

EU TRANSNATIONAL FUNDS IN GREATER MANCHESTER ENVIRONMENT THEME

CASE STUDIES



INTRODUCTION

This report represents the most comprehensive analysis to date (March 2017) into the support for environmental initiatives provided by European Transnational funding in Greater Manchester (GM). Unlike the European Structural Funds and the Common Agricultural Policy that are administrated by each Member State, European Transnational Programmes are managed centrally by the European Commission in Brussels. The main focus of the programmes is to support transnational collaborations to address the challenges of today and tomorrow. All areas of activities are covered – from fundamental research and innovation (Horizon 2020), to education (Erasmus+), to policy reform (Interreg Europe) or demonstration actions (Interreg Northwest, Atlantic Area, LIFE).

The report builds on the work undertaken by the Greater Manchester European Environmental Funding Group (GMEEFG) that brings together colleagues from GM universities, the Low Carbon Hub, Enworks, Transport for Greater Manchester and the local councils to share information on European matter and to develop projects for transnational funding. The main goal of this report is to provide partners with a comprehensive and up-to-date list of environmental projects taking place in GM as a result of European funding with a view to raise the profile of these projects and the funds in GM, UK and beyond.

All EU programmes are and will remain open to UK organisations while UK is still a member of the EU, even if projects continue beyond the point of departure of the EU. This means that UK, and GM, has up to two years to apply to these funds. What will happen post 2019 is uncertain and will be subject to the negotiations between UK and the EU. However there are good indications that UK may still participate in some of the EU Programmes in the same way that many non EU countries participate in programmes such as Erasmus+ or Horizon 2020.

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OLDHAM COUNCIL

Oldham Council has, for a number of years been very active in seeking and managing European Funded projects. The funding has supported a wide range of projects that have helped look at new and innovative approaches to council priorities around the economy, skills, health and culture. We have had the opportunities to work in close partnership with other organisations and local authorities facing similar issues as Oldham, helping us learn from the examples of other countries.

Oldham has worked on both Oldham based projects and as a lead authority on behalf of Greater Manchester, reflecting the Council's extensive experience, expertise and commitment to cooperative learning.

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Policy Area:	Energy
Duration:	2017 -2021
Funder:	Interreg Europe
Oldham Budget:	€348,750
Intervention:	85%

COALESCCE (Community Owned and Led Energy for Security Climate Change and Employment) aims to increase the capacity for community based approaches to local renewable energy provision across Europe in order to reduce carbon emissions, increase energy security and tackle fuel poverty whilst driving 'Green Growth'. The project seeks to increase investment in local community energy investment via support from Structural Fund and European Territorial Cooperation programmes. Integrated regional low-carbon strategies need to focus more on community energy investments to reach these targets, but there is currently significant disparity across the member territories in this policy area: where some have none at all, those who do vary substantially in the levels of interventions and stakeholders that they favour and therefore their outcomes, in particular in the share of renewable energy infrastructure owned by communities and supported through the relevant structural fund programmes.

interregeurope.eu/coalescce



Policy:	R&D / Innovation
Duration	2017-2021
Funder:	Interreg Europe
Oldham Budget:	€209,640
Intervention:	85%

The growing European population has ever-higher expectations related to food quality and sustainability in terms of processing, packaging, storage, waste reduction, distribution and retail. Innovation plays a key role in meeting these needs and fostering sustainable food chains fit for the future. FoodChains 4 Europe will focus on innovation that contributes to the environmental sustainability of the food chain whilst contributing to social sustainability through increased access to high quality food. The consortium will support food sector businesses to deliver these innovations, both on financial and technological aspects. In order to achieve this, regional authorities and universities will partner in each participating region (Flevoland - NL, Plovdiv/Sofia - BG, Emilia-Romagna - IT, Maramures - RO, and Greater Manchester) and work with other regional stakeholders to share and exchange their expertise in food innovation during a series of peer reviews and interregional learning activities.

interregeurope.eu/foodchains4eu



Policy Area:	Environment
Duration:	2015 – 2018
Funder:	Horizon 2020
Oldham Budget:	€233,000
Intervention:	100%

RESIN aims to address the challenges faced by most urban areas as a result of climate change and more frequent extreme weather. The project will provide a platform to test a wide range of approaches to climate change adaptation vulnerability assessments, performance evaluations of adaptation measures and decision support techniques to help standardise and increase the extent climate change research drives and is embed into public policy and action plans. The project will also help analyse future development plans for cities and regions in order to be able to build in resilience measures to mitigate the impact of future development. The Pilots will take place in Paris, Bratislava, Bilbao and Greater Manchester.

