit for Building Energy Retrofits</a>	xd Consulting Ltd.	Energy Efficiency	This project aims to develop a consistent framework and tool for use by communities and Local Authority (LA) to understand their residential energy usage. This will help in identifying appropriate retrofit measures to reduce energy usage in subsequent years. The output from the project will enable more consistent and straightforward means for communities and LA's to carry out assessments and could be used by any Sustainable Energy Community or Covenant of Mayors signatory body.	€32,673.6
128	<a href="#">The Relationship between Radon and Ventilation in Retrofit Buildings: Experimental Validation of Model Predictions</a>	NUI Galway	Radon	The project team aim to validate a model - funded through the EPA's research programme - developed to examine the relationship between improved energy efficiency and elevated indoor radon concentrations. The project team will conduct field trials to measure real-world ventilation status and radon concentrations for selected dwellings. This data will validate the model for these selected dwellings. Given the potential interaction of radon levels and energy efficiency retrofits, this is an important project. Full validation and parameterisation of the model is essential for it to provide meaningful information.	€55,065.44
129	<a href="#">Segmentation of the energy consumer market in Ireland</a>	Interactions Ltd.	Behaviour	The project intends to segment national energy consumers drawing upon European best practice. The project will validate the most effective behavioural models to encourage action across the segments to accelerate the uptake of renewable energy practices in Ireland. The methodology primarily employs social marketing tools to achieve specific behavioural goals. The results will provide useful insights for SEAI communications, delivery of grant programmes and inform behavioural interventions which will be examined in more detail by the Behavioural Economics Unit in SEAI.	€23,827
131	<a href="#">Obstacle impact analysis on large scale wind auto producers in peri-urban locations, based on multi-annual SCADA data</a>	DkIT	Wind	This project will investigate the impact of local obstacles on the energy performance of 3 existing large scale wind auto-producers at separate semi-urban locations, based on the analysis of multi-annual 10-minute SCADA data sets. The project aims to inform appropriate building setback distances for energy maximisation, which will benefit planning guidelines regarding setback distance justification. The outputs will be of use to IEA Wind activities such as Task 27 and 28 - <a href="http://ow.ly/2ciz30dgl3g">http://ow.ly/2ciz30dgl3g</a>	€32,540.62

133	<b>PyroPower - Development of a Syngas Conditioning System to Enable Use of Pyrolysis for Energy Recovery from Biomass Wastes and Residues</b>	PREMIER GREEN ENERGY (PGE)	Biomass	Premier Green Energy (PGE) has developed an innovative continuous pyrolysis system to recover energy from a wide variety of solid wastes designed to be deployed at moderate scale (1-3 MWe) suitable for deployment in distributed community based sustainable energy centres. The steady state production of an energy rich syngas has been proven at pilot scale, however the challenge of conditioning the syngas to remove impurities remains. This project, led by PGE and supported by the Irish Research Centre for Resource Efficiency and the University of Limerick, aims to design and fabricate a syngas conditioning system, modelling and testing the process to validate performance in a gas turbine CHP unit.	€96,447.2
135	<b>Developing a framework for a customer friendly energy efficiency accreditation for construction professionals</b>	Irish Green Building Council	Energy Efficiency	The aim of this project is to explore and develop a low energy accreditation system for construction professionals. Prior work conducted as part of the H2020 project "Build Upon" showed that skills failure at any level of the supply chain could significantly jeopardise large scale energy renovation in Ireland. The key output of this project is expected to be the development of a customer-friendly accreditation system allowing end-users to easily identify construction professionals who have upskilled in energy renovation.	€29,750.82
136	<b>SLURRES</b>	University of Limerick	Biofuels	The objective of the SLURRES project is to generate data through testing to support the design of a prototype filtration dewatering unit to be integrated into a process flow and business model mobilising slurries for community anaerobic digestion (AD). This technology will reduce cost and improve environmental impact of manure management, providing farmers an incentive to make substantial supplies available for community AD in a technically, economically and energetically viable manner.	€85,225.66
137	<b>An economic analysis of wind farm externalities and public preferences for renewable energy Ireland</b>	National University of Ireland Galway (NUIG)	Community	Despite widespread public support for renewable energy, social acceptance of individual renewable energy projects by stakeholders has been unsatisfactory and public preferences and economic behaviour of stakeholders in relation to wind farms is poorly understood. This study, by NUI Galway, aims to quantify externalities and better understand the welfare implications of wind farm projects as well as public attitudes and economic behaviour associated with offshore and onshore wind farms in Ireland. Based on this study, the researchers will propose recommendations to enhance the future efficacy of renewable energy provision from wind farms.	€69,657.5
138	<b>Measuring the Sustainability of Ireland's Data Industry</b>	GConn Technologies - Host in Ireland	Power - Data Centres	The project proposes an industry-wide study of Ireland's data-centre landscape with the aim of improving information related to the sector. The project team will enhance existing data centre locations in Ireland and expanding on a recent Greenpeace report to enhance Ireland's reputation as a green energy economy with data centres as a critical component of this. The project output will	€65,504.25

