Key Achievements

- Success for Irish researchers in the Environment Programme in 51 projects representing a drawdown to Ireland of approximately €16m.
- Irish researchers are co-ordinating five projects under the Environment Programme.
- In total, approximately €46m of funding has been drawn down by Ireland's environmental researchers in over 100 projects across the entire FP7 Programme.
- One UCD-led project, TURAS, scored the maximum possible points (15/15) and received the President's Award for Excellence (see photo).
- Ten Irish researchers have received infrastructure awards in the fields of climate science, marine biodiversity and observation.
- Notable success for Irish researchers (€7m) under the Environmental Biotechnology theme of the Agriculture programme in areas such as anaerobic digestion, waste as a resource and water quality monitoring.
- Award of a €1m for a major project on water quality monitoring, linking a university (DCU) and an SME (T.E. Laboratories).
- Three notable successes for Environmental researchers under the highly competitive European Research Council starter grant awards.
- EPA invited as partners in five strategically important research funders initiatives in areas such as Climate Change, Water and Environment & Health.
- State Agencies including the Marine Institute, Teagasc and EPA are partners in 26 projects of environmental relevance.

President Michael D Higgins with Dr Marcus Collier (UCD) of the TURAS project and Dr Imelda Lambkin (EI)

Participants at the Water JPI Launch in Madrid, February 2013

Irish participation in FP7 Thematic Area 6

ACRONYM	PROJECT TITLE	IRISH PARTNERS
	CULTURAL HERITAGE	
EFFESUS	Energy efficiency for EU historic districts sustainability	Delap & Waller EcoCo Ltd.
JHEP	Joint Programming Initiative (JPI) on Cultural Heritage and Global Change: a new challenge for Europe	Heritage Council
	DISSEMINATION & HORIZONTAL ACTIVITIES	
COMENVIR	Communicating environmental impacts on water quality, availability and use	Ecological Consultancy Services Ltd.
MARINETT	European Marine Research Knowledge Transfer and Uptake of Results	AquaTT Ltd.
	EARTH & OCEAN OBSERVATION	
COBWEB	Citizen Observatory Web	UCD, NUIM
CITCLOPS	Citizens' observatory for coast and ocean optical monitoring	Coastwatch Europe
	ENVIRONMENT & HEALTH	
COPHES	European coordination action on human biomonitoring	HSE
HEALTHY FUTURES	Health, environmental change and adaptive capacity: mapping, examining and anticipating future risks of water-related vector-borne diseases in eastern Africa	TCD
ERA-ENVHEALTH	Coordination of national environment and health research programmes	EPA
	MANAGEMENT OF MARINE ENVIRONMENT	
HERMIONE	Hotspot Ecosystem Research and Man's Impact on European seas	NUIG
MESMA	Monitoring and Evaluation of Spatially Managed Areas	UCC
CORALFISH	Assessment of the interaction between corals, fish and fisheries, in order to develop monitoring and predictive modelling tools for ecosystem based management in the deep waters of Europe and beyond	NUIG
ODEMM	Options for Delivering Ecosystem-Based Marine Management	Marine Law and Ocean Policy Research Services Ltd.
KNOWSEAS	Knowledge-based Sustainable Management for Europe's Seas	UCC
EELIAD	European Eels in the Atlantic: Assessment of their Decline	Marine Institute Central Fisheries Board
SEAS ERA	Towards integrated European marine research strategy and programmes	Marine Institute
STAGES	Science and Technology Advancing Governance of Good Environmental Status	AquaTT Ltd
SALSEA-MERGE	Advancing understanding of Atlantic Salmon at Sea: Merging Genetics and Ecology to resolve Stock-specific Migration and Distribution patterns	Marine Institute UCC
VECTORS	Vectors of Change in Oceans and Seas Marine Life, Impact on Economic Sectors	UCD
MICROB3	Marine Microbial Biodiversity, Bioinformatics and Biotechnology	UCC
	PRESSURES ON ENVIRONMENT & CLIMATE	
PEGASOS	Pan-European Gas-AeroSol-climate interaction Study	NUIG
CARBOCHANGE	Changes in carbon uptake and emissions by oceans in a changing climate	NUIG
GHG EUROPE	Greenhouse gas management in European land use systems	UCD
CLIMATECOST	Full Costs of Climate Change	ESRI
ENTRACTE	Economic iNsTRuments to Achieve Climate Targets in Europe	AP Envecon Ltd.
CIRCLE-2	Climate Impact Research & Response Coordination for a Larger Europe – 2nd Generation ERA-Net – Science meets Policy	EPA
JPI CLIMATE	Joint Programming Initiative Connecting Climate Knowledge for Europe	EPA
CLAMER	Climate Change and Marine Ecosystem Research Results	NUIG
	SUSTAINABLE MANAGEMENT OF NATURAL RESOURCES & BIODIVERSITY	
OPERAS	Operational Potential of Ecosystem Research Applications	UCD
ECOFINDERS	Ecological Function and Biodiversity Indicators in European Soils	Teagasc
INTEGRAL	Future-oriented integrated management of European forest landscapes	UCD
WISER	Water bodies in Europe: Integrative Systems to assess Ecological status and Recovery	TCD
WATEUR	Tackling European Water Challenges	EPA
TURAS	Transitioning towards Urban Resilience and Sustainability	UCD Dublin City Council
BRIDGE	sustainaBle uRban plannIng Decision support accountinG for urban mEtabolism	TCD

