



**THE SCIENCE BUDGET  
2010-2011**

**STATE EXPENDITURE ON  
SCIENCE & TECHNOLOGY AND  
RESEARCH & DEVELOPMENT**

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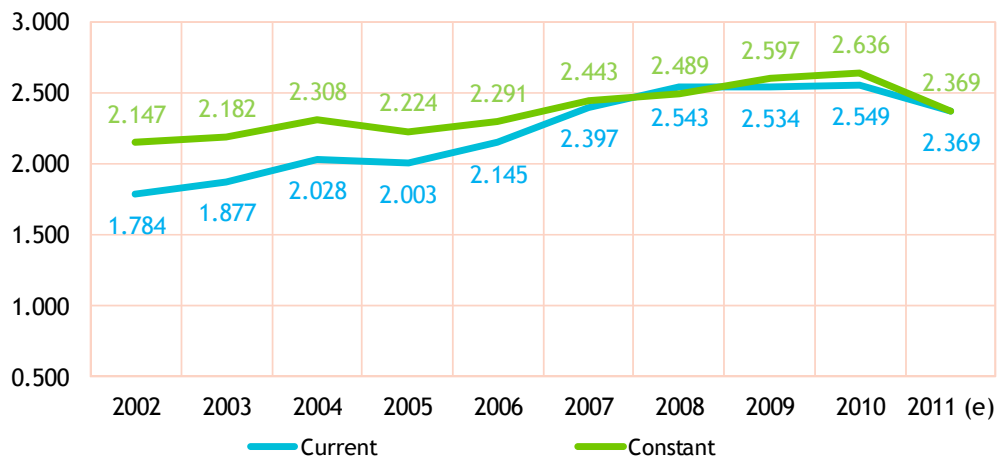
## Science Budget Categories

- **Science Budget (S&T and R&D)** includes all expenditure on S&T Education & Training, Technology Transfer, S&T Services, Other S&T activities and Research and Development
- **GBAORD (R&D)** this is a sub-set of the Science Budget and is the total expenditure by Government on Research and Development
- **GOVERD (R&D)** this is a sub-set of GBAORD and is the Research and Development carried-out in Government Departments or Agencies.
- **GOVERD (R&D) - Researchers** the number of researchers working within the Government sector.

## Executive Summary

Overall science and technology and research and development spending is estimated to have reduced in 2011 following a period of rapid growth. Many individual programme areas have seen cuts in expenditure.

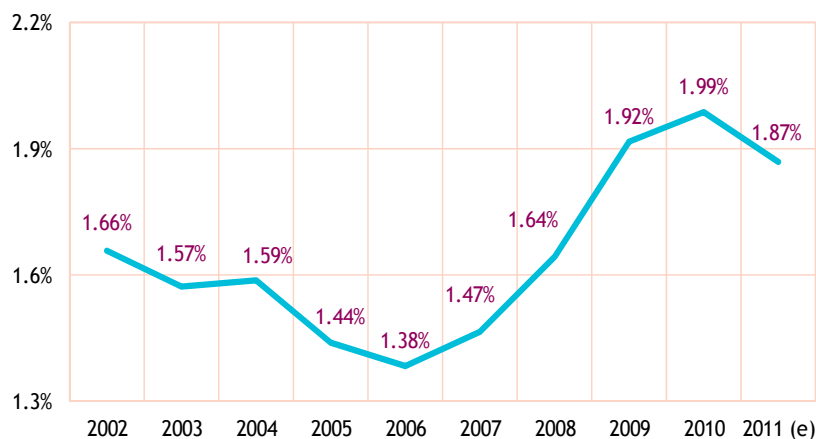
### Total science and technology spending by the State sector 2002-2011 (current and constant prices €bn.)



- The total public S&T expenditure for 2011 is estimated at €2.369bn.
- In current terms, this represents a decrease of 7.0 percent on the outturn figure of 2010 of €2.549bn.
- Allowing for inflation, the percentage decrease is 10.1 percent.

Total expenditure on State S&T measured as a percentage of the Gross National Product (GNP) is shown below. There has been a decline in Nominal GNP since 2008 which has contributed to the percentage increase in S&T spending intensity for the 2008-2010 period.

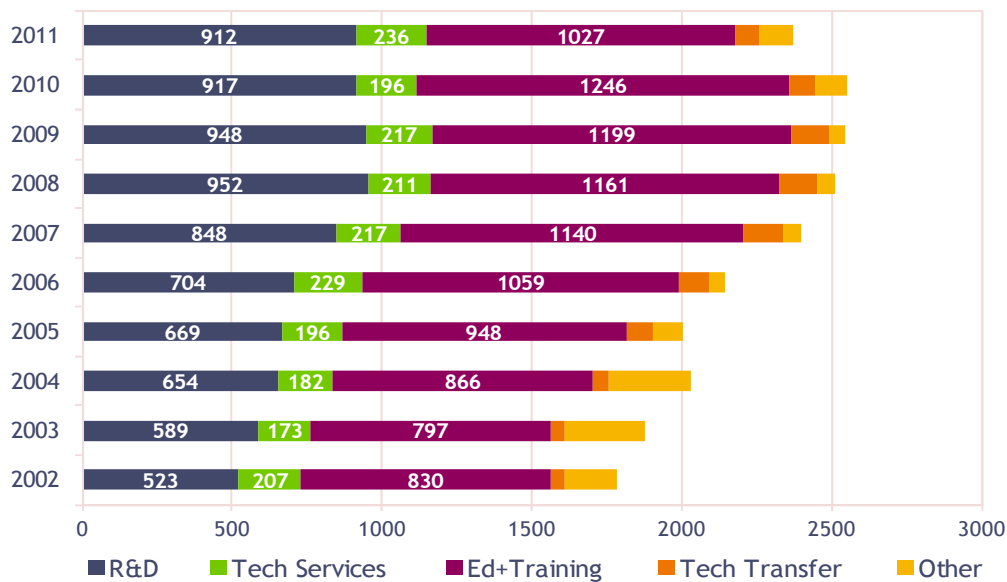
### Total science and technology expenditure as a percentage of GNP, 2002-2011



The allocated expenditure for 2011 calculated against the estimated GNP figure for 2011 shows a decline of 0.12 percent to an S&T spending intensity of 1.87 percent of GNP.

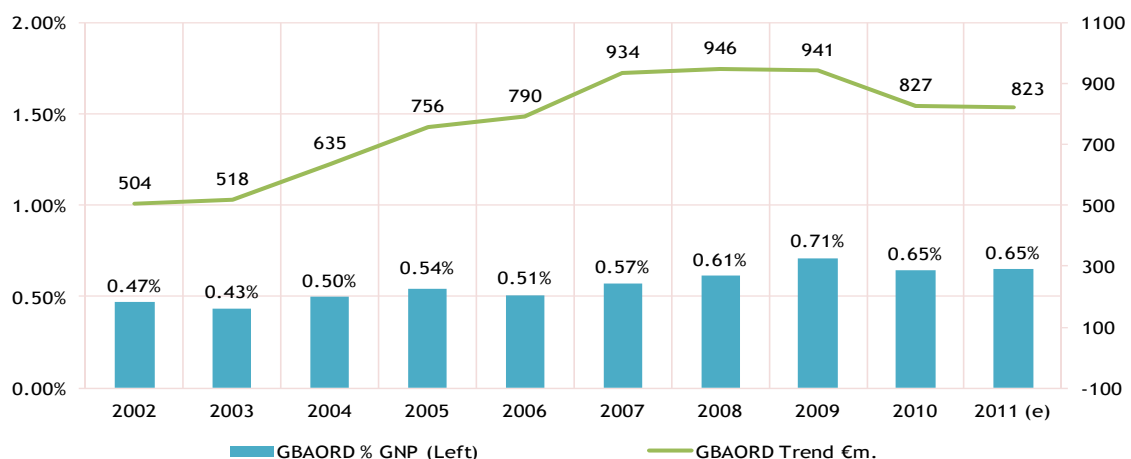
Looking at the different components of State S&T spending, the largest decline in estimated expenditure in 2011 is in the area of S&T Education and Training. Between 2010 and 2011 State-funded S&T spending in this area is expected to decline from €1.25bn to €1.03bn. Spending in the key area of Research and Technology is being more or less maintained with funding going from €917m to €912m, a marginal decrease of 0.5 percent.

**Total science and technology spending by activity, 2002-2011 (current prices €m.)**



Focussing on the Research and Development element of Government funding, also known as Government Budget Appropriations and Outlays on R&D (GBAORD), with the exception of 2003, the period 2002 to 2007 saw the GBAORD intensity ratio hover around 0.5 percent of GNP. This was a strong period of funding increases arising out of strong economic growth.

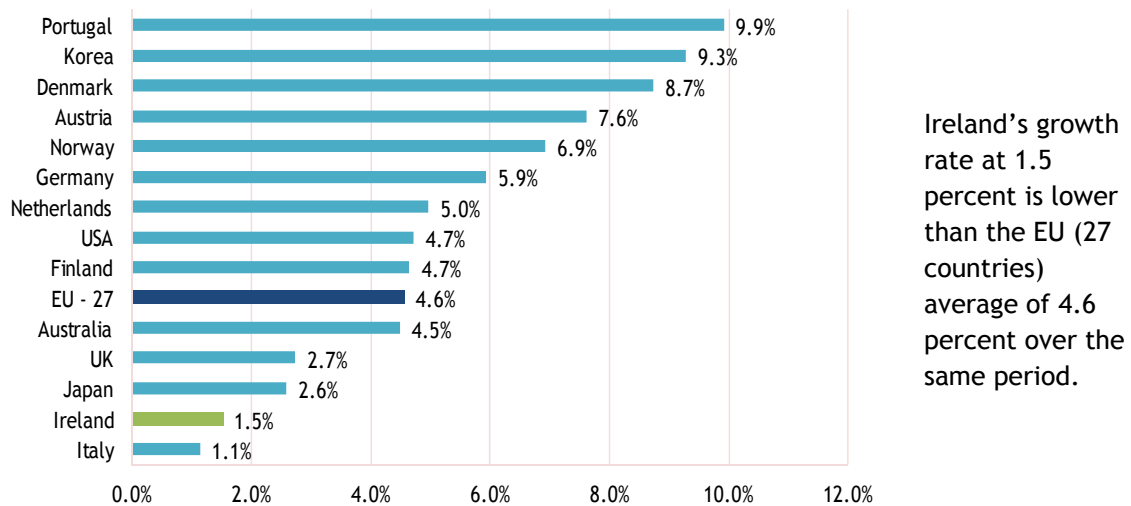
**GBAORD trend (€m.) and GBAORD as a percentage of GNP, 2002-2011**



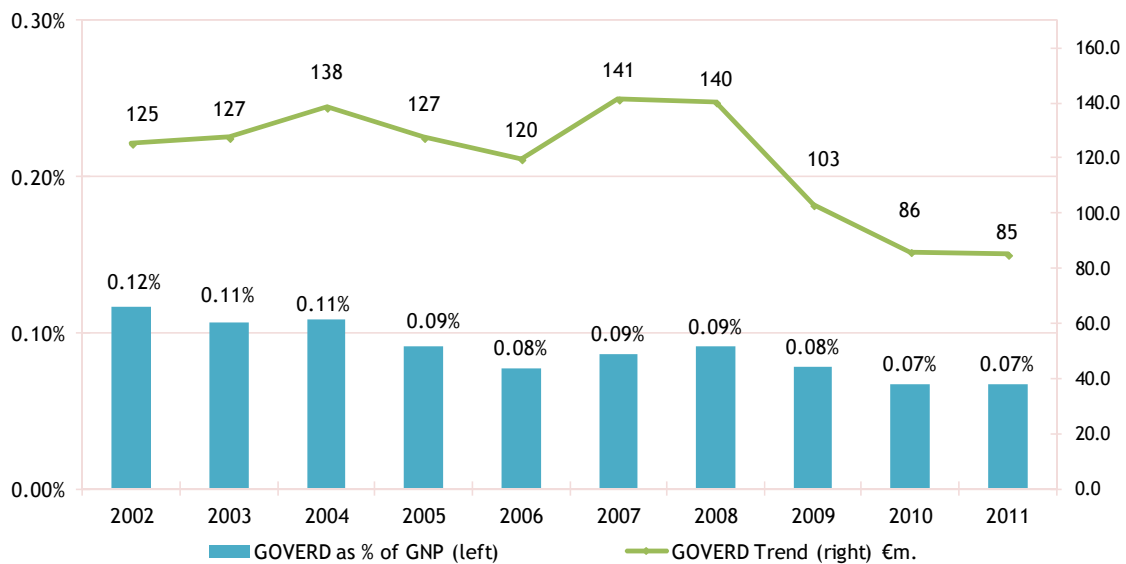
- In 2009, the GBAORD intensity rate rose as a result of strong R&D spending outpacing nominal economic growth.
- In 2011, GBAORD intensity has remained consistent at 0.65 percent of GNP despite a reduction in the amount of funding. This is due to a marked reduction in GNP in recent years.