Greater Manchester partners will receive €1.2m in total over three years with the University of Manchester getting the largest share allocation. The project involves 8 partners from four Member States.

A number of other Manchester organisations are also involved in the project including:

- University of Manchester with a €865,735 budget.

resin-cities.eu



Policy Area:	Energy / Environment
Duration:	2014 – 2016
Funder:	FP7
Oldham Budget:	€100,000
Intervention:	67%

Led by Turin (Italy) the project was developed to design and deliver a managing system for district energy usage through the utilisation of new ICT processes. The partnership from Manchester included Manchester University, Arup and Clicks and Links (a private ICT company) and Oldham Council. The local authorities provided the demonstration sites in managing energy usage in public buildings. The project involves 12 partners from three Member States.

dimmerproject.eu



Policy Area:	Transport
Duration:	2012 – 2015
Funder:	DG MOVE
Oldham Budget:	€385,000
Intervention:	50%

The project was designed to promote the use of bicycle as an alternative method of transport in order to reduce congestion, air and noise pollution as well as the use of land. Cycling is still one of the more vulnerable means of transport. One of the key factors to boost the use of bicycle is that users can feel safer on the road. Safety aimed at cyclists and pedestrians was also a key feature of the project. Improvements in cycling infrastructure as well as educational programmes were introduced across the three towns involved – Murcia, Varna and Oldham.

mobisec.proeuropeos-murcia.net



Policy Area:	Low Carbon
Duration:	2012 – 2014
Funder:	Interreg IVC
Oldham Budget:	€147,583
Intervention:	75%

The project sought to address the lack of investment in green infrastructure from the private sector. It addressed this problem by looking at the development of innovative financing instruments from both the public and private sectors. The project involved EU regions who have defined high sustainable energy ambitions. The overall objective of the project was to equip these regions with regional policy instruments and tools to improve access to finance and to speed up investments in sustainable energy projects (e.g. renewable energy generation capacity, energy efficiency measures). The Project involved 13 partners from 11 Member States.

interreg4c.eu/projects



Policy Area:	Environment
Duration:	2010 – 2012
Funder:	Interreg IVC
Oldham Budget:	€189,000
Intervention:	75%

The objective of the project was to improve the effectiveness and efficiency of regional policies in regulating and stimulating sustainable use of former and abandoned landfills, and identify a suitable pilot site to development a future use. SUFALNET funded the development of a comprehensive action plan that allowed us to progress the potential sustainable after-use of our demonstration site, the Moston Brook corridor. By commissioning vital intrusive site investigation work on this contaminated former landfill site, the results and recommendations have helped facilitate a potential mixed use leisure and residential development that brought increased use to a previously neglected site. After SULFANET, a site that was once shunned due to its industrial legacy of tipping and contamination, is now the focus for attracting new residents and visitors to the area. The project involved 15 partners from 10 Member States.

