

**InterTradelreland.**

**Briefing for the Enterprise, Trade and Investment Committee of the Northern Ireland Assembly and the Oireachtas Committee on Jobs, Enterprise and Innovation.**

**[The ETI Committee Meeting scheduled for 3<sup>rd</sup> November 2014.]**

This paper contains our comments on the following issues as requested by the Committee:

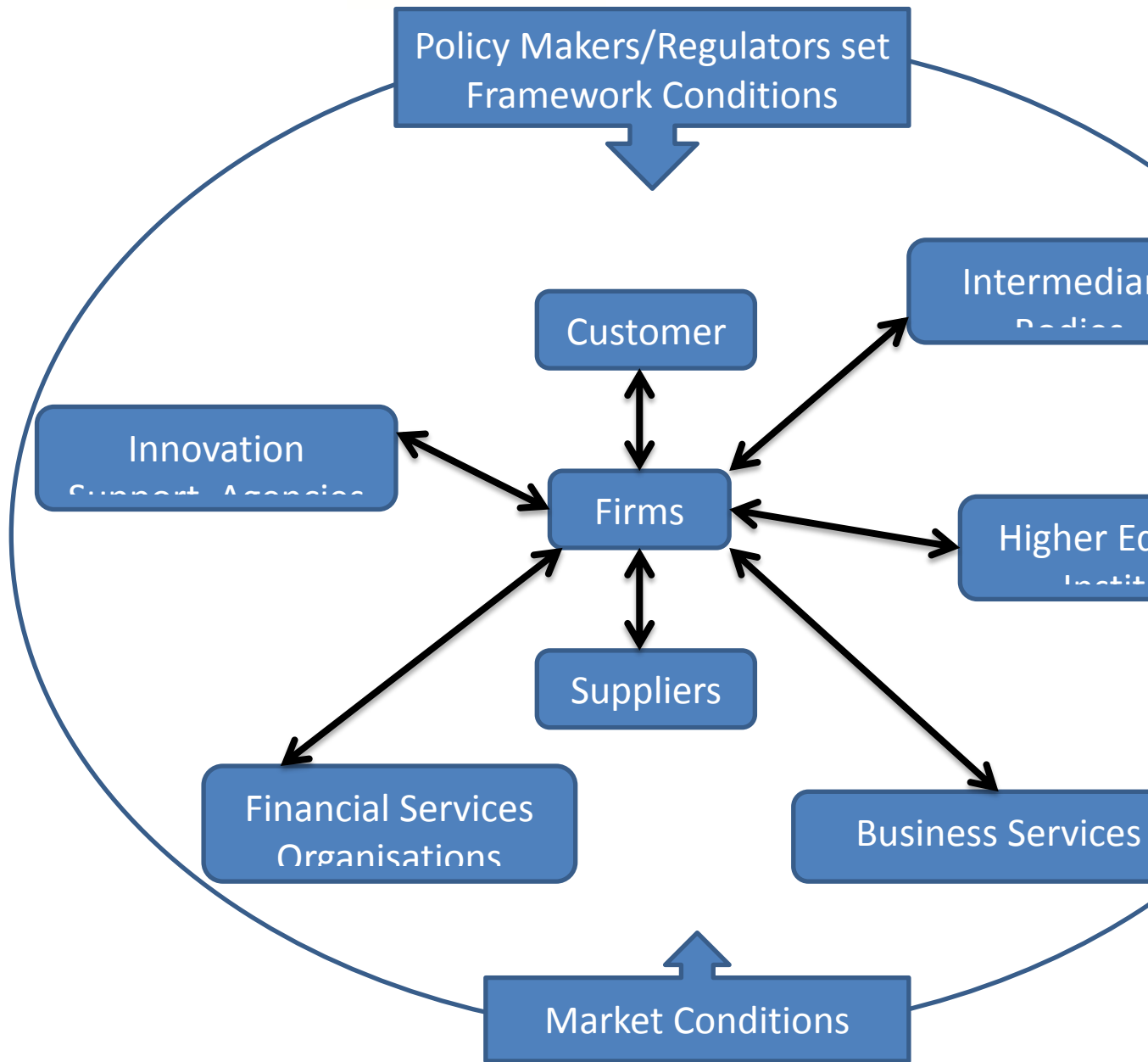
1. Cross border collaborative research including Horizon 2020 and drawdown of EU Funding;
2. Statistics on trade, innovation and business development; and
3. The InterTradelreland Budget.