Irish participation in FP7 Thematic Area 6

ACRONYM	PROJECT TITLE	IRISH PARTNERS
KNEU	Developing a Knowledge Network for European expertise on biodiversity and ecosystem services to inform policy making economic sectors	Botanical, Environmental & Conservation Consultants Ltd.
ECOFINDERS	Ecological Function and Biodiversity Indicators in European Soils	UCD
	ENVIRONMENTAL TECHNOLOGIES	
ZEROWIN	Towards Zero Waste in Industrial Networks	Multimedia Computer System Ltd. UL
IDREEM	Increasing Industrial Resource Efficiency in European Mariculture	Daithi O'Murchu Marine Research Station Ltd.
MOSSCLONE	Creating and testing a method for controlling the air quality based on a new biotechnological tool. Use of a devitalized moss clone as passive contaminant sensor	T.E Laboratories Ltd.
END-O-SLUDG	Marketable sludge derivatives from sustainable processing of wastewater in a highly integrated treatment plant	Teagasc
ORFEUS	Operational Radar For Every drill string Under the Street	Dublin City Council GMC Civil and Mechanical Engineering Ltd.
CETIEB	Cost-Effective Tools for Better Indoor Environment in Retrofitted Energy Efficient Buildings	Delap & Waller EcoCo Ltd.
MEMORI	Measurement, Effect Assessment and Mitigation of Pollutant Impact on Movable Cultural Assets. Innovative Research for Market Transfer.	DCU
MIDTAL	Microarrays for the Detection of Toxic Algae	NUIG
ECO-INNOVERA	ERA-NET ON ECO-INNOVATION – Boosting eco-innovation through joint cooperation in research and dissemination	EPA
ECO-INDIA	Energy-efficient, community-based water and wastewater-treatment systems for deployment in India	UCC
ECO-CEMENT	New microbial carbonate precipitation technology for the production of high strength, economical and Ecological Cement	Delap & Waller EcoCo Ltd.
LCA TO GO	Boosting Life Cycle Assessment Use in European Small and Medium-sized Enterprises: Serving Needs of Innovative Key Sectors with Smart Methods and Tools	Enterprise Ireland Carl Diver Advanced Manufacturing Consulting Ltd. Multimedia Computer System Ltd.
BUILDSMART	Buildsmart – energy efficient solutions ready for the market	DCC CODEMA LTD.
	NATURAL HAZARDS	
FUTUREVOLC	A European volcanological supersite in Iceland: a monitoring system and network for the future	UCD

Further Information for Environment Programme
The EPA provides support to national researchers who wish to become involved in FP7 via information workshops, annual events, meeting with National support network and through the publication of efforts via a catalogue of almost 200 Irish researchers with expertise and interest in becoming involved in the FP7 Environment Programme.
http://erc.epa.ie/fp7catalogue/

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General Information on the FP7 Programme
Enterprise Ireland is responsible for supporting Irish researchers and companies to participate in FP7.
http://www.fp7-ireland.com

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General Information on FP7
CORDIS – Community Research and Development Information Service, is an information space devoted to European research and development activities and technology transfer

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Environmental Protection Agency

Ireland's Environmental Researchers & Framework Programme FP7

SEVENTH FRAMEWORK PROGRAMME

Ireland's Environmental Researchers and Framework Programme 7

Research plays a pivotal role in environmental protection by providing the knowledge to better understand and manage issues such as climate change and water quality & availability. In parallel, the development of innovative and environmentally friendly technologies can offer sustainable economic opportunities through the responsible management of both natural and man-made resources. Often, environmental challenges go beyond national frontiers and require a coordinated approach at European and often global level.