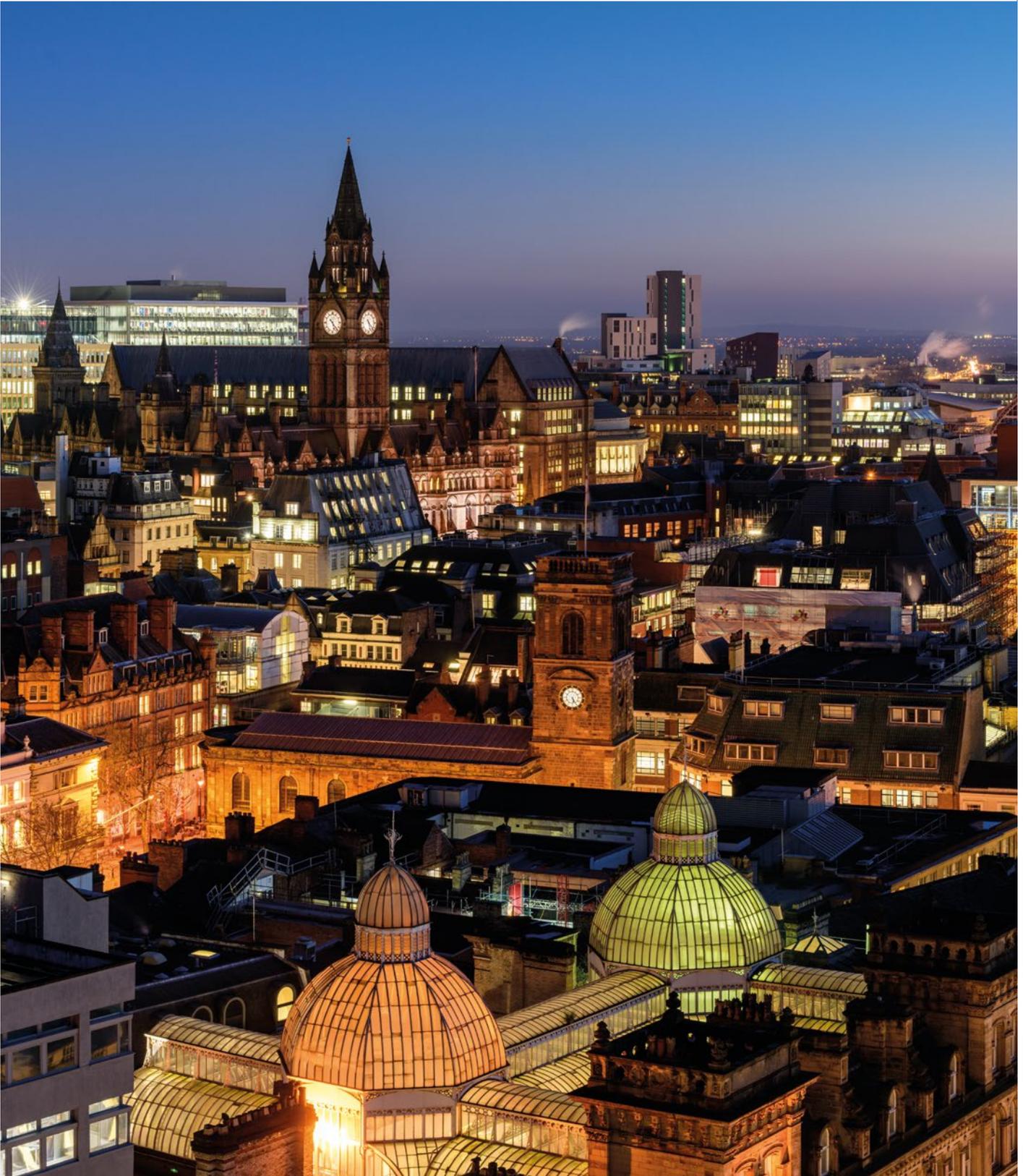
interreg4c.eu/projects

MANCHESTER CITY COUNCIL

Over the years Manchester has been very proactive in seeking transnational European Funding and has been involved in some pioneer projects around the theme of smart cities. Manchester is also an active member of Eurocities and had chaired the Eurocities Knowledge Society Forum for a number of years.

Manchester also works as the lead authority on behalf of Greater Manchester.

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Policy Area:	Natural Base Solutions
Duration:	2017 – 2022
Funder:	Horizon 2020
Manchester Budget:	€3.6m
Intervention:	100%

The aim of the Grow Green project is to deliver systemic changes to the long-term planning, development, operation and management of 7 cities (Manchester, Valencia, Wroclaw, Brest, Zadar, Modena, Wuhan) through the use of nature-based solutions (NBS), in order to deliver quantified improvements in climate and water resilience, social, environmental and economic performance. The project will establish a replicable approach that, in combination with development of the global NBS market, development of the global policy framework, and targeted communication and capacity building for cities, businesses and citizens, will enable accelerated replication and delivery of NBS strategies in two groups of Replication Cities from around the world. In Manchester the demonstration project will be based in West Gorton, an area situated on the south-eastern edge of Manchester city centre and one of Manchester’s priority areas for housing development. A range of initiatives will be developed in partnership with local residents to mitigate flood risk in the area. The Greater Manchester partners are: Manchester City Council, Manchester Climate Change Agency, Guinness Partnership, University of Manchester, and Greater Manchester Combined Authority.