A comparison of the growth in Ireland’s average spend on civil Research and Development since 2005 compared to a selection of other countries where data is available shows Ireland with a low rate of 1.5 percent over the period.

**Average annual growth rate of GBAORD for selected countries, 2005-2010**



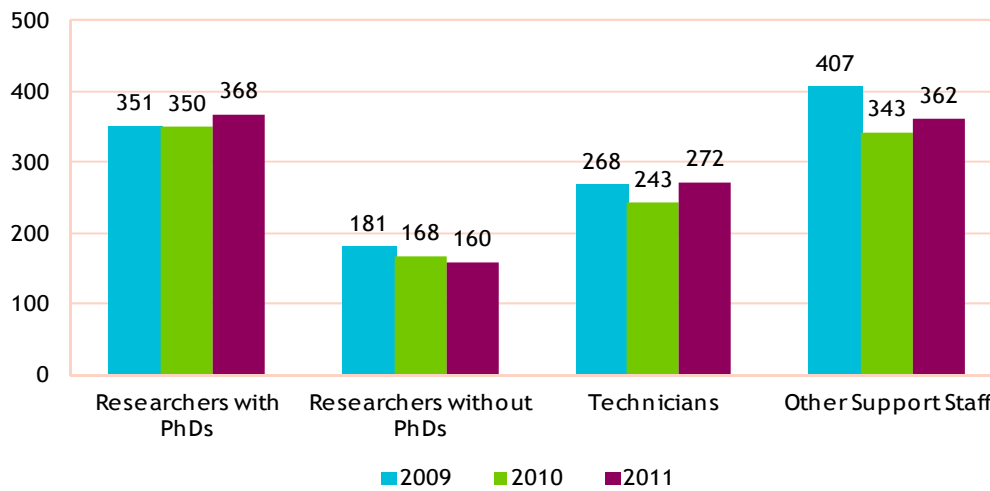
**GOVERD trend and GOVERD as a percentage of GNP, 2002-2011**



The 10-year trend shows that levels of Government Expenditure on R&D (GOVERD) are now at their lowest level and expenditure on R&D performed in the State sector has fallen from a high in 2007 of €141m to the current allocation of €85m.

GOVERD as a percentage of GNP over the ten-year period from 2002 to 2011 is also illustrated in this graph. This shows that, as a percentage of GNP, the level of GOVERD has dropped from 0.12 percent in 2002 to 0.07 percent in 2011.

**Total research and development personnel by occupation (headcount terms, 2009-2011)**



The survey shows that overall the number of personnel engaged in R&D in institutions within the government sector increased slightly in 2011 over the numbers recorded for 2010.

Between 2010 and 2011 the number of PhD researchers has increased by 5.1 percent, while researchers without a PhD have decreased by 4.8 percent over the same period.

The number of technicians are expected to increase by 11.9 percent in 2011 over 2010. There has also been an increase in the number of research support staff of 5.5 percent in 2011.



## Introduction

The Science Budget monitors public funding and performance of State-funded Science & Technology (S&T) and Research & Development (R&D) and aims to capture key performance metrics within the State sector. A total of 37 Government departments and agencies who are engaged in some form of S&T or R&D activity in 2010-2011 were surveyed. This report presents findings from the 2011 Science Budget, with the final outturn data for 2010 together with estimates for 2011.

This survey data is required for, and/or included in, the following reports:

- Commission Regulation (EC) No 753/2004. This Regulation covers the production and development of Community statistics on science and technology. Data is required by Eurostat on government expenditure and on the numbers employed in research and development in the public sector.
- Science and Technology Act, 1987 - Section 9 (1) amended by the Industrial Development Act, 1999, Section 9 (1). In addition to 'research and development' data, this Act also requires the collection of data on 'technical services', training, education & information in S&T', 'technology transfer' and 'other S&T'.
- OECD 'International data collection on resources devoted to research and development'.
- Strategy for Science, Technology & Innovation. Indicators collected are included in the STI Indicators report to identify issues arising and resulting policy requirements.

The metrics analysed in the report include:

### Chapter 1: Science and Technology Budget

- Funding of S&T education and training; S&T technical services; Technology transfer, Other S&T activities and Research & Development. Data on total S&T and R&D expenditure as a percentage of GNP.

### Chapter 2: Focus on State Funding on Research and Development

- Government Budget Appropriations and Outlays on Research and Development (GBAORD).
- Data on Government Departments / Agencies funding by area of research and as a percentage of GNP & international comparisons.

### Chapter 3: Performance of Research and Development in the Public Sector

- Government Expenditure on Research and Development (GOVERD). R&D performed in Government Departments and their Agencies.

### Chapter 4: Human Resources Dedicated to R&D in the Public Sector

- Data on the overall totals, gender, qualifications and occupations of R&D staff.

The survey is carried out using the definitions, rules and guidelines set out in the OECD Frascati Manual<sup>1</sup>. This allows for a common dataset to be collected across all OECD and EU countries which facilitates better international comparisons and benchmarking. Data on GBAORD, GOVERD and human resources is also prepared under European statistical legislation. All international comparison figures relate to the most recent data available for each country.

The findings from this survey complement the findings from the other R&D performance surveys conducted by Forfás and the Central Statistic Office. These include the Business Expenditure R&D survey (BERD) and the Higher Education R&D performed survey (HERD). The total performance of R&D in the State is then added to create the Gross Expenditure on R&D (GERD) metric.

*Forfás would like to thank the many respondents to this survey, who have taken the time to gather information and complete the data requests for this key area of government policy.*

*Forfás Survey Unit - December 2011*

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<sup>1</sup> OECD (2002), Frascati Manual: Proposed Standard Practice for Surveys on Research and Experimental Development, OECD, Paris, [www.oecd.org/sti/frascaticmanual](http://www.oecd.org/sti/frascaticmanual)

## Chapter 1: Science and Technology Budget

This chapter examines the total expenditure allocated across the State sector for Science & Technology activities in 2011. The science budget survey divides spending into five main categories:

- Research & development
- Technical services
- Education and training
- Technology transfer
- Other S&T activities

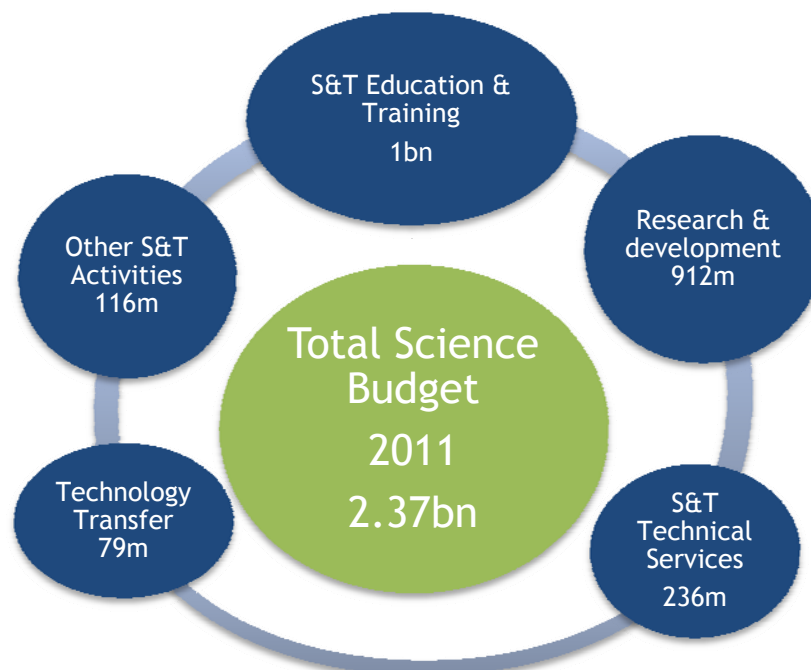
Appendix 2 provides more detail on the definitions used in the questionnaires which are sent to respondents. Spending data was collected from government offices, agencies and departments engaged in S&T activities, in respect of the final expenditure they incurred in 2010 and their expected spend for 2011.

### 1.1 Total Science Budget

The total S&T estimated expenditure for 2011 is expected to reach €2.369bn. This represents a nominal decrease of 7.0 percent on the outturn figure of 2010 of €2.549bn.

In 2011 the largest category of estimated spending across S&T areas continues to be S&T Education and Training at €1.027bn. The next largest category is Research and Development (€912m), followed by Technical Services (€236m), Other S&T activities (€116m) and finally Technology Transfer (€79m).

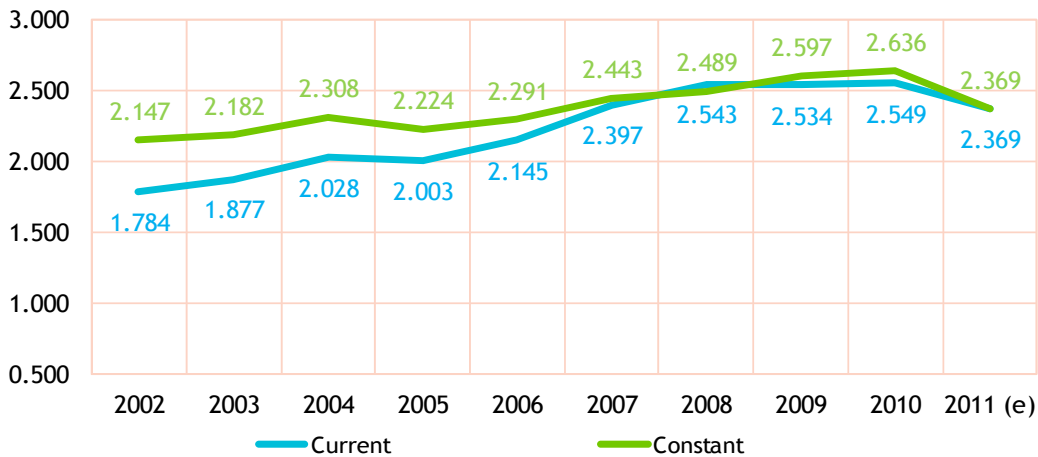
**Figure 1: Total Science Budget 2011**



## 1.2 Trends in State science and technology expenditure

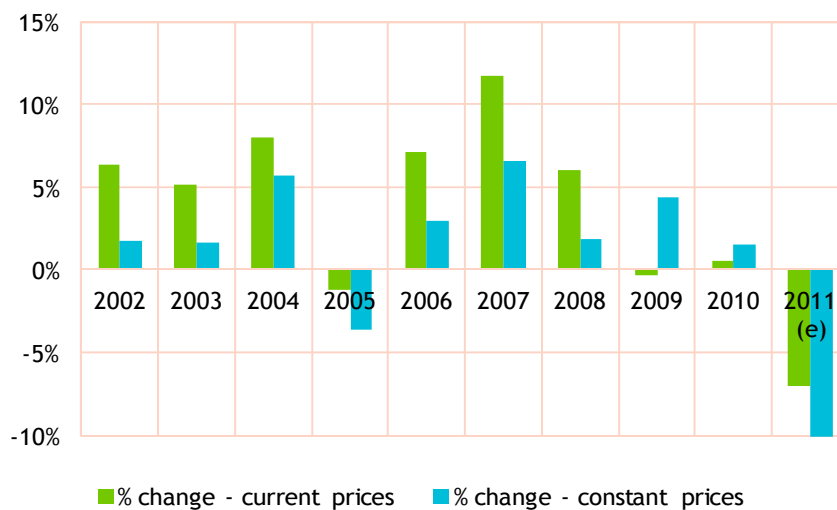
Figure 2 below shows a recent history of spending on S&T activities by the State. Data is displayed in both current prices and constant 2011 prices which deflates current S&T spending by the consumer price index (CPI<sup>2</sup>).

**Figure 2: Total science and technology spending by the State sector, (2002-2011 current and constant prices €bn.)**



- The total S&T estimated expenditure for 2011 is expected to reach €2.369bn.
- In current terms, this represents a decrease of 7.0 percent on the outturn figure of 2010 of €2.549bn.

**Figure 3: Annual % change in total S&T spending by the State sector (2001-2011 current and constant prices)**



In current prices the decline between the expenditure in 2010 and the allocated funding for 2011 amounts to 7.0 percent.