## **1. Cross border collaborative research including Horizon 2020 and drawdown of EU Funding.**

InterTradelreland is striving to develop a system of open innovation across the island with the firm at the centre, connecting these firms to key innovative partners such as research institutes, other firms, financial service providers, business service organisations and innovation support agencies no matter where they are located on the island. Through its innovation programmes InterTradelreland has connected over 2,400 firms, research institutes, business angels and equity investors, making progress towards an all-island innovation ecosystem that will benefit individual firms and the wider economies

InterTradelreland's aim is to develop an open system of innovation in Ireland and Northern Ireland that provides for a more efficient and effective use of resources to the mutual benefit of Northern Ireland and Ireland, avoiding duplication and taking advantage of each other's strengths to create scale in both excellence and opportunity. We aim to have Ireland and Northern Ireland recognised internationally as a centre of innovation excellence and will strive to achieve this by creating a well connected all-island innovation system that puts enterprise at its centre, ensuring creative ideas are nurtured quickly and effectively. The innovation ecosystem envisaged by InterTradelreland will focus on the firm, ensuring it can connect to the resources it requires to engage in innovation no matter in which jurisdiction they reside, see below.

### **Figure1 InterTradelreland's Innovation Ecosystem**



This principle of connectivity underpins much of our programme activity as shown in Table 1 below:

**Table 1 InterTradeIreland Innovation and Collaboration Programmes**

InterTradeIreland Innovation and Collaboration Programmes	
Fusion	Technology transfer programme which provides companies, with technology-based needs, a three-way partnership that includes a third-level research institution with specialist expertise and a high-calibre science or technology graduate.
Innova	A unique cross-border collaborative Research & Development programme offering companies an opportunity to accelerate new product, process or service developments through partnering with a company in the other jurisdiction. (The Innova budget has been substantially decreased for 2015, and the programme will be closed to new applicants with resources diverted to other priorities and activities).
Challenge	Programme is designed to help ambitious SMEs go from ideas to sales with less time, money and risk. It works in three

	stages, briefing event, workshop event and in-company mentoring.
Horizon 2020	The All-Island Steering Group under the Chair of InterTradelreland, provides a substantial momentum to cooperative activities to improve North/South participation in EU research programmes.
US-Ireland R&D Partnership	An alliance of academic and research institutes from the United States, Ireland and Northern Ireland, promoting collaborative and innovative projects and offering a unique opportunity to advance research interests, healthcare and economic development in priority areas.
All Island Innovation Programme	Brings international expertise and best practice in innovation to Ireland and Northern Ireland to study innovation across academic disciplines, to align best practice in innovation research with current policy thinking and to inform the development and implementation of future policy.

Cross border collaboration can also help participation in international collaborative research which is evidenced in Horizon 2020 and the US-Ireland R&D Partnership below:

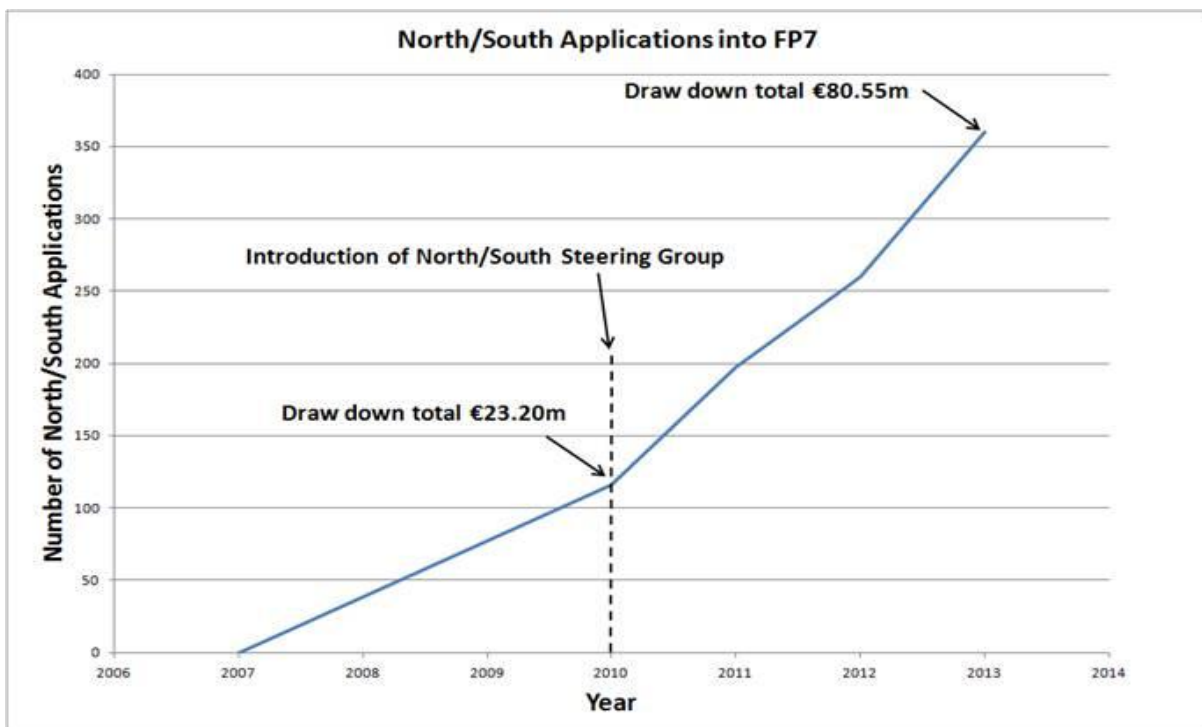
### Horizon 2020

The recognition and subsequent commitment of both jurisdictions to build on the obvious advantages of a joint approach to participation in Framework Programme 7, given two member states, a shared language and the existing strength of researcher links, led to the establishment of an All-Island Steering Group under the chair of InterTradelreland. The All-Island Steering Group, has given a substantial momentum to cooperative activities to improve North/South participation in EU research programmes.