cordis.europa.eu/project/rcn/210514_en.html



Policy Area:	Digital
Duration:	2015 – 2018
Funder:	URBACT III
Manchester Budget:	€250,000
Intervention:	70%

Led by Manchester SmartImpact will support municipalities in their quest for suitable governance models and business models that would allow for an uptake of connected and technology based solutions for a sustainable development of the cities. It will thereby focus on three core areas that help deal with the challenges outlined above: The municipal role in smart city business models and replication; The integrator within the municipality; The Smart City integrator and its role.

urbact.eu/smartimpact



Policy Area:	Digital / Low C.
Duration:	2015 – 2020
Funder:	Horizon 2020
Manchester Budget:	€1,013,733
Intervention:	100%

Manchester is one of the three Smart Cities and Communities Lighthouse Projects funded by Triangulum, set to demonstrate, disseminate and replicate solutions and frameworks for Europe’s future smart cities. The two other cities are Eindhoven (NL) and Stavanger (NO). The lighthouse projects will serve as a testbed for innovative solutions on sustainable mobility, energy, ICT and business opportunities. The project consortium combines interdisciplinary experience and expertise of 22 partners from industry, research and municipalities who share the same objective and commitment to develop and implement smart solutions. The overall budget of Triangulum is €30 million. In Manchester, Triangulum will transform the Oxford Corridor into a smart city district. This will entail renovating historical buildings and building up an autonomous energy grid to supply the entire area with heat and electricity. The grid will combine geothermal and district heating with two independently operating electricity grids and a fuel cell that can store excess energy.

- A number of other Manchester organisations are also involved in the project including:
- Manchester Metropolitan University with a €291,471.88 budget.
 - University of Manchester with €965,951.56 budget.

triangulum-project.eu/index.php/project



Policy Area:	Energy
Duration:	2015 – 2018
Funder:	ELENA
Manchester Budget:	€2,985,675
Intervention:	90%

The ELENA funding (European Local Energy Assistant) has support GM with the creation and development of the Low Carbon Development Unit (LCDU). Its main tasks included supporting the development of two street lighting investment projects and six district heating network investment projects. In addition a Heat Network Procurement Framework will be set up to facilitate the development of abovementioned and other future investment projects.

eib.org/attachments/documents/elena_greater_manchester_low_carbon_delivery_unit_factsheet_en.pdf

SALFORD CITY COUNCIL

Salford City Council has been involved in a few smaller transnational European projects such as the URBACT funded project Re-Block (urbact.eu/salford-0) that ended in 2015. However, most recently Salford agreed to be the lead authority acting on behalf of GM for the LIFE Integrated Water Management Project.

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Policy Area:	Environment / WFD
Duration:	2015 – 2025
Funder:	LIFE
GM Budget:	£600,000
Intervention:	60%

The Environment Agency together with Greater Manchester (GM) was awarded €20m from the LIFE Programme (around £14.5m) to help GM to increase its capacity in the delivery of the Water Framework Directive (WFD). The project, which has Salford Council as the lead authority acting on behalf of GM, aims to build stakeholder capacity, reduce policy conflicts, identify water and flood management measures that produce multiple benefits - thus allowing greater use of relevant funds - and improve knowledge of innovative measures such as sustainable drainage systems. Greater Manchester will serve as the first pilot site during the first two and half years of the project. The initial focus will be on the Irwell Catchment.

naturalcourse.co.uk



TRANSPORT FOR GREATER MANCHESTER

TfGM was the first UK transport authority to commit to becoming a zero carbon authority, with a target date of 2033. Always looking at new innovative ways and sustainable approaches to achieve this goal, TfGM has approached European transnational funding to support the development of transport projects which could have not been funded in Greater Manchester any other way.

TfGM works very closely with various international network including Polis, the European network of cities and regions on sustainable mobility; EMTA, the Association of European Metropolitan Transport Authorities; and UITP, the Global Public Transport Association.