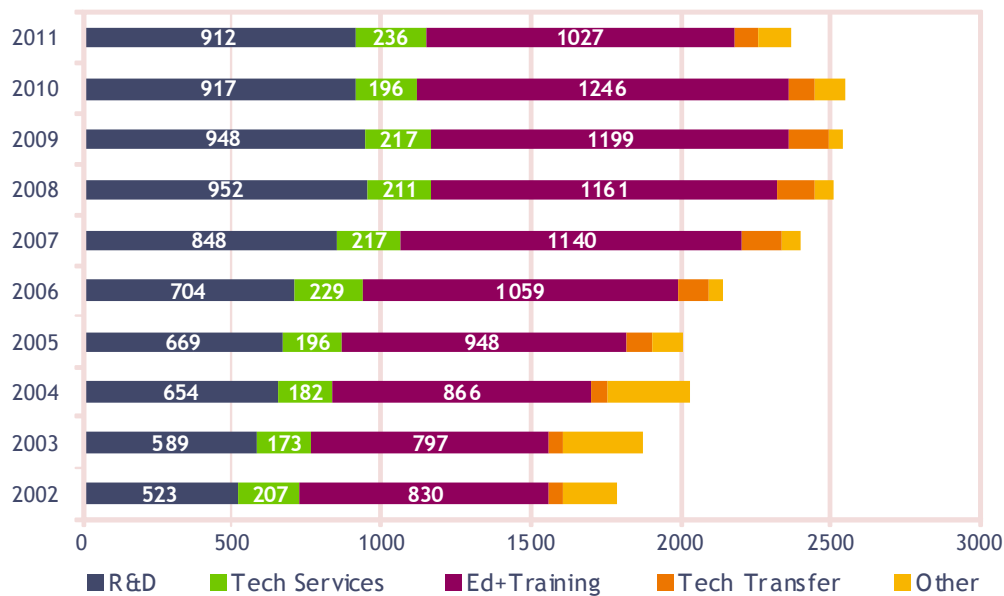
Allowing for inflation, the percentage decrease is 10.1 percent.

<sup>2</sup> Consumer Price Index - 2.8% for 2011 based on CSO data as at October 2011

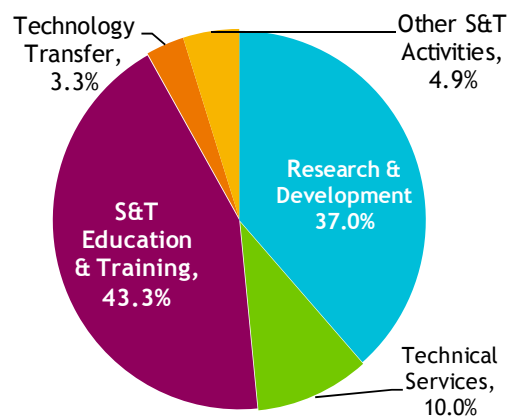
### 1.3 Trends in categories of State science and technology expenditure

Looking at the different components of State S&T spending, shows that the largest decline in estimated expenditure in 2011 will be in the area of S&T Education and Training. Between 2010 and 2011 State funded S&T spending in Education and Training is expected to decline from €1.25bn to €1.03bn. Spending in the key area of Research and Technology is being maintained with funding going from €917m to €912m, a decrease of only 0.5 percent.

**Figure 4: Total science and technology spending by activity, (2002-2011) €m. current prices**



**Figure 5: Share of science and technology spending by category as a % of total, 2011**

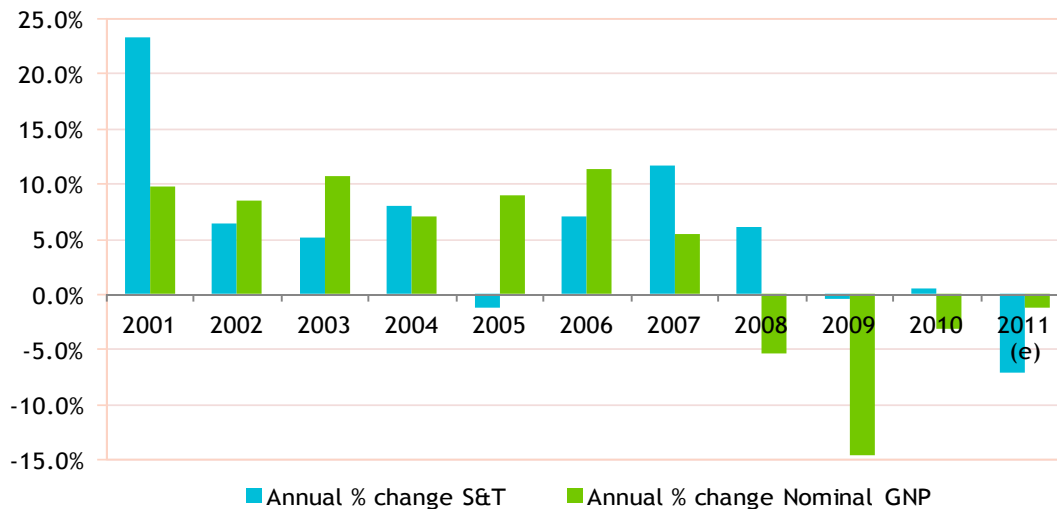


The largest category of State expenditure stands at 43 percent on S&T Education and Training, with R&D funding amounting to 37 percent. Detailed data on State spending by category in each institution and by programme for 2010 and 2011 is presented in Appendix 5.

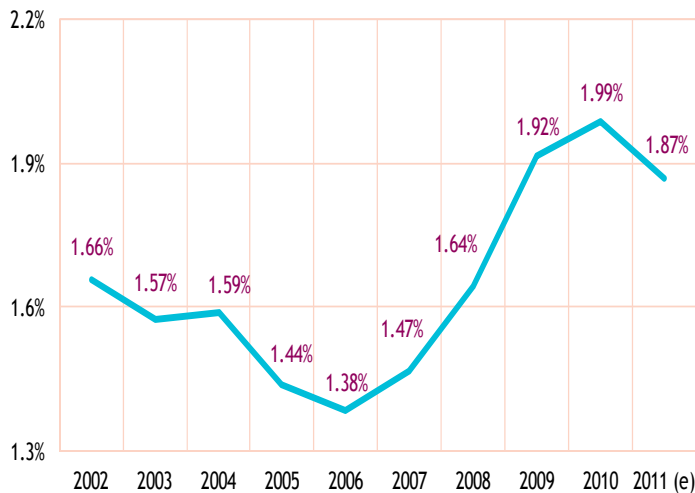
#### 1.4 Science and technology intensity (spending relative to economic activity)

As can be seen in Figure 6 below, since 2009 there has been a deceleration in State S&T annual spending growth with a -0.4 percent annual decrease in 2009 and -7.0 percent in 2011. This decrease in S&T expenditure is occurring in tandem with the slowdown in economic growth in the same period. The expected decline in economic activity as measured by nominal Gross National Product (GNP)<sup>3</sup> between 2010 and 2011<sup>4</sup> is estimated at -1.2 percent.

**Figure 6: Annual growth rates of science and technology spending and nominal GNP 2010-2011**



**Figure 7: Total science and technology expenditure as a percentage of GNP, 2002-2011**



Total expenditure on State-funded S&T measured as a percentage of GNP is shown in Figure 7. There has been a decline in Nominal GNP since 2008 which has contributed to the percentage increase in S&T spending intensity for the 2008-2010 period.

The allocated expenditure for 2011 calculated against the estimated GNP figure for 2011 shows a decline of 0.12 percent to an S&T spending intensity of 1.87 percent.

<sup>3</sup> GNP - The GNP figure is being used for Ireland throughout this Report. GNP is a more relevant measure for calculating economic activity in Ireland as it excludes the income flows of multi-national firms and other net foreign income flows that are included in the Gross Domestic Product (GDP) metric.

<sup>4</sup> GNP 2011 - based on forecast figure of €126.7 billion estimated in the ESRI Quarterly Commentary - Summer 2011, P.4. [http://www.esri.ie/news\\_events/latest\\_press\\_releases/qec\\_summer\\_2011/index.xml](http://www.esri.ie/news_events/latest_press_releases/qec_summer_2011/index.xml)

## Chapter 2: State funding of research and development

In this chapter Government spending on R&D is charted and benchmarked against international competitors.

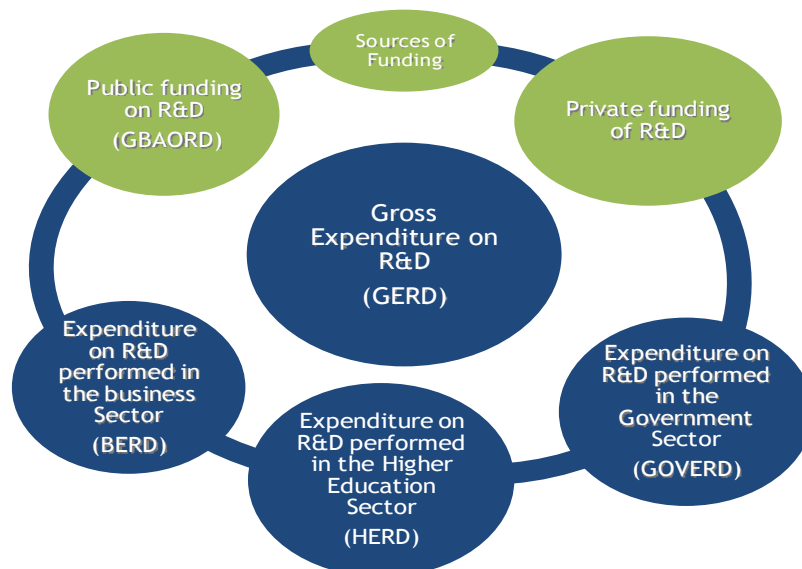
### 2.1 Types of Research and Development indicators

R&D, as defined by the OECD, “comprises creative work undertaken on a systematic basis in order to increase the stock of knowledge, including knowledge of man, culture and society, and the use of this stock of knowledge to devise new applications”.<sup>5</sup> This chapter focuses on R&D and yields the following international data measures:

- GBAORD - Government Budget Appropriations or Outlays on R&D - Spending (this chapter)
- GOVERD - Measure of R&D performed in the Government sector (Chapter 3)

Figure 8 below shows where this funding sits within the overall picture of Gross Expenditure on R&D (GERD) in Ireland.

**Figure 8: R&D funding and performance system**



<sup>5</sup> OECD (2002), Frascati Manual: Proposed Standard Practice for Surveys on Research and Experimental Development, OECD, Paris, [www.oecd.org/sti/frascaticmanual](http://www.oecd.org/sti/frascaticmanual)

## 2.2 Government budget spending on research and development

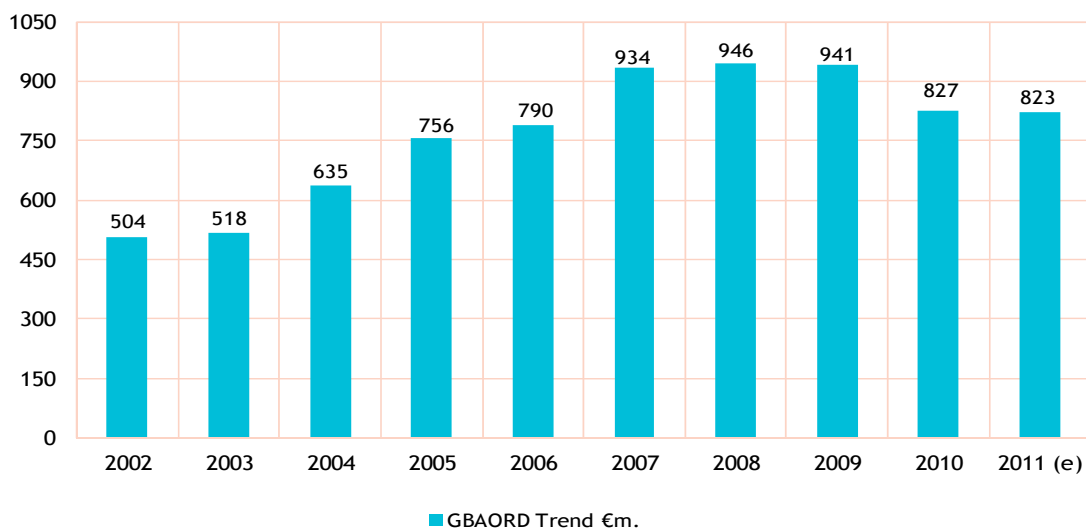
State spending supports for R&D activities come from:

- direct exchequer funding;
- the EU; and
- other non-public funding sources e.g. Irish and foreign business, non-profitable organisations, philanthropists and other donations from individuals.

The internationally recognised indicator for benchmarking State-funding performance of R&D is the Government Budget Appropriations and Outlays on R&D metric (GBAORD), which includes:

- funding for R&D programmes in the higher education sector, administered by the Department of Education and Skills, the Higher Education Authority (HEA), Science Foundation Ireland (SFI) and others;
- funding for business sector R&D, administered via State agencies including IDA Ireland, Enterprise Ireland and others; and
- funding for government sector-performed R&D e.g. Teagasc, The Marine Institute, and others.

Figure 9: GBAORD trend in current prices, €m. (2002-2011)



As can be seen, rapid gains were made in State R&D spending over the last decade. While there is a decline in allocated expenditure in the last three years, the level of R&D funding from the State remains significant, with an allocation of €823m in 2011.