#### 1. Impact on North South Applications

The commitment by both jurisdictions has resulted in a significant increase in the number of successful North/South applications to FP7 as shown below, data taken from July 2013:

**Figure 2. Number of North/South Applications & Drawdown in FP7**



As of March 2014 the total drawdown for collaborative North/South applications from FP7 is valued at €89.2m, which is distributed across 89 successful North/South Projects. All figures have been calculated based on data supplied by Enterprise Ireland and further analysis will be carried out on the provision of the complete dataset.

## **2. The latest statistics show the following results:**

- Total Number of Successful North/South Projects – 89
- The economic value of this collaboration is €89.2m (across both jurisdictions), of which €20m was achieved in one year between July 2012 and July 2013.
- The top 5 areas for North /South collaboration are Health, Marie Skłodowska-Curie Actions, Agri-Food, Security and ICT.

The statistics below further demonstrate the significant positive impact achieved on North/ South activity in FP7 since 2010:

- 116 applications received from 2007-2010
- More than 250 applications were received in the next 3 year period, 2010-2013
- More than 100 applications were received in the final year, July 2012 to July 2013

To date no similar statistics have been provided by the European Commission on Horizon 2020 and as a result it is still not possible to report on activity. As soon as this becomes available it will be analysed and the relevant parties updated.

## **3. The All-Island Steering Group**

The All-Island Steering Group serves as an excellent vehicle through which the two support networks in Northern Ireland and Ireland can work together to mutual benefit as witnessed in the close cooperation that is now taking place between the NI Contact Point (NICP) network and the Irish NCP network to promote and support engagement with Horizon 2020.

In addition, the All-Island Steering Group has supported the introduction and development of a number of initiatives run by InterTradelreland to encourage more North/South partnership proposals. Through close liaison with the support networks, InterTradelreland has developed a successful support programme for FP7 and subsequently Horizon 2020. This approach ensures that opportunities for North/South collaboration in Horizon 2020 are maximised and that resources are not duplicated.

## **4. Achievements to date include:**

- Since 2011 the InterTradelreland 'Collaborate to Innovate' Conference has attracted in the region of 250 delegates annually.
- Since 2012 the InterTradelreland Cross-Border Collaboration and EU Travel Schemes have helped over 125 individuals build North/South partnerships for FP7 and Horizon 2020.
- The All-island Steering Group also supported 3 North/South applications to the FP7 Regions of Knowledge call in the areas of sustainable energy, connected health and the digital agenda resulting in the BEWISER project securing funding of €2.874m.
- Following on from the FP7 workshops and subsequent Horizon 2020 equivalents, InterTradelreland has organised upcoming workshops for the following areas:
  - ICT – 29<sup>th</sup> October, Templepatrick
  - Transport and Manufacturing, 4<sup>th</sup> November, NIACE Belfast
  - Collaborate to Innovate Conference, 3<sup>rd</sup> December, Dublin Castle
  - Societal Challenge 6 Information Day, 11th December
- The InterTradelreland Horizon 2020 Enquiry Service has also provided information and advice to over 45 individuals.

- The All-island Research Managers and Offices stakeholder workshop attracted 25 delegates.
- The NICP Network stakeholder workshop had 15 delegates.
- The InterTradelreland Horizon 2020 App was launched at the official launch event of Horizon 2020 in Ireland in December 2013. This event was attended by 2000 delegates and the App currently has nearly 500 users of which around 40% are from industry. It has also recently been updated to allow access from the Windows platform as well as improved functionality.
- Dedicated website (<http://www.intertradeireland.com/horizon2020/>) and periodic newsletter.
- 4 Case Studies showcasing North/South collaboration in FP7.
- EU Partnership Guide for Social Sciences and the Humanities (180 SSH Researcher profiles).
- Research Connections Online Database and Map – details of 89 North/South collaborative projects from FP7.

Overall, InterTradelreland has successfully promoted the Horizon 2020 support programme for North/South collaboration to almost 4500 individuals to date.

The All-island Steering Group has overseen and approved InterTradelreland's Horizon 2020 Strategic Action Plan for North/South Collaboration. The plan, which will be presented to Ministers at a forthcoming NSMC Trade Sectoral meeting sets a new target for North/South participation in Horizon 2020 based on the ambitious government targets in both jurisdictions, lists key areas in which North/South opportunities can be maximised and outlines the activities and supports to implement the strategy. These will include:

- 2014 'Collaborate to Innovate' Conference, 3<sup>rd</sup> December, Dublin Castle
- Issue a minimum of 56 travel vouchers per annum
- Focus on Workshops as detailed on page 4
- Joint events with other organisations from the support networks
- 5 video and written case studies
- 3<sup>rd</sup> Edition of the interactive SSH Guide
- App development (increase usage/new platforms/functionality)
- Continued development of online resources, such as the forthcoming 'Guide to Horizon 2020', outlining key local sources of support and information.