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The project will aim at developing policies that support cleaner transport modes and systems, and that promote alternative mobility behaviour. The focus will be on reducing carbon emissions generated by retailing. During the life of the project partners will develop their own action plans and regional policies to reduce carbon emissions created by retail related traffic in town and city centres while also supporting jobs and growth in the local retail economy.

interregeurope.eu/resolve

Policy Area:	Transport
Duration:	2016 – 2019
Funder:	Interreg Europe
TfGM Budget:	€273,000
Intervention:	85%



ICMA (Improving Connectivity and Mobility Access) was a TfGM led project involving 11 organisations from 7 European countries that created a transnational platform for sharing and transferring innovative and sustainable approaches towards providing attractive and effective alternatives to using the private car for the 'first and last miles' of journeys.

The project won a number of awards across Europe, in UK ICMA won the Railway Industry Innovation Award for a Community Ambassadors Scheme delivered by Northern Rail in 2012.

tfgm.com/Corporate/Documents/ICMA/Newsletter2_12JUN09.pdf

Policy Area:	Transport
Duration:	2010 – 2014
Funder:	Interreg NWE
TfGM Budget:	€2,000,000
Intervention:	50%



The project was developed to help cities to reduce CO2 emissions in the public transport sector through more environmentally friendly behaviour and improvements to transport-related infrastructure. In Manchester Ticket to Kyoto funded a 23 metres high wind turbine at Horwich Parkway railway station and a hydropower plant at the Rochdale interchange.

tickettokyoto.eu/en

Policy Area:	Transport
Duration:	2010 – 2014
Funder:	Interreg NWE
TfGM Budget:	€2,000,000
Intervention:	50%

MANCHESTER METROPOLITAN UNIVERSITY

Manchester Metropolitan University is one of the largest campus-based universities in the UK with a total student population of over 36,000. We are also one of the three greenest universities in the UK (People and Planet University League, 2016) and are committed to delivering solutions to global challenges through our research, with 85% of our research impact rated as 'world-leading' (UK Research Excellence Framework 2014).

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The RESYNTEX project aims at designing, developing and demonstrating new high environmental impact industrial symbiosis between the unwearable blends and pure components of textile waste and the chemical and textile industries.

resyntex.eu

Policy Area:	Waste
Duration:	2015 – 2018
Funder:	Horizon 2020
MMU Budget:	€529,057.5
Intervention:	100%



The overall aim of ATM4E is to explore the scope for the potential reduction of air traffic environmental impacts in European airspace on climate, air quality, and noise through optimization of air traffic operations.

The project will integrate existing methodologies for assessment of the environmental impact of aviation, in order to evaluate the feasibility of environmentally-optimised flight operations to the European ATM network, including climate, air quality, and noise impacts.

atm4e.eu/index.html

Policy Area:	Aviation
Duration:	2016 – 2018
Funder:	H2020/SESAR2020
MMU Budget:	€75,500
Intervention:	100%



In a world with increasing population and limited resources, the development of new synthetic procedures will not only be judged by their yield and/or product selectivity, but also by their ecological and economical footprint. The MASPGREEN project will focus on mechanochemistry a branch of sustainable chemistry which involves a rapid and clean way to transfer the energy needed for the chemical transformation, using friction, via either ball-milling or grinding.

cordis.europa.eu/project/rcn/108363_en.html

Policy Area:	Aviation
Duration:	2013 – 2018
Funder:	FP7
MMU Budget:	€100,000
Intervention:	Not applicable



Policy Area:	Climate Change
Duration:	2013 – 2018
Funder:	FP7
MMU Budget:	€100,000
Intervention:	Not applicable

The LanDDApp project will assess land degradation and desertification (LDD) in the pilot-study area of North West Province of South Africa over a period of twelve years. An operational, nested indicator appraisal system, LanDDApp, will be developed comprising of quantitative and qualitative LDD indices estimated using satellite imagery, field measurements, socio-economic data and geocomputation techniques. LanDDApp shall be used for identifying degradation 'hot-spots' where mitigation measures are required and thus provide a management tool for the prioritisation of such measures.

land-degradation.org



Policy Area:	Aviation
Duration:	2013 – 2017
Funder:	FP7
MMU Budget:	€78,206
Intervention:	100%

The FORUM-AE coordination action has created a technical specialists European network to address equitably three complementary aspects in relation to aviation: environmental impacts (air quality and climate change), technical and technological mitigation solutions (aircraft, engine, operations, alternative fuels) and regulation technical issues (CAEP issues, local regulations).