Although there has been a drop in State funding sources from the EU over the last five years, this has been overshadowed by a more rapid slowdown in direct exchequer sourced funding for R&D activities.



### 2.3 Detailed government department spending on research and development

Table 1 provides a breakdown of estimated public R&D spending by the main administering government departments and agencies. These figures include funding received by the State from all sources.

The largest agency funding R&D projects in 2011 is expected to be the Higher Education Authority, which has allocated an estimated €309.2m to R&D activities (or 34 percent of the total State spending on R&D). This spending includes expenditure on R&D programmes, including direct funding via the Programme for Research in Third-Level Institutions (PRTLII) and also indirect funding via the HEA block grant to supported institutions.

The next largest funder of R&D activities was Science Foundation Ireland, allocating an estimated €160.8m to R&D in 2011 via research grants and other research supporting programmes.

**Table 1: Government Departments and Agencies funding R&D activities (2011 estimates)**

Funding Department/Agency	2011 €m	% of Total
Higher Education Authority	309.2	33.9%
Science Foundation Ireland	160.8	17.6%
Enterprise Ireland	95.9	10.5%
IDA Ireland	83.1	9.1%
Teagasc	50.0	5.5%
Health Research Board	40.7	4.5%
Dept. of Agriculture, Food and the Marine	32.3	3.5%
Irish Research Council for Science Engineering and Technology	22.7	2.5%
Sustainable Energy Authority of Ireland	18.3	2.0%
Dept. of Jobs, Enterprise and Innovation	15.5	1.7%
Environmental Protection Agency	13.0	1.4%
Irish Research Council for Humanities and Social Science	10.4	1.1%
Others	60.2	6.6%
Total	€912.1m	100%

The State currently invests in a wide range of R&D programmes which are outlined in more detail in Appendix 5. A summary of these programmes includes:

**€309 million - The Higher Education Authority's** research programme is designed to enhance the research capabilities, capacity and infrastructure of Ireland's higher education institutions. These investments have been divided into a portfolio of programmes across disciplines spanning humanities and social sciences, the biosciences and technology and innovation sectors. During 2010 the HEA's PRTL budget was transferred to the Department of Jobs, Enterprise and Innovation.

**€161 million - Science Foundation Ireland (SFI)** was established in 2000 to support globally competitive scientific research. SFI funds a variety of academic researchers and research teams which aim to promote research excellence in biotechnology, information communication technology (ICT), sustainable energy and energy efficient technologies. The allocation of finance is decided by SFI on the basis of scientific merit.

**€96 million - Enterprise Ireland (EI)** is the national organisation responsible for bringing together innovation, business development and internationalisation for Irish industry. They aim to facilitate collaborative links between enterprise and the research community that will lead to the practical application of research in business. As such, EI offers a variety of supports and funding to companies that wish to engage in R&D.

**€83 million - IDA Ireland** has national responsibility for securing new investment from overseas in manufacturing and international services, and for encouraging the existing foreign enterprises to expand their business. Research, Technological, Development and Innovation (RTDI) grant assistance is directed at established companies who are planning to undertake their first R&D project and those companies that intend to expand existing ones.

**€50 million - Teagasc** is the Irish institute responsible for research in agricultural production, the environment and the rural economy. The annual research portfolio comprises 300 research projects, carried out by 500 scientific and technical staff in research centres throughout Ireland. Current research projects range from animal bioscience research to research aimed at enhancing the quality of life in rural Ireland.

**€41 million - The Health Research Board's (HRB)** research funding role provides support for projects, programmes and fellowships in health research through an open competition process, along with an element of peer review. Funding covers all areas of health research from biomedical, translational, clinical and practised-based research through to population health and research concerning the health services.

**€32 million - The Department of Agriculture, Food and the Marine** provides a wide range of services directly and also through specialist state agencies operating under its aegis. The Department operates a number of testing centres and laboratories in the areas of veterinary diagnostics and research, meat control, seed testing, plant variety testing, cattle performance testing, pesticide control, and dairy products control. Research and development expenditure in 2011 was concentrated in the areas of crop improvement, veterinary and meat laboratory R&D activities, food and agricultural production and improvement of livestock genetic resources in plants and animals.

**€23 million - The Irish Research Council for Science, Engineering and Technology, (IRCSET)** funds R&D in science, engineering and technology in third-level institutes. It seeks to position Ireland as an international centre of excellence and achievement in research. It does this through a series of programmes of assistance, postgraduate research awards and the PhD fellowship scheme.

**€18 million - The Sustainable Energy Authority of Ireland** is Ireland's national energy authority and is responsible for administering the Renewable Energy Research, Development & Demonstration (RERDD) Programme. The Authority also promotes and assists environmentally and economically sustainable production, supply and use of energy by operating grant aid programmes, providing policy support, and delivering information support aimed at increasing public awareness.

**€15 million - The Department of Jobs, Enterprise & Innovation** has a wide economic development and job creation remit. Within the Department, the Office of Science, Technology and Innovation (OSTI) is focussed on delivering this goal through the development, promotion and co-ordination of national science, technology and innovation policy, and by progressing the Strategy for Science, Technology and Innovation. In support of these aims, the Department manages Ireland's membership of the European Space Agency (a principal objective of this membership is to promote opportunity for high-technology industry in Ireland) and the European Molecular Biology Laboratory (an Inter-Governmental Research Organisation whose mission is the development of molecular biology throughout Europe). Membership of EMBL complements Ireland's significant investment in the biotechnology area by presenting opportunities for research training, networking and enhanced international collaboration.

**€13 million - The Environmental Protection Agency** supports R&D activities in a range of environmental areas. This work is carried out by researchers in third-level institutions, state agencies, government departments, local and regional authorities, the private sector and individuals. The EPA research programme for the period 2007-2013 is entitled Science, Technology, Research and Innovation for the Environment (STRIVE). The purpose of the programme is to protect and improve the natural environment by addressing key environmental management issues through the provision of world-class scientific knowledge generated through a vibrant, competitive programme of research developed supported and co-ordinated by EPA.

**€10 million - The Irish Research Council for Humanities and Social Science (IRCHSS)** funds cutting-edge research in the humanities, social sciences, business and law with the objective of creating new knowledge and expertise beneficial to Ireland's economic, social and cultural development. IRCHSS Government of Ireland Post-Graduate Scholarships and Government of Ireland Post-Doctoral Fellowships fund research at pre- and post-doctoral levels. Three schemes offer research opportunities for members of the academic staff of recognised third-level institutions to undertake stated projects (Government of Ireland Senior Research Scholarships, Government of Ireland Research Fellowships and Government of Ireland Senior Research Fellowships). Finally, Government of Ireland Research Project Grants fund world-class innovative research undertaken on an extended or group project basis.

## 2.4 Programmes classified by area of research

The total expected GBAORD for 2011 can be classified into a number of funded economic areas.

**Table 2: GBAORD classifications<sup>6</sup> for Ireland 2011**

	2011 - €m
R&D financed from sources other than General University Funds (GUF)	251.9
Industrial production and technology	189.2
R&D financed from General University Funds (GUF)	158.0
Agriculture	94.6
Health	43.5
Energy	19.4
Education	16.6
Exploration and exploitation of space	14.0
Environment	13.6
Political and social systems, structures and processes	12.6
Transport, telecommunication and other infrastructures	7.8
Exploration and exploitation of the earth	1.8
<b>Total</b>	<b>€823m</b>

Over half of total GBAORD funding for 2011 has been allocated for R&D performed in higher education. This €426m includes funding for various agencies, such as Science Foundation Ireland, the Higher Education Authority's PRTL (Programme for Research on Third-Level Institutes) and other research funding bodies operating in the higher education sector.

Industrial production and technology, which accounts for 23 percent of total GBAORD (and is expected to reach €189.2m) in 2011 is an important category of R&D funding.

Agriculture at €94.6m will account for 11.5 percent of total government spending on R&D programmes. Health accounts for 5.3 percent of total spend, while Energy at €19.4m represents approximately 2.4 percent of budget. The remaining GBAORD is divided between exploration and exploitation of space and the earth, political and social systems, structures and processes, and transport, telecommunications and other infrastructures.

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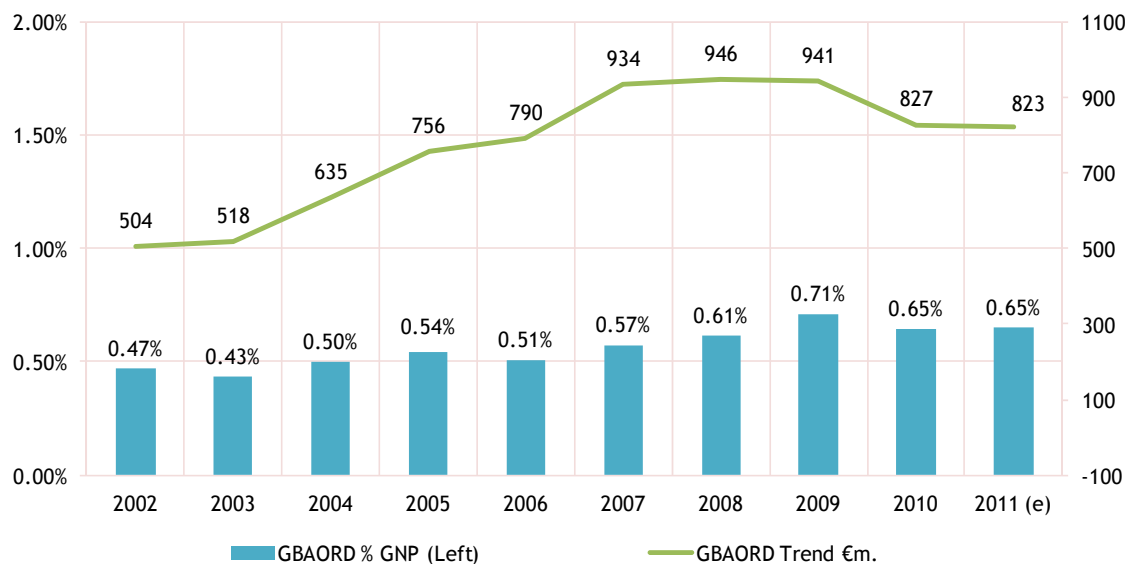
<sup>6</sup> NABS - Nomenclature for the Analysis and Comparison of Scientific Programmes and Budgets 2007, Eurostat, October 2008, <http://www.oecd.org/dataoecd/62/38/43299905.pdf>

## 2.5 GBAORD as a percentage of GNP and international comparisons

In order to compare state funding of R&D across international competitors, the OECD recommends using the GBAORD indicator with data derived using the guidelines stated in the Frascati Manual<sup>7</sup>. GBAORD includes funding for R&D from direct exchequer sources and also via EU funding. It also includes funding for R&D in the humanities and social sciences.

In Figure 10 the GBAORD trend line shows that between 2002 and 2008 there was a rapid increase in state R&D spending from €504m to €946m by 2008. There has been a downward trend in the last three years with the allocated 2011 GBAORD figure of €823m down by €123m compared to the 2008 figure of €946m.

Figure 10: GBAORD trend (€m) and GBAORD as a percentage of GNP (2002-2011)



The GBAORD intensity ratio [State R&D funding for R&D activities as a percent of economic activity divided by Gross National Product (GNP)] has risen steadily over the last decade.

With the exception of 2003, the period 2002 to 2007 saw the GBAORD intensity ratio hover around 50 percent - this was during a period of strong funding arising out of strong economic growth.

In 2009 the GBAORD intensity rate rose as a result of strong R&D spending outpacing nominal economic growth.

In 2011, GBAORD intensity has remained consistent at 0.65 percent of GNP despite a reduction in the amount of funding. This is due to an equal reduction in the final GNP figure forecast for 2011.<sup>8</sup>

<sup>7</sup> Frascati Manual 2002, OECD, [http://www.oecd.org/document/6/0,3746,en\\_2649\\_34451\\_33828550\\_1\\_1\\_1\\_1,00.html](http://www.oecd.org/document/6/0,3746,en_2649_34451_33828550_1_1_1_1,00.html)

<sup>8</sup> GNP 2011 - forecast €126,700bn

**Table 3: GBAORD as a percentage of economic activity (GDP/GNP)<sup>9</sup>**

Alongside this overall funding, we can also examine the civil GBAORD figures. Civil GBAORD is a better metric for international comparisons as it does not include the defence portion of the R&D budget, for which Ireland does not allocate any sum of money. When data is adjusted for these R&D programmes to only include civil GBAORD programmes, the following data for 2001 and 2010 can be observed.