The Seventh Framework Programme (FP7) is the EU's main instrument for funding research and development which runs from 2007 to 2013. There are a variety of funding mechanisms in FP7 (e.g. individual fellowships, infrastructural awards and collaborative research projects). The research programme that is of most relevance to environmental researchers[1] is Thematic Area 6 entitled **"Environment, including Climate Change"** which has a budget of €1.9bn.

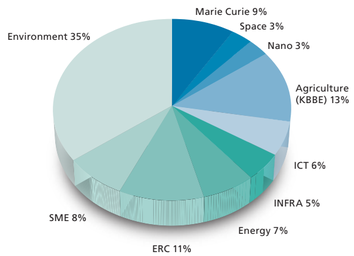
The objective of the programme is the sustainable management of the environment and its resources. This can be done through advancing our knowledge of the interactions between **climate, biosphere, ecosystems** and **human activities** and in developing new **technologies, tools** and **services**. These goals focus on the development of the tools and technologies for monitoring, prevention, mitigation of, and, adaptation to environmental pressures and risks.

Irish environmental researchers from both the public and private sectors actively participate in and compete successfully for European funding. To date our environmental researchers have been successful in over 100 projects to the value of approximately €46m across the entire FP7 programme. It is important to note that much of the capacity that enables this competitiveness can trace its origins to sustained investment in environmental research from national sources including the EPA's STRIVE Programme.

This short brochure showcases some highlights associated with participation to date by Ireland's environmental researchers across FP7. As we move towards finalisation of the next EU research programme, **Horizon 2020**, I look forward to informing you of further successes in this area.

Dr Brian Donlon,
National Delegate,
Research Manager, EPA

Chart illustrating the breakdown of the environmental projects awarded to Irish researchers under various areas of the FP7 Programme (Total Value €46m)



[1] Other relevant programmes include the Co-operation programmes Agriculture, Information and Communication Technologies, Nanosciences, Space; Energy and others such as, Marie Curie, European Research council awards and Infrastructure & SME under the Capacities programme.

EPA Involvement in JPIs

The European Commission co-ordinates research efforts addressing key societal challenges via Joint Programming Initiatives. The Commission describes Joint Programming as pooling national research efforts to make better use of Europe's precious public R&D resources and to tackle common European challenges more effectively in a few key areas. It follows a structured strategic process whereby Member States agree common visions and strategic research agendas to address major societal challenges.

The EPA is involved strategically in two Joint Programming Initiatives (**Water, Climate Change**).

Water JPI – Water Challenges for a Changing World

Water JPI deals with research in the field of water and hydrological sciences. The availability of water in sufficient quantity and adequate quality is a public issue of high priority and represents a pan-European and global environmental challenge. It is acknowledged that under an average economic growth and an actual efficiency improvement of 1% a year, the world wide water demand and supply gap will be approximately 40% by 2030[2]. No single European country can address this challenge by itself, due to the magnitude of the needed operations and to the geographical variation of the water problems. Responding to this grand challenge requires a joint multi-disciplinary approach, since significant economic, ecological, technological and societal challenges are to be addressed. The project which is co-ordinated by Spain runs from January 2013 to December 2015 and involves 17 institutions in 14 partner countries.

JPI Climate – Connecting Climate Knowledge for Europe

The main objective of **JPI Climate** is to provide integrated knowledge and information on climate change to support decision making and advance societal goals on climate change. In doing so it aims to respond to the needs of policy and decision makers and European society in general. To do this, JPI Climate provides a platform to facilitate the coordination, collaboration and exploitation of climate change research across Europe. It aims to enhance synergies and reduce fragmentation of efforts and duplication. It will thereby help underpin effective efforts to address the challenges of climate change. JPI Climate is based on shared research objectives and alignment of national research priorities in a joint Strategic Research Agenda (SRA). This will complement and work with other European initiatives such as Horizon 2020, Climate KIC, ERANETs and ESFRI projects. JPI Climate takes an innovative and interdisciplinary approach in connecting natural – with socio-economic sciences and it is guided, coordinated and managed through a flexible collaborative governance mechanism.

The Water and Climate JPIs have strong linkages with other established Joint Programming Initiatives in which Irish organisations are involved:

- **Agriculture, Food Security and Climate Change** (Department of Agriculture Food and Marine, Teagasc),
- **Cultural Heritage & Global Change** (Heritage Council),
- **Urban Europe** (Science Foundation Ireland), and
- **Healthy & Productive Seas and Oceans** (Marine Institute)

[2] The 2030 Water Resources Group

Selected Irish-led projects under FP7 (Environment Programme)

CoralFISH

CoralFISH is assessing the interaction between cold water corals, fish and fisheries, in order to develop monitoring and predictive modelling tools for the management of ecosystems in the deep waters of Europe and beyond. There is also a need to establish monitoring tools to evaluate the effectiveness of closed areas for the conservation of biodiversity and fish and their impact on fisheries. CoralFISH brings together a unique consortium of deep-sea fisheries biologists, ecosystem researchers/modellers, economists and a fishing industry SME, who will collaborate to collect data from key European marine eco-regions.