				provide up-to-date and relevant information, and make recommendations on sustainability for the sector.	
141	<a href="#">Biomass drying trials with wind resource analysis</a>	DKIT	Biomass	This project aims to improve the standardisation and quality assured wood chip feedstock stream supplied by Coillte to their end-users. The team will determine the optimal drying orientation of wood stocks for the months of storage pre-chipping, and build the knowledge base of the interaction of wind and bioenergy drying. The output from this process should be chip of a quality to allow direct shipment without further drying by air or heat.	€44,835
142	<a href="#">Microgrids in Rural and Isolated Communities in Ireland - Model Development using the island of Inis Oírr as a case study</a>	NUI Galway	Microgrid/ Community	This project will develop a modelling tool for analysing the technical and economic feasibility of various microgrid solutions for rural and isolated communities. Inis Oírr in the Aran Islands will be used as a case study to develop the tool, and will provide a detailed technical and economic analysis of a number of potential microgrid solutions for serving the island's population of 250. The results of this case study will examine the potential for microgrid solutions for community energy projects in Ireland.	€27,001.57
144	<a href="#">Thurles Heat Demand Map and Outline Feasibility study</a>	Tipperary Energy Agency TEA	Renewable Heat	The output of the project will be a map illustrating thermal energy demand in Thurles, as well as an outline feasibility study, focusing on a pilot district heating system on one side of the town of Thurles. This map will help inform Tipperary County Council's district heating policy. In addition, the map will show areas of fuel poverty that will allow these areas to be targeted for energy efficiency upgrade programmes designed for the fuel poor.	€5,391.7
153	<a href="#">Conversion of Forest Residues into Renewable Solid Fuel</a>	Dowmann Ltd.	Biomass	The main objective of this project is to investigate and validate the pilot scale production of solid wood fuel products (briquettes & pellets) from forest thinning's. The project also intends to evaluate the economic and supply chain feasibility of converting a large volume of waste thinning's into a valuable renewable fuel. The project lead – Dowmann Ltd, are supported by Coillte and Teagasc and this work will build on SEAI's bioenergy supply chain report that estimated the energy potential of forest thinning's at 117,608 toe/year by 2030.	€22,077
154	<a href="#">eStore</a>	Solo Energy	Smartgrid	The eStore project will demonstrate the real-world operation of Solo's distributed battery storage network concept. Led by Solo Energy, in partnership with DP Energy and ESB Networks, the project involves installation of behind the meter battery storage at a number of locations on a rural network. The selected locations include both commercial and domestic sites, with PV, a wind turbine and heat pump. Loads will be monitored and the effect of different battery operating regimes examined. One of the primary objectives of eStore is to identify and overcome connection issues associated with distributed storage.	€43,237.60

155	<b>Deep Energy Retrofit for Traditional Buildings: Assessing knowledge gaps and addressing skills training in Ireland</b>	The Heritage Council	Energy Efficiency	The aim of this project is to collate and analyse the most up-to-date research, technical papers, case studies and literature relating to the correct design and specification of deep retrofit of traditional buildings in order to develop best practice guidance. Four seminars will also be organised around the country to engage specifiers, local stakeholders, building sector representatives, local authorities and other interested parties in the process. The project lead, The Heritage Council, will be supported by the ICOMOS Ireland National Scientific Committee on Energy, Sustainability and Climate Change and Carrig Conservation International Ltd.	€40,920
157	<b>The Micro EGG Digester</b>	BMS Asia Pacific Technologies Ltd	AD	The objectives of this project are to complete a detailed design, build and trial of a micro-scale anaerobic egg digester. This Micro Egg Digester will be suitable for the disposal of >95% of all cooked and uncooked food wastes produced in households and small food businesses.	€21,002.40
163	<b>Industrial research into Geothermal Heating Solution for Commercial Greenhouse</b>	Electrical Supply Board	Geothermal	This is a collaborative project between the ESB and Total Produce involving a technical and commercial feasibility study of the potential to supply a large commercial greenhouse using geothermal heat. This innovative project has significant policy implications and all results will be made available to further research and development in the geothermal sector.	€13,140
165	<b>Portlaoise District Heating Project</b>	Laois Farm Forestry Group	District Heating	This project will provide valuable insights in terms of deploying renewable heat and more specifically district heating, optimising local private forest resources and engaging the public sector. This will constitute an important next step in ascertaining whether a biomass district heating system in Portlaoise is viable.	€5,942
168	<b>Recommendations for Planning Guidelines for Anaerobic Digestion Plants</b>	Cré-Composting and Anaerobic Digestion Association of Ireland	AD	This research by Cré, the Composting and Anaerobic Digestion Association of Ireland, aims to research and develop anaerobic digestion technical guidelines for local authority planners. Through engagement and consultation with key stakeholders, draft guidelines will be developed. A workshop will then be held with local authority planners for feedback and to present the draft research findings prior to publication of the finalised document.	€35,350
169	<b>Kerdiffstown Landfill Heat Recovery Project</b>	Kildare County Council	R Heat	This project, led by Kildare County Council (KCC), will research the heat recovery potential within on-site wastes at Kerdiffstown Landfill. During ongoing environmental monitoring on-site, elevated ground temperatures were identified at particular locations. This research project will assess the ground source thermal potential within the main body of waste (40m deep) and investigate the viability of recovering thermal energy for space heating both on and off site through implementation of a field trial.	€19,400

172	<b>BERWow - Deep retrofit BER planning tool and mapping application</b>	IHER Energy Services Ltd.	Energy Efficiency	Using SEAI's BER dataset, this project involves further developing a web-based application to increase uptake of deep retrofit measures. The overall objective is to allow homeowners and estate agents to access BER data for specific dwellings and access information on recommended deep retrofit measures. The tool will provide information on payback for investments that will inform decision-making as well as ancillary benefits such as comfort and health benefits. The project aligns well with SEAI objectives on deep retrofit and improving accessibility and use of datasets held by public sector bodies.	€120,320.51
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