Country	2001	2010*
Finland	0.96%	1.07%
Portugal	0.57%	1.02%
Denmark	0.74%	0.97%
Germany	0.73%	0.87%
Korea	0.58%	0.86%
Austria	0.66%	0.85%
Norway	0.64%	0.80%
Netherlands	0.74%	0.74%
Japan	0.67%	0.71%
Ireland	0.36%	0.65%
Italy	0.65%	0.62%
EU - 27 countries	0.61%	0.62%
United States	0.44%	0.58%
UK	0.46%	0.57%
Australia	0.52%	0.49%

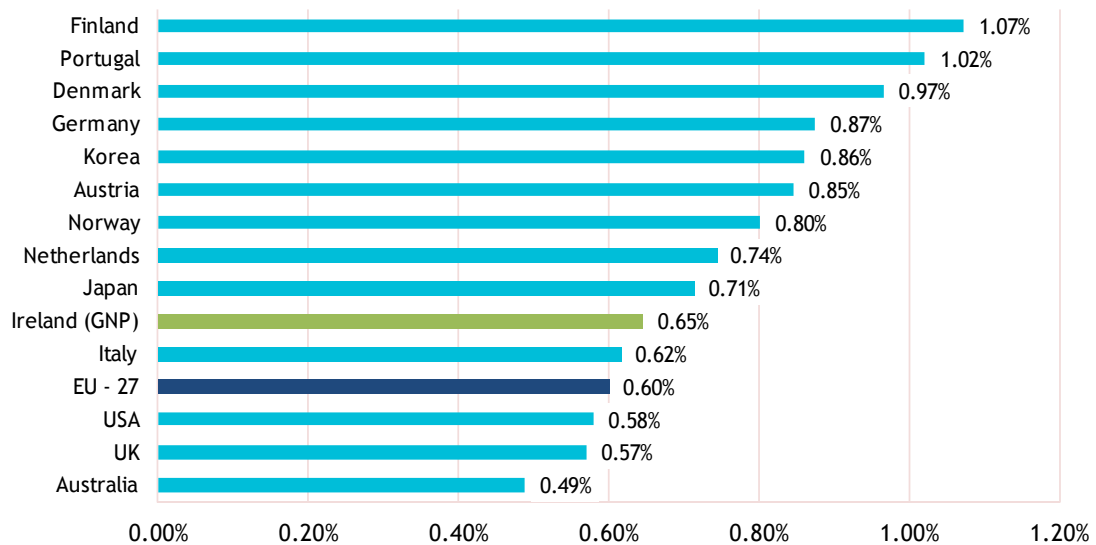
\*Latest data for most countries is 2010 with the exception of UK and United States (2009) and the EU-27 (2008)

Over the last ten years most OECD countries have seen an improvement in GBAORD performance relative to economic activity. Two countries in the table above stand out as having made rapid progress in their State R&D funding programmes - Portugal and Luxembourg. The ratio of GBAORD to economic activity in Portugal increased from 0.57 percent of GDP in 2001 to 1.02 percent of GDP in 2010.

In Ireland the GBAORD intensity ratio has also climbed relatively well, from 0.36 percent of GNP in 2001 to stand at 0.65 percent of GNP in 2010.

<sup>9</sup> OECD - Main Science & Technology Indicators, 2010, Vol. 2. All GBAORD data used in these graphs is 'civil' GBAORD i.e. excludes defence expenditure.

Figure 11: International comparison of GBAORD as a percentage of GDP/GNP (2010\*)<sup>10</sup>



\* or latest available data

Finland, with GBAORD spending of 1.07 percent of GDP, is one of the strongest performing OECD countries followed by Portugal at 1.02 percent of GDP. The latest available EU (27 countries) average GBAORD intensity is estimated to be around 0.6 percent of GDP, slightly less than Ireland's rate.

Figure 12: Average annual growth rate of GBAORD for selected countries, (2005-2010)<sup>10</sup>

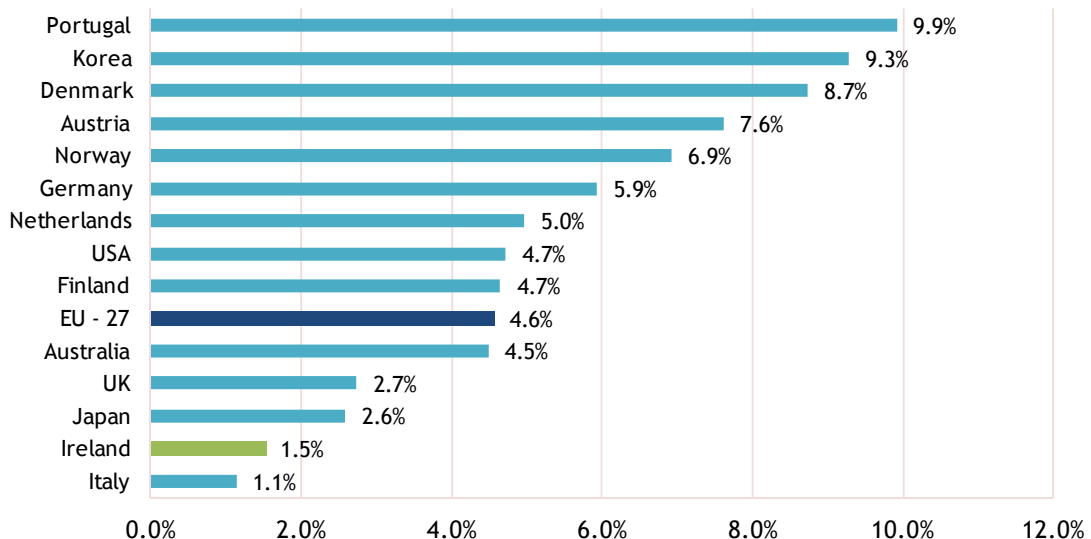


Figure 12 shows the annual average growth rate of GBAORD since 2005 and indicates that Ireland's growth rate at 1.5 percent is lower than the EU (27 countries) average of 4.6 percent over the same period.

<sup>10</sup> OECD - Main Science & Technology Indicators, 2010, Vol. 2. All GBAORD data used in these graphs is 'civil' GBAORD i.e. excludes defence expenditure.

## Chapter 3: Performance of Research and Development in the public sector

Research and development performed by relevant Government departments and their agencies is measured using the GOVERD metric.

The funding for Government Expenditure on R&D (GOVERD) comes from public, private and other sources but does not include R&D performed in the higher education sector which is gathered in a separate survey conducted by Forfás titled, the Higher Education Research and Development (HERD) survey. While this chapter covers GOVERD the largest element of Government funding of R&D is carried out in third level institutions. When GOVERD is combined with the HERD and BERD (Business Expenditure on R&D) data, the cumulative R&D performance of the country as a whole can be calculated. As can be seen later in this chapter, the main performer of GOVERD continues to be Teagasc.

### 3.1 Total expenditure on research and development performed in the government sector

The expectation for expenditure on research and development performed in the government sector for 2011 is that it will drop from the 2010 performance of €86m to €85m which represents a marginal decrease of 1.2 percent.

The 10-year trend in Figure 13 below shows that GOVERD levels are now at their lowest level and expenditure on R&D performed in the State sector has fallen from a high in 2007 on €141m to the current allocation.

GOVERD as a percentage of GNP over the ten-year period from 2002 to 2011 is also illustrated in Figure 13.

This graph shows that, as a percentage of GNP, the level of GOVERD has dropped from 0.12 percent in 2002 to 0.07 percent in 2011.

**Figure 13: GOVERD as a percentage of GNP and GOVERD €m trend, (2002-2011)**

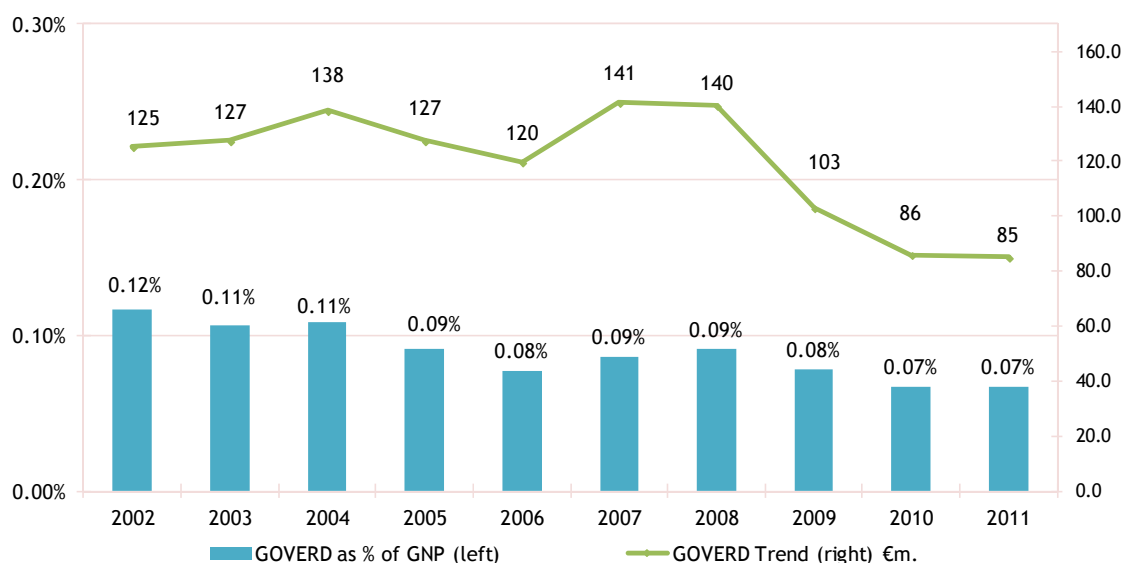




Figure 14: Major State research and development performers, percent of total (2011)

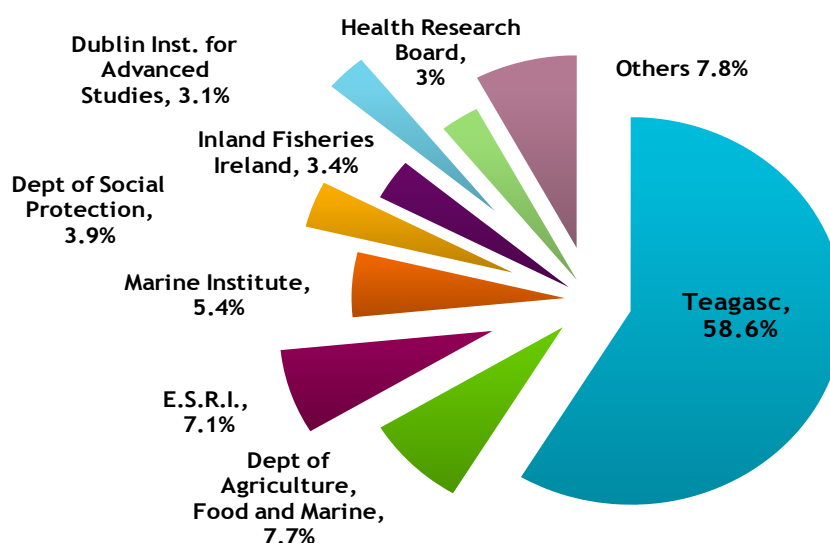


Figure 14 illustrates the major contributors to in-house R&D in the State sector in 2011. As can be seen, Teagasc, the Irish agriculture and food development authority, continued to be the largest performer of government R&D in 2011, with expenditure of €50m (59 percent of total GOVERD). Teagasc supports science-based innovation in the agri-food and broader bio-economy sectors.

Other major contributors include the Department of Agriculture, Food and the Marine at €6.6m (7.7 percent) and the Economic and Social Research Institute at €6m (7.1 percent). The contribution to GOVERD from the Marine Institute is €4.6m (5.4 percent).

More detailed information on research spending in the government sector by institution and by individual programme is available in Appendix 5.

**Table 4: GOVERD as a percentage of GDP, selected countries (2005 and 2010 or latest available data)<sup>11</sup>**

Country	2005	2010*
Germany	0.35	0.41
Slovenia	0.35	0.39
Finland	0.33	0.36
France	0.37	0.36
Czech Republic	0.28	0.33
Japan	0.28	0.31
Luxembourg	0.19	0.29

<sup>11</sup> OECD, Main Science and Technology Indicators Database, February 2011

Norway	0.24	0.29
Spain	0.19	0.28
<b>EU-27</b>	<b>0.25</b>	<b>0.26</b>
Hungary	0.26	0.23
Netherlands	0.24	0.23
Poland	0.21	0.23
Canada	0.20	0.19
Belgium	0.15	0.17
Israel	0.21	0.17
Italy	0.19	0.17
United Kingdom	0.18	0.17
Estonia	0.10	0.16
Slovak Republic	0.15	0.16
Austria	0.13	0.15
Portugal	0.11	0.12
Turkey	0.07	0.11
Denmark	0.16	0.09
<b>Ireland/GNP</b>	<b>0.09</b>	<b>0.08</b>

In Table 4, GOVERD as a percentage of GNP<sup>12</sup> in Ireland is compared with GOVERD as a percentage of GDP in a selection of countries for 2005 and 2010 or the latest date for which data is available\*.