forum-ae.eu



Policy Area:	Environment
Duration:	2014 – 2017
Funder:	Erasmus+
MMU Budget:	€53,640.9
Intervention:	100%

The ESSENCE project (European Sustainable Solutions for Existing and New City Environments), will develop integrated sustainable solutions for economic, social and environment problems in urban areas. In short the development of smart sustainable cities. To achieve this, a combination of co-operation between HEIs (Higher Education Institutions) and local authorities has been brought forward. The Essence project has been developed to facilitate such cooperation, and to develop an interdisciplinary teaching programme in the process. The Centre for Enterprise at MMU is excited to be included in this partnership, bringing together its successful history in developing entrepreneurship and enterprise in students, with our strength in achieving successful European projects.

husite.nl/essence



Policy Area:	Aviation
Duration:	2012 – 2016
Funder:	FP7
MMU Budget:	€496,712.87
Intervention:	75%

ITAKA project is supporting the development of aviation biofuels in an economically, socially, and environmentally sustainable manner, improving the readiness of existing technology and infrastructures. This is being achieved through the development of a full value-chain in Europe to produce sustainable drop-in Hydroprocessed Esters and Fatty Acids at large scale enough (4,000 t) to allow testing its use in existing logistic systems and in normal flight operations in the EU.

ITAKA is helping to link supply and demand by establishing a relationship under specific conditions between feedstock grower, biofuel producer, distributor and final user (airlines).

itaka-project.eu

UNIVERSITY OF MANCHESTER

The University of Manchester is the largest single-site university in the UK, with one of the biggest student community (40,000). The University of Manchester is committed to world-class research. In total, 25 Nobel Prize winners have worked or studied at the University. The University of Manchester ranked 38th in the world, seventh in Europe and fifth in the UK in the 2013 Shanghai Jiao Tong World Ranking.

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Policy Area:	Energy
Duration:	2015 – 2018
Funder:	Horizon 2020
UoM Budget:	€177,046.25
Intervention:	100%

Energy savings resulting from energy efficiency improvements have wider benefits for the economy and society such as increases in employment, GDP, energy security, positive impacts on health, ecosystems and crops or resource consumption. In order to develop more cost-effective energy efficiency policies and optimised long-term strategies in the EU, these multiple benefits have to be accounted for more comprehensively in the future.

COMBI addresses these issues by: 1) data gathering on energy savings and technology costs per EU country for the most relevant 20 to 30 energy efficiency measures in the residential, commercial, industrial and transport sectors, 2) developing adequate methodologies for benefit quantification, monetisation and aggregation, 3) quantifying the most important multiple benefits and where adequate, monetising, 4) developing an openly available calculation tool that greatly simplifies the evaluation of co-impacts for specific energy efficiency measures to enable decision-making and 5) developing a simple online visualisation tool for customisable graphical analysis and assessment of multiple benefits and data exportation.

combi-project.eu



Policy Area:	Aviation
Duration:	2016 – 2018
Funder:	Horizon 2020
UoM Budget:	€273,623.75
Intervention:	100%

The project ECO-COMPASS aims to bundle the knowledge of research in China and Europe to develop ecological improved composites for the use in aircraft secondary structures and interior. Therefore bio-based reinforcements, resins and sandwich cores will be developed and optimized for their application in aviation. Furthermore the use of recycled man-made fibres to increase the mechanical strength and multifunctional aspects of bio-composites will be evaluated.

eco-compass.eu



Policy Area:	Energy
Duration:	2015 – 2017
Funder:	Horizon 2020
UoM Budget:	€195,454.8
Intervention:	100%

GRAPHENERGY3 - Novel Electrochemical Exfoliation Approach to the Synthesis of Large Area, Defect-Free and Single Layer Graphene and Its Application in Fuel Cells. Large area, scalable production of single layer and defect free graphene is important for its use in industrial applications. Currently, common methods used to prepare graphene include micromechanical cleavage, chemical vapour deposition, and chemical reduction. However, all these methods have their own shortcomings, for example, difficulty in scale-up or poor quality due to significant defects. To address this issue, in this project, we will focus on developing a novel electrochemical cathodic exfoliation approach to produce high quality graphene.