Irish participation:

The **National University of Ireland, Galway** is the overall project coordinator and is providing leadership in the achievement of all CoralFISH objectives. The **Coastal and Marine Resources Centre of University College Cork** is developing the ecosystem management tools for the identification of sensitive and essential fish habitat. **O'Malley Fisheries** are working with scientists to conduct fishery long-liner surveys in coral and non-coral sites off the west coast of Ireland.
www.eu-fp7-coralfish.net

ECO-India

ECO-India targets development of innovative, cost-effective and sustainable community-based water treatment systems. These systems will be deployed at a pilot site in the Murshidabad district in West Bengal. ECO-India is a collaborative project between a European consortium, funded by the European Commission (EC-FP7), and an Indian Consortium, funded by the Department of Science & Technology. The EC-FP7 consortium is focused on development of energy-efficient methods for treatment and disinfection of drinking water supplies from groundwater tube wells, which suffer from arsenic contamination, and also from surface water ponds. Additional innovation will be introduced by development of an online system for remote monitoring of water quality.

Irish participation:

Tyndall National Institute, University College Cork. The Tyndall National Institute is a premier ICT research institute affiliated to UCC and is the overall project co-ordinator of ECO-India. Tyndall is responsible for development of novel graphene-based modules for deioinising brackish water and development of low-cost dissolved oxygen sensors. Within ECO-India, **Trustwater Ltd** will upgrade their field-proven Trustwater 110 system to further improve the energy – and process water-efficiency of their cutting-edge disinfection technology for drinking water supplies.
www.eco-india.eu

HEALTHY FUTURES

Environmental change, such as climate change, will affect and impact human health, which is a major concern for the global community. Much concern has focused on the future distribution and spread of infectious diseases, and in particular the negative health impacts of changes in transmission and outbreaks of vector-borne diseases (or VBDs) as a result of climate change. **HEALTHY FUTURES** aims to respond to this concern through construction of a disease risk mapping system for 3 water-related, high-impact VBDs (malaria, Rift Valley fever and schistosomiasis) in eastern Africa, taking into account environmental/climatic trends and changes in socio-economic conditions to predict future risk.

Irish participation:

Trinity College Dublin is the overall project coordinator. Scientifically, TCD's main contribution is evaluating the role of environmental change in disease outbreaks in the study area in the past. **AquaTT Ltd** is involved in the overall administration of the project on a day-to-day basis. Other tasks involve dissemination of project information to a range of stakeholders & end-users.
www.healthyfutures.eu

MarineTT

MarineTT recognised that knowledge is a major source of competitive advantage in business; however, potentially valuable research knowledge is not accessible for uptake by users, resulting in a disparity between Research Investment and Innovation. MarineTT recorded a number of barriers to innovation along the entire research life cycle, from prioritisation of research to measurement of impact. The novel MarineTT methodology of Knowledge Collection, Analysis and Transfer, has succeeded in unlocking knowledge generated by EU-funded marine research and reducing the barriers to impact. Knowledge outputs from EU-funded Marine Science and Technology Projects are available via the Marine Knowledge Gate (www.kg.eurocean.org).

Irish participation:

AquaTT are the project coordinator and are responsible for the project management, internal communication, external dissemination and knowledge transfer.
www.marinett.eu

TURAS

TURAS – Transitioning Towards Urban Resilience and Sustainability. Over half of the global population live in urban areas and this is predicted to rise. Cities represent the major consumer of resources, which can greatly impact surrounding landscapes and the communities therein. This project brings urban communities and businesses together with local authorities and academic researchers to collaborate on practical new solutions for more sustainable and resilient European cities. TURAS will develop visions, feasible strategies, spatial scenarios and guidance tools to help cities address the urgent challenges of climate change adaptation and mitigation, natural resources shortage, and unsustainable urban growth.

Irish participation:

The overall leader of this project is **University College Dublin, School of Geography, Planning and Environmental Policy** who are also researching and creating a G-ICT web platform and Volunteered GIS base to support the TURAS research. The other Irish partners are the **School of Architecture** (UCD), who are leading another work package researching urban / industrial regeneration, land use planning and creative design, **Dublin City Council** (DCC) who are working with communities in one of the case study areas, and **Dermot Foley Landscape Architects** who are researching mechanisms for unlocking the potential of abandoned sites.
www.turas-cities.org