Ireland had the lowest intensity rate with 0.08 percent in 2010. There is a concentration in Ireland on increasing the R&D performance in the higher education part of the overall research system. Note that the figures for Higher Education Research & Development (HERD) are not included in this survey. Another reason for Ireland's low ratio is the size of the Irish public sector compared to other countries.

A number of countries show a decrease in the ratio for 2010 when compared to 2005. These include: France, Hungary, Netherlands, Canada, Israel, Italy, UK, and Denmark.

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<sup>12</sup> GNP is used as a more accurate denominator for Ireland to reflect the large multinational base in Ireland which repatriates profits to their respective home countries. It could therefore be argued that the GDP figure would not reflect real (i.e. retained) national income in Ireland

### 3.2 Types of Research

The type of research being performed in the various government departments and agencies is also measured in this survey. The OECD Frascati Manual defines the three categories of research as follows:

- **Basic Research** - experimental or theoretical work undertaken primarily to acquire new knowledge, without any particular application or use in view;
- **Applied Research** - original investigation undertaken in order to acquire new knowledge, primarily directed towards a specific practical aim or objective; and
- **Experimental Development** - systematic work, drawing on existing knowledge gained from research and practical experience that is directed at producing new materials, products and devices, to installing new processes, systems and services, or to improving substantially those already produced or installed.

**Table 5: GOVERD by type of research (2011)**

Type of Research	2011 €m.	% of total
Applied Research	78.0	91.2%
Experimental Development	4.5	5.3%
Basic Research	3.0	3.5%
Total	€85.5m	100%

Of all allocated funds for research to be undertaken by Irish government departments and agencies in 2011, 91.2 percent is in applied research, with expenditure amounting to €78m.

Experimental development accounts for 5.3 percent of all expenditure at €4.5m.

Basic research accounts for just 3.5 percent of total funding and stands at €3m.

### 3.3 Fields of science

The fields of science classifications<sup>13</sup> are defined by the OECD Frascati Manual in agreement with European nations.

**Table 6: Field of science classified by type of research, (2011) €m.**

Field of Science	Basic	Applied	Experimental	Total
Agriculture, forestry and fisheries	0.3	54.3	0.7	55.3
Economics and business	0.0	9.1	0.0	9.1
Earth & related environmental sciences	0.0	4.9	0.6	5.5
Veterinary science	0.0	2.2	3.2	5.4
Other social services	0.0	3.3	0.0	3.3
Physical sciences	2.7	0.0	0.0	2.7
Health sciences	0.0	2.5	0.0	2.5
Educational sciences	0.0	0.8	0.0	0.8
Environmental engineering	0.0	0.5	0.0	0.5
Civil engineering	0.0	0.4	0.0	0.4
<b>Totals</b>	<b>3.0</b>	<b>78.0</b>	<b>4.5</b>	<b>85.5</b>

The majority of funds spent on research performed in the public sector is spent on applied research, this amounted to an allocation of €78m out of a total spend of €85.5m in 2011.

Applied research in agricultural sciences continues to be the field of science in which most expenditure takes place. In 2011, €54.3m was spent on applied science in this area with another €0.7m spent on experimental development.

The major performer of R&D in the government sector is Teagasc which along with the Department of Agriculture, Food and the Marine are engaged in the field of agricultural sciences.

Other agencies working in this field are Bord Iascaigh Mhara, the Inland Fisheries Board and the Marine Institute.

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<sup>13</sup> Fields of Science - As a result of changes in the classification of 'fields of science' in 2006 some amendments in the distribution among programmes resulted in a break in the time-series compared to years prior to 2006 which used the old definitions

## Chapter 4: Human resources dedicated to publicly performed research and development

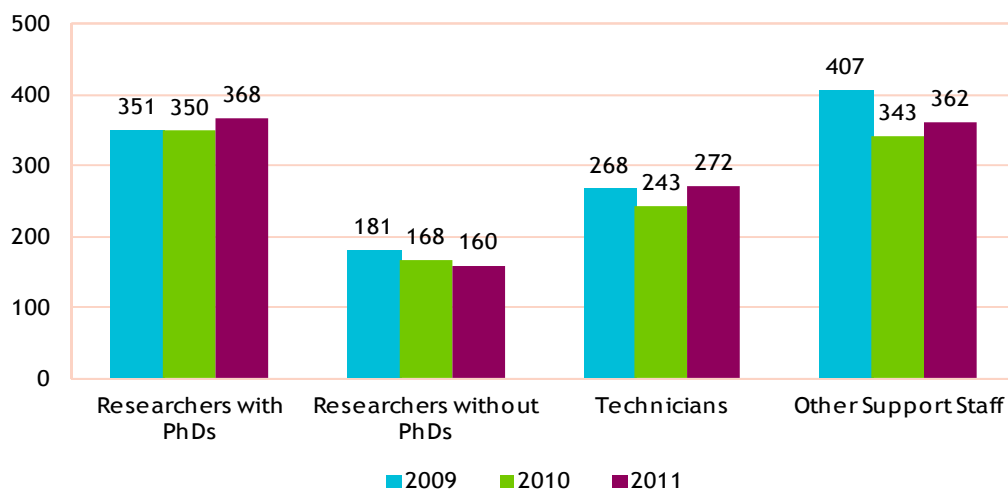
Personnel engaged in R&D activities performed in institutions within the government sector are examined in this chapter. The data was collected from survey returns from 37 Government departments and agencies and relates only to personnel working in research and development in the government sector. It does not include R&D personnel in the higher education or business sectors.

The survey seeks to ascertain the amount of time spent by staff on R&D activities or in Full-Time Equivalent (FTE) terms, in addition to gathering information on the overall totals, gender, qualifications and occupations of R&D staff. The research personnel are divided into PhD and non-PhD researchers, technicians and other support staff. A researcher spending 70 percent of their time on research activities equals one researcher in headcount terms, and 0.7 researchers in FTE terms. Gathering information on the time spent by government sector researchers and research support staff, specifically on R&D work, allows for more robust benchmarking with comparable data from other countries.

### 4.1 Research and development personnel

The estimated number of research personnel employed in the government sector was 1,162 in 2012. While this represents an increase of 5.3 percent in 2011 over the 2010 outcome of 1,104 (Figure 15) the overall trend shows a decrease from 2009 figures of 1,207 or 3.7 percent.

**Figure 15: Total R&D personnel by occupation - headcount terms (2009-2010-2011)**

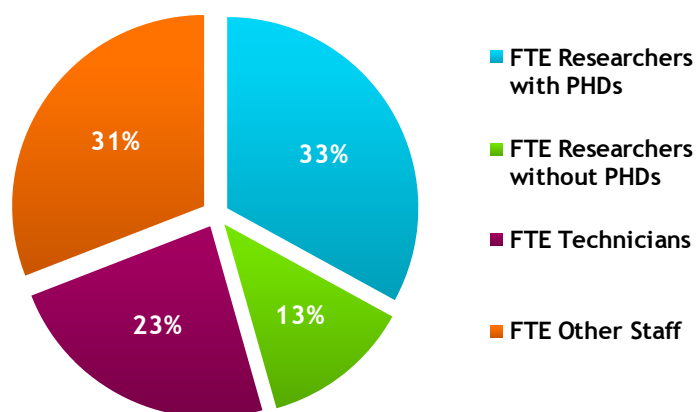


The number of PhD researchers has increased by 5.1 percent, while researchers without a PhD have decreased by 4.8 percent.

The number of technicians are expected to increase by 11.9 percent in 2011 over 2010. There has also been an increase in the number of research support staff of 5.5 percent in 2011.

**Figure 16: Total R&D personnel by occupation - Full Time Equivalent (FTEs), (2011)**

In ‘full-time equivalent’ terms, there were 478 FTE researchers in the Government Sector in 2011, supported by 570 FTE technicians and other support staff.



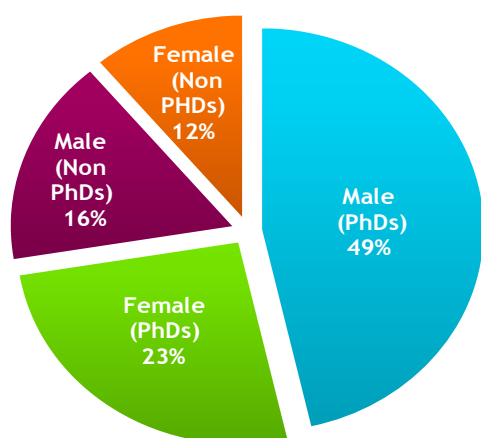
As illustrated below 33 percent of FTE researchers hold a PhD qualification, while 13 percent of FTE researchers hold degrees below PhD level.

23 percent of government research personnel were employed at technician level, with the remaining 31 percent of the FTE total working in other support roles for government researchers.

#### 4.2 Gender and qualifications of State sector research staff

Figure 17 shows a breakdown of government researcher grades (excludes technicians and support staff), as a percentage of the total, by gender and type of qualification, for 2011, in full-time equivalent terms.

**Figure 17: FTE Researchers by gender and qualification, (2011)**



Male PhD researchers continue to dominate the numbers employed at research level in the government sector representing 49 percent of the total. While male researchers below PhD level account for 16 percent of the total.

Female PhDs represent 23 percent of government researchers with female researchers below PhD level accounting for another 12 percent.

### 4.3 Research and development staff by fields of science (FTE)

Of the total 478 PhD and non-PhD (FTE) researchers employed in the Government Sector in 2011, 301 were male and 177 were female, and the following table sets out their fields of science.

**Table 7: Total male/female and as percentage of total by field of science, (2011)**

Fields of Science	Male Researchers	Male researchers as % of all male researchers	Female Researchers	Female researchers as % of all female researchers
Agriculture, forestry and fisheries	181	60.0%	86	48.6%
Earth & related environmental sciences	17	5.5%	7	4.1%
Economics and Business	35	11.6%	35	19.7%
Environmental Engineering	3	0.9%	1	0.5%
Health sciences	3	1.0%	31	17.5%
Other social sciences	2	0.7%	2	1.1%
Physical sciences	44	14.6%	15	8.5%
Veterinary science	17	5.6%	0	0.0%
Total	301	100%	177	100%

When analysed by the OECD standard fields of science<sup>14</sup>, the following statistics emerge for 2011. The majority of the government researchers work in the ‘agricultural, forestry and fisheries’ field. Some 60 percent of male researchers and 48.6 percent of female researchers are engaged in research and development work in this area.

The next largest category for men is the ‘physical sciences’ with 14.6 percent of male R&D staff working in this area. For women the next two areas are ‘economic & business’ with 19.7 percent and the ‘health sciences’ with 17.5 percent.

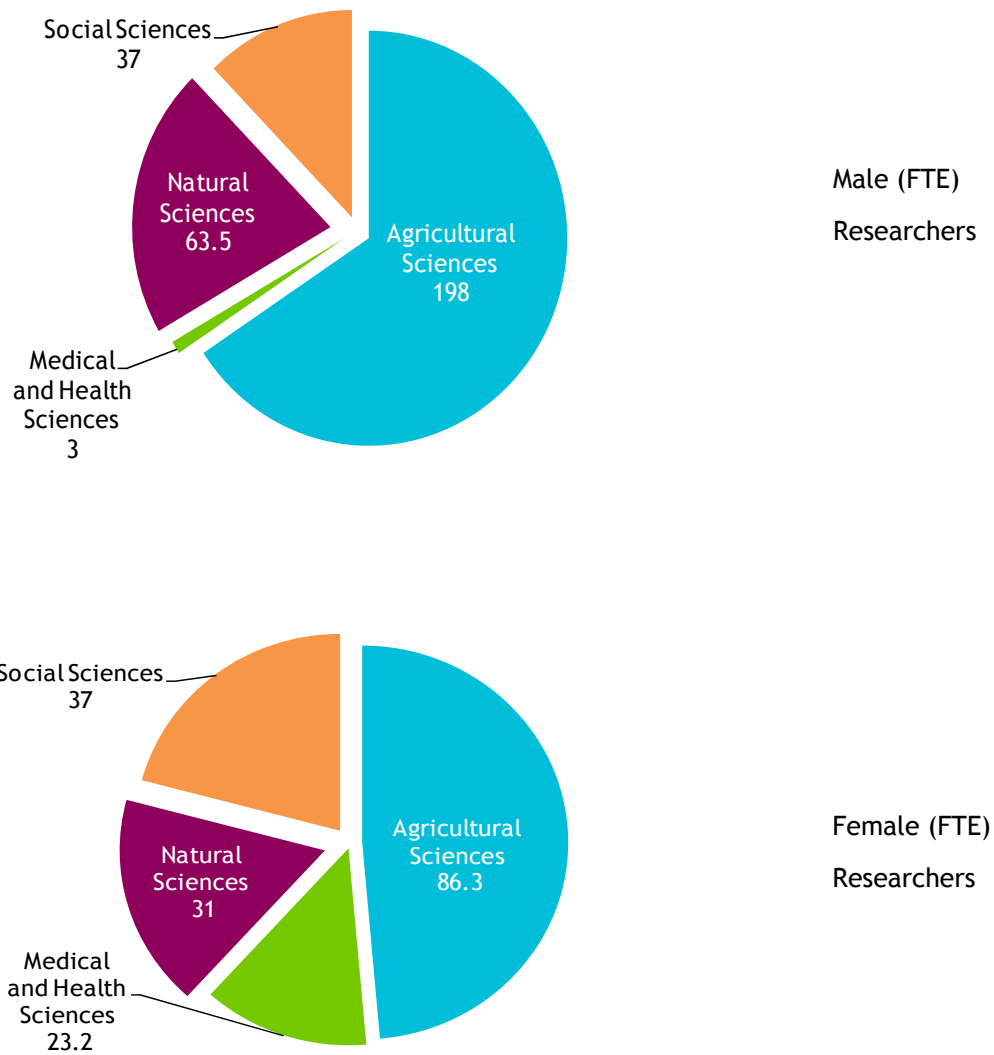
(Note that these figures are based on small population samples, e.g. there were just two male researchers in ‘other social sciences’ and one female researcher in ‘environmental engineering’).