cordis.europa.eu/project/rcn/195883_en.html



Policy Area:	Energy
Duration:	2016 – 2019
Funder:	Horizon 2020
UoM Budget:	€1,250,927.5
Intervention:	100%

MIGRATE - Massive InteGRation of power Electronic devices - will find solutions for the technological challenges the grid is and will face in the future. By 2020, several areas of the HVAC pan-European transmission system will be operated with extremely high penetrations of Power Electronics(PE)-interfaced generators, thus becoming the only generating units for some periods of the day or of the year – due to renewable (wind, solar) electricity. This will result in a number of barriers such as: 1) growing dynamic stability issues for the power system; 2) the necessity to upgrade existing protection schemes and; 3) measures to mitigate the resulting degradation of power quality due to harmonics propagation. European TSOs from Estonia, Finland, France, Germany, Iceland, Ireland, Italy, Netherlands, Slovenia, Spain and UK have joined to address such challenges with manufacturers (Alstom, Enercon, Schneider Electric) and universities/research centres.

h2020-migrate.eu



Policy Area:	Energy
Duration:	2015 – 2018
Funder:	Horizon 2020
UoM Budget:	€675,375
Intervention:	100%

NOBEL GRID will develop, deploy and evaluate advanced tools and ICT services for energy DSOs cooperatives and medium-size retailers, enabling active consumers involvement –i.e. new demand response schemas – and flexibility of the market – i.e. new business models for aggregators and ESCOs. Through the dual-use of telecommunication networks, and validating the integration of renewable generation presence and demand response systems, NOBEL GRID will offer advanced services to all actors in the retail markets of the electricity system in order to ensure that all consumers will benefit from cheaper prices, more secure and stable grids and low carbon electricity supply.

nobelgrid.eu



Policy Area:	Energy
Duration:	2016 – 2018
Funder:	Horizon 2020
UoM Budget:	€246,313
Intervention:	100%

EAF bridges the gap between contractors and investors in Sustainable Energy Assets (SEA) through the development of a holistic IT Platform. The SEAF Platform enables independent project valuation, insurance and design standardisation. This in turn empowers SMEs and other companies to receive financing and implement SEA technology. Expected results include positive feedback on SEAF by at least 80% of stakeholders during the demonstration process, €100 million of investments in SEA from the SME sector, and primary energy savings of 18-45 GWh/a over the course of the project duration.

seaf-h2020.eu



Policy Area:	Energy
Duration:	2016 – 2019
Funder:	Horizon 2020
UoM Budget:	€474,156
Intervention:	100%

The main objective of the SOLPART project is to develop, at pilot scale, a high temperature (950°C) 24h/day solar process suitable for particle treatment in energy intensive industries (e.g. cement or lime industries). The project aims at supplying totally or partially the thermal energy requirement for CaCO₃ calcination by high temperature solar heat thus reducing the life cycle environmental impacts of the process and increasing the attractiveness of renewable heating technologies in process industries. The project develops and merges three advanced technologies: high temperature solar reactor, transport of high-temperature solid materials and high temperature thermal storage. The synergy between these technologies lies in using the solar-treated particles as storage medium.

solpart-project.eu

UNIVERSITY OF SALFORD

Salford has an international reputation as a research-informed institution with a portfolio of over £20M across research and enterprise. Ranked 48 out of 158 universities in the Research Fortnight power ranking tables (2008), Salford is in the top third of UK Universities.

Salford is recognised globally for its research in built environment. The Centre for Built Environment Sustainability and Transformation (BEST) is currently engaged in addressing complex socio-technical problems around informatics, innovation and energy consumption in the built environment.

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BuildHeat

Policy Area:	Energy
Duration:	2015 – 2019
Funder:	Horizon 2020
UoS Budget:	€171,250
Intervention:	100%

The construction sector offers unique opportunities to decarbonise the European economy. However, as the replacement rate of the existing stock is very small (1-1.5 % per year), acceleration is needed. On top of this, the reorganisation of the sector poses tremendous challenges due to its extreme fragmentation. BuildHEAT addresses this challenging sector by: 1) elaborating systemic packages for the deep rehabilitation of residential buildings; 2) developing innovative technologies facilitating the implementation of the renovation measures; 3) developing financial tools enabling large public and private investments; and 4) involving the construction chain from the very beginning and all along the building life cycle.