## **US Ireland R&D Partnership**

### **1. Background to Establishment of US-Ireland R&D Partnership**

The US-Ireland R&D Partnership was formally launched in July 2006, having being developed on foot of commitments made at the US Ireland Business Summit held in Washington in September 2002. The Partnership involves the governments of the United States of America, Ireland and Northern Ireland who recognised the strong link between high quality research environments and economic development. The Partnership is linking scientists and engineers in partnerships across academia in the three jurisdictions to address crucial technology, environmental and healthcare research questions, foster the potential for new and existing technology companies, attract industry that could make an important contribution to the three economies and expand educational and career opportunities in science and engineering. Areas of focus for collaboration include health, nanotechnology, sensor technology, telecommunications, and energy/sustainability.

### **2. Steering Group**

In 2005, a Steering Group was established with senior representation from the three jurisdictions to guide collaborative efforts under the Partnership. The group is supported by InterTradelreland, given its R&D mandate and capability in this area.

The partnership continues to be co-chaired by senior representatives from each jurisdiction (see below). For the United States, the engagement of the Department of State underscores the significance of this partnership to foreign policy as well as the potential important scientific advances that the collaboration produces. In Ireland and Northern Ireland, the partnership is reviewed regularly by the North/South Ministerial Council, both in sectoral and plenary format.

<b>Ireland</b>	
Feargal Ó'Móráin	Ireland Co-Chair of US-Ireland R & D Partnership Steering Group
Prof. Mark Ferguson	Director General, Science Foundation Ireland
Dr Graham Love	CEO, Health Research Board
<b>Northern Ireland*</b>	
Dr Rosemary Hamilton CBE	Northern Ireland Co-Chair of US-Ireland R & D Partnership Steering Group
Ms Nuala Kerr	Director, Higher Education Division, DEL
Ms. Carol Keery	Innovation and Capability Development, Invest Northern Ireland
<b>US</b>	
Deputy Assistant Secretary, Jonathan Margolis	U.S. Co-Chair of US-Ireland R & D Partnership Steering Group is currently vacant
Prof. Pramod Khargonekar	Assistant Director for the Directorate for Engineering, National Science Foundation
Prof. Nicholas Farrell	Professor, Virginia Commonwealth University

\*Former member, Prof. Bernie Hannigan, has left the position of Director of Research and Development for Northern Ireland Health and Social Care. The identification of her replacement on the Steering Group is underway.

### 3. Principles of the Partnership

The Steering Group identified a set of guiding principles to develop a durable research partnership between the three jurisdictions.

The principles of the Partnership are:

- Each of the projects supported will have significant research participation from each of the three jurisdictions;
- Research excellence is fundamental and this will be ensured by utilising the competitive peer review systems of the National Science Foundation (NSF) and the National Institutes of Health (NIH), which are gold standards for quality in scientific peer review; and
- There will be joint funding – whereby each participating funding agency will only support the research carried out in its own jurisdiction.

Central to the process is the use of the highly competitive proposal review procedures of the NSF and the NIH, which guarantees that only research of the highest quality will receive funding. Partnership proposals compete fairly against other domestic US research submissions. There is no special set-aside budget to support successful proposals. If the collaborative research is deemed excellent then each jurisdiction will pay their respective share from existing budget. This serves to ensure each jurisdiction's commitment to and ownership of projects in the selected areas of strategic relevance.

### 4. Progress made by Partnership to Date

The work invested in developing the Partnership is paying off. Close cooperation has been developed between agencies and departments, north and south of the border and with their US counterparts. Initially, the main focus was on challenges in four areas agreed by the three



jurisdictions; Nanotechnology; Sensor technology; Cystic fibrosis; Diabetes. At its meeting in November, 2011, the Steering Group endorsed extension of the partnership process to include projects in telecommunications and energy/sustainability and the wider health area.

The researchers in each jurisdiction are also responding to the opportunity. Up to September 2014, **nineteen projects had been awarded a total of €29m or £23m or \$39m** from a combination of sources including the US National Science Foundation and the National Institutes of Health; Science Foundation Ireland (SFI) and the Health Research Board (HRB) in Ireland; and, in Northern Ireland, Health and Social Care R&D, in partnership with the Medical Research Council, the Department of Employment and Learning (DEL) and Invest NI. These projects have brought together over 60 principal and co-principal investigators from the 2 Northern Ireland universities, 8 universities and institutes in Ireland and 17 U.S. institutions. At this time, there are also a high number of further proposals in the project pipeline.