In terms of the numbers of researchers, there are more or as many male researchers in every Field of Science with the exception of ‘health sciences’ where the majority of researchers are female - 31 women compared with 3 men.

<sup>14</sup> ‘Revised Field of Science and Technology (FOS) Classifications in the Frascati Manual’, Feb 2007, OECD <http://www.uis.unesco.org/ScienceTechnology/Documents/38235147.pdf>

**Figure 18: Researchers classified by gender and field of science (FTE), (2011)**

Figure 18 below illustrates the gender breakdown within the different fields of science for male and female researchers in full-time equivalents (FTE).





## Appendix 1

### Methodology

The information given in this document relates to information supplied by 37 institutions in receipt of monies from the exchequer for the performance or support of scientific, technological and related activities. In general, institutions and information relating to them are listed separately. In a few cases an institution is listed with its parent department or organisation but identified separately. Where practicable the programmes of the various institutions have been separated and categorised in accordance with international practice into relevant scientific activities i.e.:

- Research and development (R&D);
- Science and technology (S&T) technical services;
- S&T training, education and information;
- S&T technology transfer; and
- Other S&T activities.

In 2010, only data on Research and Development funding was collected (2009-2010). Data for S&T spending was last collected two years ago (2008-2009). This survey (2010-2011) collected data on both R&D and S&T funding and time-series data for S&T in 2009 is based on allocation figures.

Expenditure data for specific programmes refer to the 2010 outturn costs of programmes and to the expected costs in 2011. The outturn costs are mainly funded by matching grant-in-aid or voted monies. Where programmes are funded in other ways these monies are noted separately. In these instances, the expenditure (cost) data shown includes both exchequer and other income contributions.

Expenditures are based on unaudited figures, except in a few cases where they are identical with a vote by the Oireachtas. For convenience, general overheads, where shown, are distributed in proportion to programme expenditures. Programmes are attributed to the institution most directly involved - that is to those actually operating them, but not necessarily funding them. An example of the latter is the Department of Jobs, Innovation and Employment which funds, but does not operate or manage programmes. Only their own administrative costs are attributed to the funding institutions in such cases.

Apportionment problems arise in the third level sector, mainly from the monies distributed by the Higher Education Authority (HEA) and the Department of Education and Skills to the institutes of technology. In the case of the HEA, total funds are first apportioned between S&T faculties and non-S&T faculties in the colleges (expenditure on non-S&T faculties is not included in this document). The extent and cost of the R&D work undertaken in colleges and funded out of the HEA's general block grant, is determined indirectly from surveys of academic staff in colleges. These surveys are carried out by Forfás on a multi-annual basis and the corresponding cost data are, of necessity, based on historical estimates. The HEA funding of academic departments was isolated from administration and support services within colleges.

## Appendix 2

### Definitions of R&D and S&T activities

For the purpose of this survey activities are grouped under the five categories below:

#### 1. Research and Development:

- Research: Original, experimental or theoretical investigations undertaken to acquire new knowledge, with or without a particular application or use in view.
- Development: Systematic work drawing on existing knowledge gained from research and/or practical experience that are directed to producing new products, processes, systems, services, varieties and breeds and to improving substantially already existing ones. Data collection conducted solely or primarily as part of the research and development (R&D) process included under “research” or “development” as appropriate.

#### 2. Technical services:

- Specialised support services of a scientific or technical nature generally provided by centralised laboratories or facilities and can be of a routine or non-routine nature. Essentially they comprise the technical back-up, analytical, diagnostic and data collection/processing services.

#### 3. Training, education and information:

- Training and education: Education and training of third level or equivalent students in science and technology disciplines.
- Information: Provision of information via formalised scientific and technical information and documentation (STID) services includes all expenditure (manpower and materials) involved in acquiring, controlling or transmitting information to users with the involvement of staff whose primary function is in formalised STID services e.g. provision of S&T information, advice, liaison, specialist advice, information analysis, libraries, publications and documentation services, translations, technical seminars and conferences. Provision of information via non-formalised STID services includes expenditure on providing know how and expertise by members of staff who, while not specifically engaged in formalised STID services, provide specialist advice, liaison, consultancy or other general information services.

#### 4. Technology transfer:

- Activities which are directed solely or primarily towards the transfer and adoption of new technology, generally in enterprises. The horizontal transfer of technology, primarily from abroad, but also from colleges to enterprises is included here.

#### 5. Other S&T activities:

Activities which cannot be conveniently grouped under the above headings can be included here e.g. grants to international organisations, policy planning units etc.

## Appendix 3

### Government Departments and Agencies included in the 2010-2011 Science Budget

Table 1: Government Depts./Agencies and Offices funding R&D and S&T activities, 2011

Government Departments	Associated Agencies
Department of Agriculture, Food and the Marine	Bord Iascaigh Mhara Marine Institute Teagasc
Department of Arts, Heritage and the Gaeltacht	Údarás na Gaeltachta
Department of Communications, Energy and Natural Resources	Inland Fisheries Ireland Sustainable Energy Authority of Ireland
Department of Education and Skills	Dublin Institute for Advanced Studies FÁS Higher Education Authority Irish Research Council for Humanities and Social Sciences Irish Research Council for Science, Engineering and Technology
Department of Jobs, Enterprise & Innovation	Enterprise Ireland Forfás IDA Ireland Inter <i>Tradel</i> Ireland Science Foundation Ireland Shannon Development
Department of the Environment, Heritage and Local Government	Environmental Protection Agency Met Éireann Radiological Protection Institute of Ireland
Department of Finance	Economic and Social Research Institute
Department of Health	Health Research Board
Department of Social Protection	
Department of the Taoiseach	National Economic and Social Council
Department of Transport	National Roads Authority
Offices	Central Bank Central Statistics Office Office of Public Works Ordnance Survey Ireland State Laboratory

## Appendix 4

### Acronyms

AAGR	Average Annual Growth Rate
BERD	Business Expenditure on R&D
CSF	Community Support Framework
CSO	Central Statistics Office
DIAS	Dublin Institute for Advanced Studies
EPA	Environmental Protection Agency
ESRI	Economic and Social Research Institute
FÁS	Foras Áiseanna Saothair - National Training and Employment Authority
FSAI	Food Safety Authority Ireland
FTE	Full Time Equivalent
GBAORD	Government Budget Appropriations and Outlays on R&D
GERD	Gross Expenditure on R&D
GOVERD	Government Expenditure on R&D
HEA	Higher Education Authority
HERD	Higher Education Expenditure on R&D
HC	Head Count
HRB	Health Research Board
IRCHSS	Irish Research Council for the Humanities and Social Sciences
IRCSET	Irish Research Council for Science, Engineering and Technology
NESC	National Economic and Social Council
NRA	National Roads Authority
OPW	Office of Public Works
OSI	Ordnance Survey Ireland
OST	Office of Science and Technology - Department of Jobs, Enterprise and Innovation
PGM&DB	Postgraduate Medical and Dental Board
RPII	Radiological Protection Institute of Ireland
SEAI	Sustainable Energy Authority of Ireland
SFI	Science Foundation Ireland

## Appendix 5:

### Government Departments and Agencies' Programmes

#### Department of Agriculture, Food and the Marine

The Department of Agriculture, Food and Marine is a multi-functional organisation which provides a wide range of services directly and through specialist state agencies operating under its aegis. Its mission is to lead the sustainable development of a competitive, innovative, consumer focused agriculture, food, fishery and forestry sector and contribute to a vibrant rural and coastal economy and society.

The Department operates a number of testing centres and laboratories, in the areas of, veterinary diagnostics and research; meat control; seed testing; plant variety testing; cattle performance testing; pesticide control and dairy products control.

State-sponsored bodies which come under the statutory responsibility of the Minister for Agriculture, Food and the Marine include Teagasc (The Agriculture and Food Development Authority), the Marine Institute and An Bord Bia. However, the figures below refer only to expenditure by the Department itself on R&D and technical services.

The Department engages in a broad range of activities and these are outlined below.

	€'000 2010	€'000 2011
<b>Research and Development Programmes</b>		
<b>Improvement of Crops</b>		
Improving the quality of crops and crop products through the use of the highest quality varieties and seeds. The main activities leading to achievement of this objective include the operation of two stations/farms at Fermoy in Co. Cork and Backweston in Co. Dublin, where plant varieties are evaluated, the operation of a potato laboratory at Raphoe in Co. Donegal and the carrying out of trials in farmers' fields throughout the country.	1,002	1,200
<b>R&amp;D-Related Veterinary Laboratory Activities</b>		
Operation of a central veterinary research laboratory at Backweston, Celbridge, Co. Kildare, regional veterinary research laboratories at Cork, Limerick, Sligo, Athlone and a testing laboratory in Waterford.	4,592	5,400
<b>Institutional Food Research - Competitive Funding Programme</b>		
In its implementation of the Food Institutional Research Measure of the RTDI component of the Productive Sector OP under the National Development Plan 2007 - 2013, the Department is involved in the management of competitive tendering by food research institutions for grant aid to support food research in priority areas. It monitors the progress of successful projects, payment of grant aid and evaluation of the programme.	13,445	14,250

<b>Agricultural Production Research - Competitive Funding Programme</b>		
This is the “Research Stimulus Fund” measure of the Productive Sector OP of the NDP 2000-2006 and NDP 2007-2013 which encourages co-operative research in agricultural production. This involves management of competitive tendering by research institutions for grant aid to support agricultural research projects in priority areas, monitoring of progress of successful projects, payments of grant aid and evaluation of the programme.	7,375	6,665
<b>Improvement of Livestock</b>		
Improving the quality of livestock and livestock products through adoption of better breeding and selection practices carried out in Irish Cattle Breeding Federation (ICBF). The main activities leading to achievement of these objectives are operation of on-farm and central testing stations; recording schemes; collaboration with and support for research in animal breeding at research institutions and at the Irish Equine Centre, Co. Kildare which undertakes R&D activities relating to equines.	1,033	960
<b>Genetic Resources in Plants and Animals</b>		
The Department of Agriculture, Food and the Marine’s grant aid scheme for the conservation of genetic resources for food and agriculture has been in place since 1996. The Scheme has an annual call for projects aimed at supporting the conservation and sustainable use of genetic resources for food and agriculture. Projects are evaluated by an advisory committee, representing broad national stakeholder interests.	308	350
<b>COFORD - Competitive Funding Programme.</b>		
COFORD was subsumed into the Department of Agriculture, Food and the Marine on 1st August 2009. The figures mentioned here relate to grant payments to research institutions under the COFORD research programme of the Productive Sector OP of the NDP 2000-2006 and NDP 2007-2013 which supports the economic, environmental and social goals of forest policy through funded research aimed at developing national forest research capacity and competence.	3,159	3,230
<b>International Equine Institute</b>		
Based in University of Limerick the Institute receives a grant payment	293	270
<b>Training, Education and Information</b>	360	391
<b>Technical Service</b>	35,167	36,287

## Department of Agriculture, Food and the Marine

### Bord Iascaigh Mhara

BIM is the Irish State agency with responsibility for developing the Irish Sea Fishing and Aquaculture industries. BIM was established under the Sea Fisheries Act 1952. BIM's mission is "to promote the sustainable development of the Irish seafood industry at sea and ashore and support its diversification in the coastal regions so as to enhance its contribution to employment, income and welfare both regionally and nationally".

There are three complementary, integrated programmes, which form the core of BIM's support to the sea fisheries sector. The measures underlying these programmes are mainly provided for in the National Development Plan 2007-2013.