A set of reliable, energy efficient and affordable retrofit solutions will be made available, which execution is facilitated by industrialised, modular and flexible HVAC, façade and ICT systems developed.

buildheat.eu



Policy Area:	Energy
Duration:	2016 – 2019
Funder:	Horizon 2020
UoS Budget:	€413,453.75
Intervention:	100%

CHEOPS is to develop very low-cost but highly performing photovoltaic (PV) devices based on the emerging perovskite (PK) technology. At lab scale (<0.5cm²), PK energy conversion was rapidly advanced to efficiencies >20%. But only few attempts at upscaling have been made, yielding significantly reduced efficiencies <9% on aperture area. CHEOPS will now scale up the lab results to single junction modules manufactured in a pre-production environment while maintaining high efficiencies (>14% stable for aperture area in modules >15x15cm²). This will demonstrate the potential of PK as a very low-cost technology (target <0.3€/Wp) well suited for building-integrated PV.

CHEOPS will also develop materials and processes to achieve very high efficiency at low cost using a tandem configuration with a crystalline silicon heterojunction cell.

cheops-project.eu



EU-CIRCLE
A pan-European framework
for strengthening Critical
Infrastructure resilience to
climate change

Policy Area:	Climate Change
Duration:	2015 – 2018
Funder:	Horizon 2020
UoS Budget:	€248,125
Intervention:	100%

Safeguarding Cultural Heritage through Technical and Organisational Resources Management. STORM proposes a set of novel predictive models and improved non-invasive and non-destructive methods of survey and diagnosis, for effective prediction of environmental changes and for revealing threats and conditions that could damage cultural heritage sites. STORM will determine how different vulnerable materials, structures and buildings are affected by different extreme weather events together with risks associated to climatic conditions or natural hazards, offering improved, effective adaptation and mitigation strategies, systems and technologies.

An integrated system featuring novel sensors (intra fluorescent and wireless acoustic sensors), legacy systems, state of the art platforms (including LiDAR and UAVs), as well as crowdsourcing techniques will be implemented, offering applications and services over ad open cloud infrastructure. Results will be tested in relevant case studies in five different countries: Italy, Greece, UK, Portugal and Turkey.

eu-circle.eu



Policy Area:	Biodiversity
Duration:	2015 – 2018
Funder:	Horizon 2020
UoS Budget:	€248,125
Intervention:	100%

Today's alarming rates of illegal fishing and market fraud are of the most immediate threats to global fish stocks, creating unfair competition, impeding consumer choice and ultimately undermining efforts towards sustainable management. As such, it has become increasingly clear that seafood traceability is not a luxury; it is a true necessity in a world where growing human populations are placing immense pressure on the remaining oceanic resources. In the present application, the SNAPTRACE project is proposed to significantly enhance our understanding of the intricacies of global seafood trade and pave the way forward for more transparent, traceable and sustainable seafood markets, using one of the world's most highly-prized, yet misunderstood, groups of fishes as a model: the snappers, family Lutjanidae.

cordis.europa.eu/project/rcn/204907_en.html



Policy Area:	Energy
Duration:	2013 – 2017
Funder:	FP7
UoS Budget:	€561,800
Intervention:	50%

Seventeen partners from eleven countries covering all building life cycle will have been working together to develop an innovative Integrated Evolutionary Design Methodology that can allow the stakeholders to predict the current and future energy efficiency of buildings (both at individual level and neighbourhood level) and make better informed decision in optimising the energy performance at building life cycle level, including operation and maintenance.

Design4energy project will develop tools and methodologies that can help designing energy efficient buildings that can consider both short term performance as well as future scenarios, considering important factors such as deterioration curves, technology evolution, climate change effect, users, energy neighbourhood configuration, continuous commissioning alternatives while evaluating their impact in the Building Life Energy Performance. The continuous commissioning will include strategies as preventive maintenance, renovation of energy systems technologies (HVAC, RES, .) etc, including deep retrofitting strategies.

design4energy.eu

GMCA GREATER
MANCHESTER
COMBINED
AUTHORITY



Salford City Council

MANCHESTER
1824
The University of Manchester



University of
Salford
MANCHESTER



Creating synergies between GMESIF and the EU Transnational Funds