The Partnership's focus on excellence is borne out in the success rates of partnership proposals in the highly competitive NSF and NIH peer review systems. Proposals that are submitted compete fairly against other domestic US research submissions. For proposals submitted to NSF, the success rate is 38%. This compares favourably against the standard success rate of 18%. For proposals submitted to NIH, the success rate is 14% which is just slightly lower than the standard success rate of 16%.

## **5. Added value of the Partnership**

Each of the funding agencies have procedures in place to capture the scientific, economic and social impact of the research they are funding. However, the Steering group was interested to understand the added value of collaboration that would not have been achieved otherwise.

A pilot exercise identified the following three areas where the added value of collaboration is evident. These include:

- Enhanced research cooperation: between North and South and with the US
- Combined efforts to achieve research excellence
- Combined efforts to develop a competitive, globally engaged workforce

## **6. Potential to expand the Partnership to include Agri-Food**

InterTradelreland has facilitated recent exchanges with the US Department of State and the US Department of Agriculture, National Institute of Food and Agriculture (NIFA), the Department of Agriculture, Food and the Marine and the Department of Agriculture and Rural Development to explore the potential to expand the Partnership to include Agri-food. This work is ongoing and the target is to identify a mutually beneficial co-funding mechanism to allow collaboration between the three jurisdictions in the area of agri-food research.

## **Science Foundation Ireland (SFI)**

### **1. New legislation to extend the remit and positive impact of Science Foundation Ireland**

In October 2013 Seán Sherlock, TD, the then Minister for Research and Innovation announced the signing into law of the Industrial Development (Science Foundation Ireland) (Amendment) Act 2013. The passage of the legislation highlighted the key role played by science and technology in improving Ireland's prospects for economic recovery and enhancing societal development. Amongst the main provisions of the Industrial Development (Science Foundation Ireland) (Amendment) 2013 Act is the legal power for Science Foundation Ireland to fund research projects on an all-Island of Ireland basis.

### **2. SFI/DEL Investigators Programme Partnership**

The SFI/DEL Investigators Programme Partnership which was signed by Minister Bruton and Minister Farry in early 2014 will support collaborative projects involving universities from both



jurisdictions to undertake internationally peer reviewed leading edge, discovery and fundamental research.

This collaboration agreement will allow Queen's University and the University of Ulster to participate as full academic partners in Science Foundation Ireland's prestigious Investigators Programme. This programme was launched in Q1 2014. If research applications are deemed meritorious, DEL will fund the research in Northern Ireland and SFI will fund the research in Ireland. The Northern Ireland assembly have set aside approximately £10m for this collaboration over the next couple of years. The deadline for proposals was reached in June 2014 and 37 of the 131 (28%) applications received involved a co-applicant based in NI.

### **3. Marine Renewable Energy Ireland (MaREI)**

The MaREI SFI Research Centre (2012) continues to work with partners in Northern Ireland. An all-island Marine Renewable Energy Master's Programme has been developed and is being delivered in partnership with the following academic institutions: Cork Institute of Technology, Dublin Institute of Technology, National University of Ireland, Maynooth, Queen's University Belfast, University College Dublin and the University of Limerick.

The first placement programme runs from June 2014 to September 2014. The Master's programme is the only one of its kind in the world, educating engineers for successful careers in the marine renewables industry. Students gain advanced engineering skills in areas such as wave energy, tidal energy and power systems as well as relevant non-technical expertise in areas such as geological surveying and environmental impact assessment. Industry placement hosts benefit from access to cutting-edge expertise in marine renewables. Placement projects offer industry hosts an opportunity to develop existing projects and new R&D ideas.

### **4. AMBER and Queens Polymer Processing Research Centre MoU**

SFI Research Centre, AMBER, has entered a Memorandum of Understanding (MoU) with Queens Polymer Processing Research Centre. The agreement will facilitate further collaboration and pave the way for shared use of infrastructure.

### **5. The Charles Parsons Energy Research Awards**

The Charles Parsons Energy Research Awards were established by the then Minister for Communications, Marine and Natural Resources, Mr Noel Dempsey, TD, in October 2006. The objective of the awards is to stimulate and develop energy research in Ireland by providing funding for research groups to undertake energy research particularly in priority areas. A specific aim is to increase significantly overall research capacity and in particular attract more engineers into energy research.

In May 2008, Science Foundation Ireland assumed administrative responsibility for the Charles Parsons Awards.

Two of the awards are hosted at Queens University Belfast:

- The Electrical Power & Energy Systems Research Cluster led by Dr John Morrow. The close date of this award is December 2015
- Charles Parsons Energy Research Award/Centre for Sustainable Technologies (CST) led by Dr Neil Hewitt. The close date of this award is December 2014.

## **2. Statistics on trade, innovation and business development**

### **1. Importance of Cross Border Trade**

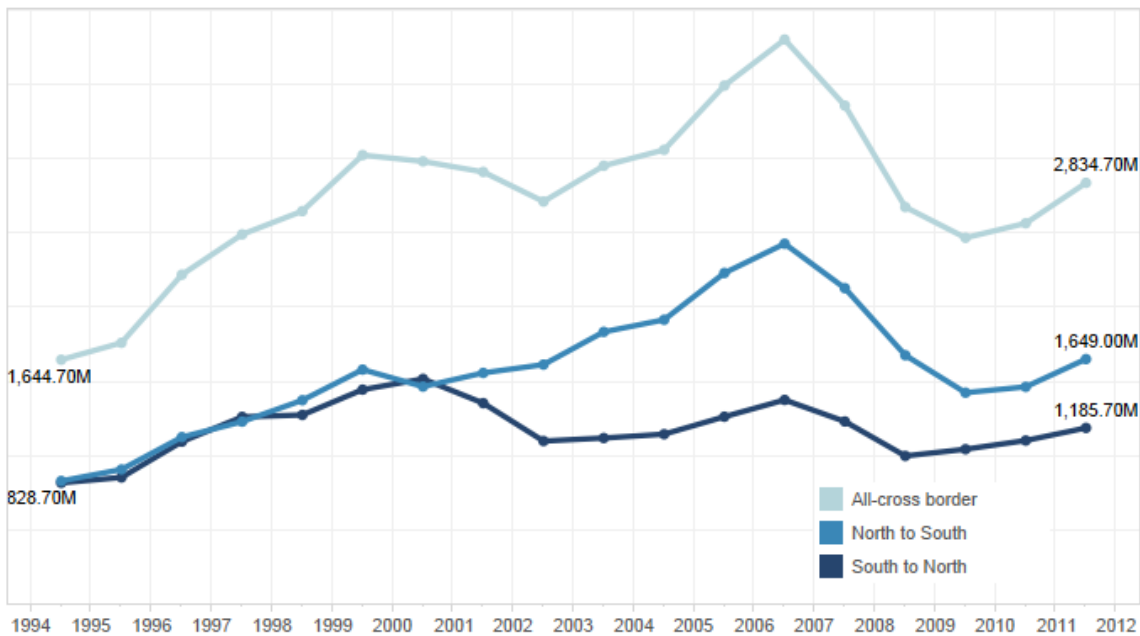
The cross-border market is particularly vital for small firms with nearly two thirds of the exports of small firms in Northern Ireland going to Ireland and almost a sixth of the exports of small firms in Ireland going to Northern Ireland. The cross-border market is also critical for the first-time exporter in both jurisdictions. Recent research from InterTradeIreland has shown that **cross-border sales**

represent the first export market for almost three-quarters of businesses across the island (73%), with 90% of Northern Ireland firms taking their first export steps in the Irish market and two thirds (63%) of Irish exporters taking the same steps in the opposite direction. According to the research, the experience gained in cross-border trade acts as an export stepping stone for a majority of firms and it has had a significant influence on the development of additional export markets in 71% of businesses<sup>1</sup>.

## 2. Value of Cross-border Trade

Using exports data for manufactured goods from the Central Statistics Office (CSO) and the Northern Ireland Statistics and Research Agency (NISRA) the chart below shows that cross-border goods trade has been on a long term upward trend since the mid-1990s. The cross-border market has seen the impact of two downturns since then (between 2000 and 2003 and again between 2007 and 2010 when it fell by over a third). Since 2010 cross-border trade has begun to grow again significantly in the past two years (2011 and 2012). **The total value of cross-border goods trade in 2012 was €2.83/£2.29 billion, an increase of 10% on 2011.**

Figure 3: Total cross-border trade in manufacturing (1995-2012) - value in €



## 3. Key sectors of cross-border trade in manufacturing

As Figures 4 and 5 below show, the sectoral share of total cross-border goods trade has changed significantly since 2007. In particular, the share of Food, Drink & Tobacco has risen from 30% to 50% of all cross-border trade. This is more significant in the case of North-to-South trade where this sector rose from 26% in 2007 to almost 60% in 2012. The other key sectors in 2012 were Chemicals (7% of the total) and Rubber & Plastics (6%) (see figure 5).

The sectors which have shown a significant drop in their share in the period since 2007 include those which are, in the main construction-related, such as Wood & Wood products (a drop of 4%), Non-Metallic Minerals (a drop of 6%) and Basic Metals & Metal Products (a drop of 4%).

<sup>1</sup>InterTradelreland, Analysis of the key features of an exporting SME on the island of Ireland (September 2013).

Figure 4: Sectoral shares (%) of total cross-border trade in 2007

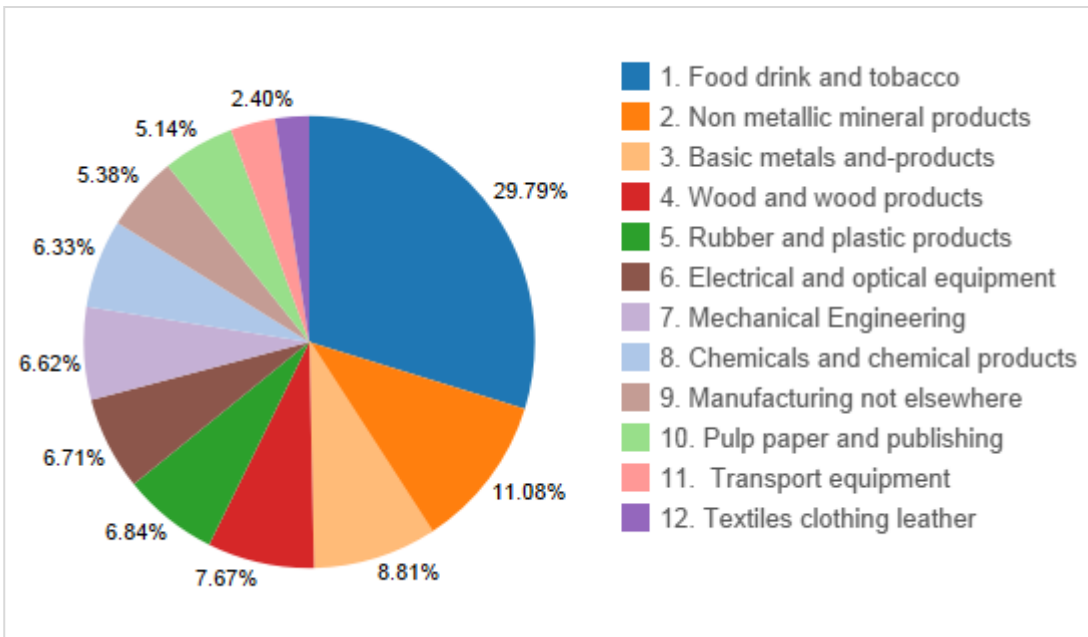


Figure 5: Sectoral shares (%) of total cross-border trade in 2012

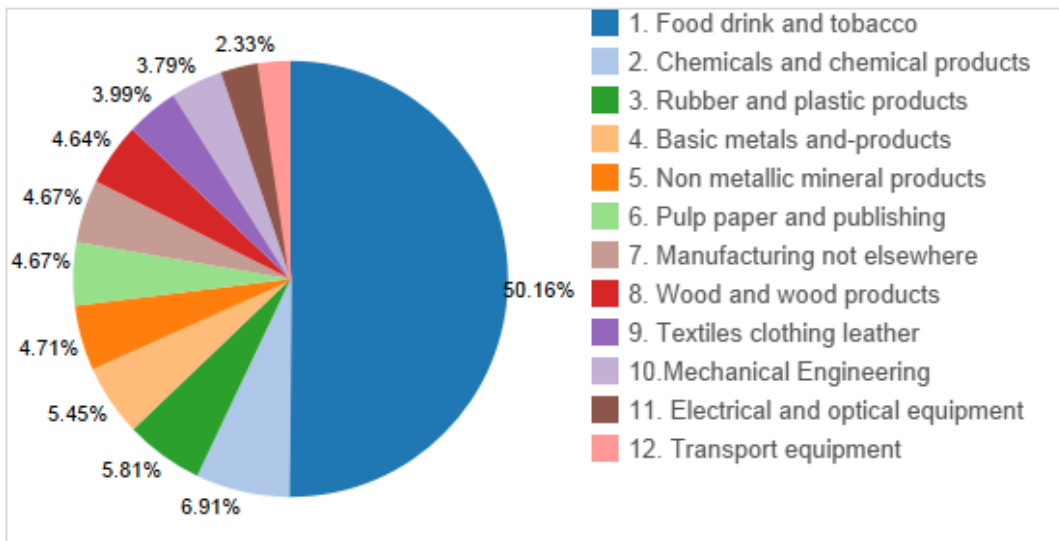
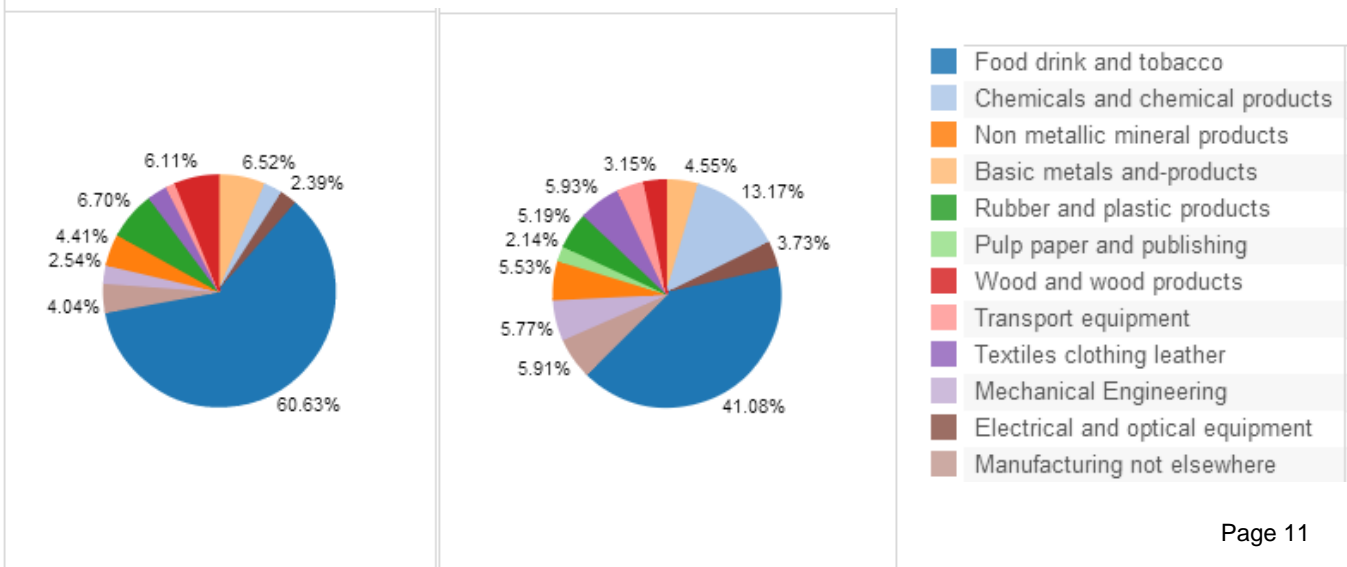


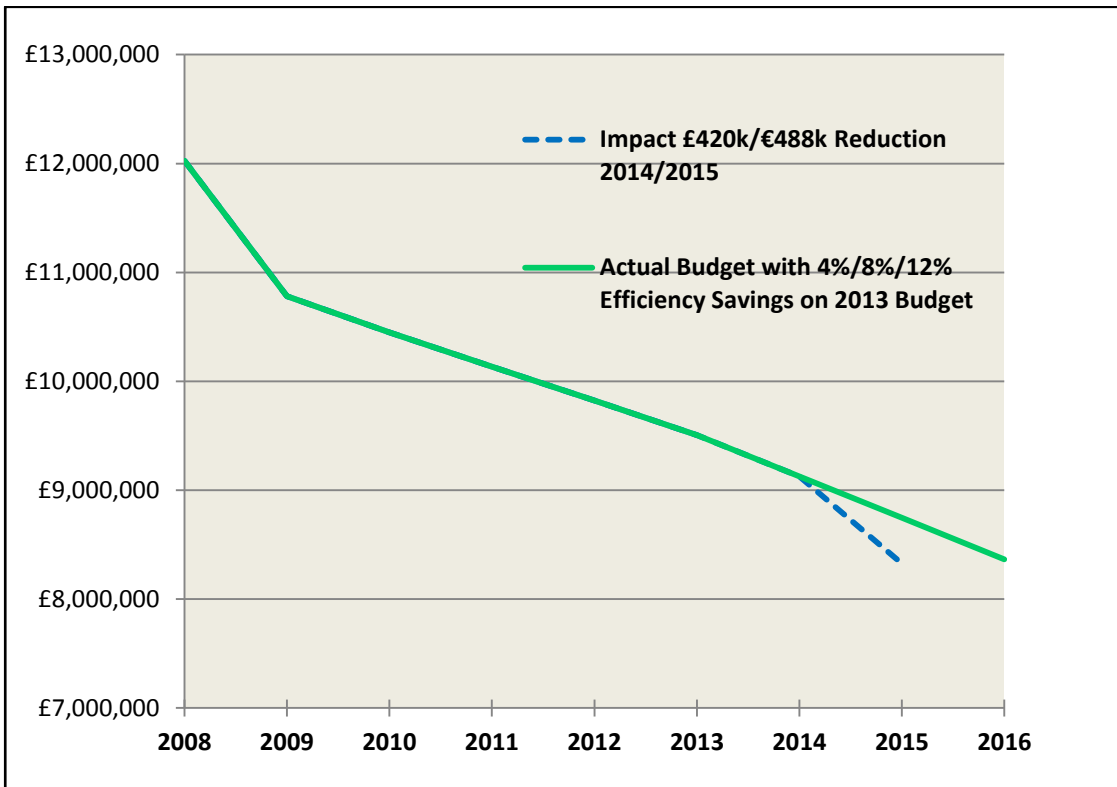
Figure 6: Sectoral shares in cross-border trade (%) – North/South and South/North (2012)



**5. InterTradelreland budget**

Figure 7 shows that InterTradelreland’s budget has been cut annually since 2008. Joint Planning Guidance sets out cuts of 4% in 2014, 8% in 2015 and 12% in 2016 on the 2013 budget as indicated by the green dashed line in Figure 7. However a further cut of £420k/€488k has been proposed by DETI with consequences as indicated by the blue line in Figure 7. While the Body has committed to do more with less, we now face the prospect of being unable to maximise our economic impact.

**Figure 7 InterTradelreland’s Declining Budget 2008 - 2016**



InterTradelreland are currently in discussions with our sponsor departments on how best to meet the new budgetary reality in Northern Ireland in a manner that will minimise the potential detrimental economic impact.