	€'000 2010	€'000 2011
<b>Research and Development Programmes</b>		
<b>Marine Technical</b>	234	140
The objectives of the Marine Technical Section are to progress development of responsible fishing practices addressing environmental and sustainability issues through technical innovation and technology transfer. The section carries out sustainability-orientated projects, aimed at promoting the use of more selective gear types and protection of key fisheries together with identifying ways to reduce operating costs through diversification into alternative, fuel-efficient fishing methods.		
<b>Resource Development</b>	2	73
The primary focus of the Resource Development Section work programme will see the further development of mechanisms by which the industry can compete in the marketplace through increased quality. At the core of this strategy is the development of quality schemes for the catching sector that are suitable for integration into the QSP programme. This will enable Irish fishermen to compete at the highest levels of quality and traceability now demanded by the consumer.		
<b>Inshore Fisheries</b>	62	70
The primary function of the inshore fisheries section is the implementation of the framework for the management of the major inshore stocks announced by the Minister in 2004. The work involves establishing species advisory groups and drawing up management plans for important inshore fisheries. Monitoring of stocks in support of management and the further development of applied research programmes are funded through the NDP in support of the framework. Additional development projects will be undertaken with the catching and wholesale/distribution sector of industry and will particularly focus on enhancing value and the return to coastal communities.		
<b>MEPS - Marine Environment Protection</b>	577	795
The Marine Environment Protection Measure has been developed in accordance with Article No. 37 and 38 of Council Regulation (EC) No 1198/2006 of 27 July. The Measure facilitates projects to address issues of environmental concern, particularly those intended to protect and develop the marine environment.		

# Department of Agriculture, Food and the Marine

## Marine Institute

The Marine Institute has the general functions “to undertake, to co-ordinate, to promote and to assist in marine research and development and to provide such services related to marine research and development that in the opinion of the Institute will promote economic development, create employment and protect the marine environment” (Marine Institute Act, 1991). The key services delivered by the Marine Institute include:

- Research - The Marine Institute's activities, in relation to marine research, fall into three main areas:
  - Research Performer: The Marine Institute undertakes research (both applied and experimental development) through its operational programmes and also through leading and participating in many national and international research projects.
  - Research Funder: The Marine Institute administers the *Marine Research Sub-Programme of the National Development Plan 2007-2013*.
  - Research Promoter, Coordinator and Catalyst: As the lead implementing agency for *Sea Change - A Marine Knowledge, Research & Innovation Strategy for Ireland 2007-2013*, the Institute co-ordinates and promotes marine research, bringing together industry, higher education institutions and government bodies to support the development of Ireland's knowledge economy.
- Monitoring, data collection and other technical services: The Institute carries out Statutory and non-statutory monitoring and data collection to underpin the development of the marine sector and the sustainability of the marine environment.
- Provision and formulation of scientific, technical and strategic policy advice.
- Sectoral Development: The Marine Institute provides a number of services related to the development of Ireland's vast marine resource.

The Marine Institute has developed world-class marine research infrastructure including: HQ & Laboratory Complex (54 labs) in Oranmore, Co. Galway; an Aquaculture & Catchment Management Research Facility in Newport, Co Mayo; two multi-purpose National Research Vessels, a remotely operated vehicle (ROV); an Ocean Energy Test & demonstration site in Galway Bay; and a range of specialist scientific equipment and data management facilities.

	€'000 2010	€'000 2011
<b>Research and Development Programmes</b>		
<b>Marine Institute R&amp;D Programmes</b>		
The Marine Institute is a significant research performer - competing for and securing funds from both national and international (EU FP and INTERREG) funding sources. This research supports the provision of government services, including the provision of policy advice; underpins the competitiveness and market accessibility to Irish seafood	3,219	3,661



production (fisheries and aquaculture) through a range of scientific research assessment and monitoring programmes spanning fisheries resources, marine environment monitoring and marine food safety. In addition to the Institute's direct participation in externally funded research projects, the Institute also participates in marine research via in-kind contribution e.g. through the provision of research facilities/infrastructure for projects that are complementary to the Institute's core activities.		
<b>NDP 2007-2013: Marine Research Sub-Programme and NDP 2000-2006 Marine RTDI Measure</b>  The Marine Institute administers on a competitive basis the national marine research funding programme: Marine Research Sub-Programme of the 2007-2013 National Development Plan and Marine RTDI Measure of the 2000-2006 NDP. Research funding is awarded on a competitive basis for 'applied' marine-related R&D in line with the objectives set out in Sea Change. The Institute administers and manages the following categories of funding:  <ul style="list-style-type: none"> <li>▪ Project-Based Awards: Strategic Research Projects, Applied Research Projects, Demonstration Projects and Desk/Feasibility Studies;</li> <li>▪ Researcher Awards: Strategic Research Appointments, Research Capacity/Competency Building, Post-Doctoral Fellowships and PhD Scholarships;</li> <li>▪ Industry-Led Research Awards: Company Awards and Collaborative Awards; and</li> <li>▪ Infrastructure Awards: Infrastructure Acquisition and Access to Infrastructure, e.g. Shiptime.</li> </ul>	5,084	5,337
<b>Training, Education and Information</b>	1,659	1,700
<b>Technical Services</b>	17,053	15,550
<b>Other S&amp;T Activities</b>	2,113	1,769

# Department of Agriculture, Food and the Marine

## Teagasc

The agri-food sector is Ireland’s most important indigenous industry. With €7bn in exports, the sector currently accounts for over half of the manufacturing exports by Irish owned firms and serves in excess of 160 export destinations. The current national strategy for the sector ‘Food Harvest 2020’ sets a target of increasing export value to €12bn by 2020.

Research and innovation is fundamental in enabling Irish farmers and food processors to take advantage of the growing global food market. New science-based information and technology will also be needed to enable our farmers and processors address more demanding consumer requirements and employ more resilient and sustainable practices.

Teagasc delivers on its mission and goals by undertaking research programmes in the following major programme areas:

- Animal and Grassland
- Crops, Environment and Land Use
- Rural Economy and Development
- Food

Teagasc delivers its services in partnership with other providers, especially the universities, and Irish companies. The organisation enjoys a strong international reputation for the quality of its work, and has signed MOUs with a wide range of international organisations in the US, New Zealand, Scotland, France and Finland, amongst others.

	€'000 2010	€'000 2011
<b>Research and Development Programmes</b>		
<b>1. Animal and Grassland Programme</b>	50,778	50,098
The objective of the animal component of the programme is to generate and procure new knowledge to support innovation in the key areas of Irish livestock production including breeding, nutrition, growth, reproduction, health, product quality, labour efficiency and facilities that will underpin the future profitability, competitiveness and sustainability.		
The objective of the grassland component of the programme is to generate and procure evidence-based knowledge to support innovation in the key areas of Irish grass production including grass breeding, growth, fertilisation, utilisation, nutritional value, and develop grazing systems that will underpin the profitability, competitiveness and sustainability of the sector and enhance food security.		
<b>2. Crops, Soils, Environment and Land Use Programme</b>		
The goals for the sector are improving competitiveness, profitability and sustainability by increasing yields and product quality while reducing production costs through more targeted use of inputs, adoption of sustainable production techniques such as minimum tillage establishment. Achieving these goals will be underpinned by advances in science through knowledge generation and procurement, technological developments and innovation. Research and innovation will support the profitability of producers and		

processors in the competitive scenario of volatile prices, increasing costs, major changes in policies, emerging opportunities for energy and bio-processing crops, new technologies and the requirement for environmental sustainability.		
<b>2.2 Forestry</b>		
The objective of the Forestry research programme is to develop forests and forest management systems that maximize the potential of farm forestry from economic, social and environmental perspectives. This objective is partially achieved through the implementation of research in the areas of broadleaf improvement, broadleaf silviculture, thinning & harvesting management and forestry economics.		
<b>2.3 Horticulture</b>		
The objective of the Horticulture research programme is to provide evidence based knowledge to support the competitiveness of the commercial sector. This is partially achieved through the implementation of research in the following areas, horticultural crop production, horticultural crop protection, horticultural substrates and horticultural economics.		
<b>2.4 Environment</b>		
The objective of the environment programme is to provide evidence based knowledge to support and underpin the development of an environmentally sustainable, competitive and profitable agri-food sector. This is achieved through the implementation of research projects and initiatives in nutrient efficiency, greenhouse gas & climate change, water quality/risk assessment (including the Catchments programme), soils, biodiversity/ ecology/environmental products & services and BETTER Farms.		
<b>3. Rural Economics &amp; Development Programme</b>		
The broad objective of this programme is to utilise advanced social science investigation tools to understand the linkages between the various forces affecting the Agri-food and Rural Economy to improve the quality of life in rural Ireland.		
<b>4. Food Research Programme</b>		
The objective of the Programme is to undertake scientific research leading to the establishment of technological platforms that can be exploited by the Irish Food Processing Industry to add value and ensure the safety and quality of base product. Particular priority is attached to working directly with the industry in order to expand cheese production, particularly in line with the ongoing removal of dairy quotas.		
The programme achieves its objective through the delivery of research and innovation projects in the areas of food safety, cheese, fermented & other dairy products, food ingredients, meat products, prepared consumer foods, food & health, market studies and technical services & training.		
<b>Training, Education and Information</b>	17,819	18,000
<b>Technology Transfer</b>	45,355	45,000

## Department of Arts, Heritage & the Gaeltacht

	€'000 2010	€'000 2011
<b>Research and Development Programmes</b>		
<p><b>Research Excavation Grants Scheme - The Royal Irish Academy</b></p> <p>The fund has financed over ninety excavations in Ireland since 1970, thus enabling scholars to make a substantial contribution to our knowledge of the past. It is the only fund in Ireland for independent research excavation. Among the excavations funded are those that have won significant international recognition for Ireland. Examples are the excavations at Knowth and Newgrange. The fund also provided initial finance for the Céide Fields project from which an extensive research and local development programme has grown. The insights gained in these research excavations impinge significantly on all aspects of archaeology including official conservation programmes, on rescue excavations and the work of museums and interpretative centres.</p>	160	100
<p><b>INSTAR Programme - The Heritage Council</b></p> <p>Established in 2008, the Irish National Strategic Archaeological Research (INSTAR) programme is funded by the Department of Arts, Heritage and the Gaeltacht and administered by the Heritage Council as an element of its grants programme.</p> <p>The main objective of such a programme is to bring about an improvement in the quality of research undertaken by the consultancy sector in co-operation with the higher education sector and the state sector. INSTAR intends to address key archaeological issues, build research capacity, and address the issue of unpublished archaeological excavations.</p> <p>The INSTAR Programme has funded sixteen major research projects in Ireland since 2008, thus enabling scholars to make a substantial contribution to our knowledge of the past in areas such as the arrival of farming in Ireland, the Christianisation of Ireland, the early medieval settlement landscape, and evidence for climate change in the archaeological record etc.</p>	210	50

## Department of Arts, Heritage & the Gaeltacht

### Údarás na Gaeltachta

Údarás na Gaeltachta was established under the Údarás na Gaeltachta Act, 1979 and came into operation on 1st January 1980 to replace Gaeltarra Éireann which was dissolved by the same act. The objectives of an t-Údarás are as follows:

- to encourage the preservation and extension of the Irish language in the Gaeltacht;
- to attract suitable native and foreign manufacturing projects to the Gaeltacht;
- to establish, develop and manage productive employment enterprises in the Gaeltacht;
- to participate in industries as an equity partner and to provide services to assist new industries becoming established.

Údarás encourages investment in the Gaeltacht through a range of incentives for new enterprises and through support and assistance for existing businesses.

The organisation supports businesses in developing new markets, technologies, products and strategic alliances through research and development. Gaeltacht companies span a range of commercial sectors, including tourism, fish processing and aquaculture, renewable energy, food, life sciences, ICT, niche manufacturing, audio visual and digital media, arts and crafts.

	€'000 2010	€'000 2011
<b>Research and Development</b>		
Research is funded by enterprises along with grants of up to 60 percent subject to a maximum of €126,973 for any one project. Eligible costs include R&D salaries, directly related additional overheads, the cost of capital assets to the extent and for the period of their use in the research project, costs of contractual research, technical knowledge and patents bought or licensed from outside sources, other operating expenses including costs of materials, supplies, travel and subsistence and other similar costs directly related to the research activity.	2,718	2,050

## Department of Communications, Energy & Natural Resources

The Mission Statement of the department is “to promote the sustainable development, management and regulation of the communications, energy, marine and natural resources sectors in support of national economic and social policy objectives”.

	€'000 2010	€'000 2011
<b>Research and Development Programmes</b>		
<b>Geological Survey Ireland</b>  The Geological Survey of Ireland (GSI) was established in 1845 and is currently a division of the Department of Communications, Energy and Natural Resources. As the national geological agency, GSI plays a key role in the development of the geosciences sector which contributes significantly to the economic development and quality of life of our nation. GSI provides a range of high-quality services which support the other players of the geosciences sector as well as a wide spectrum of other activities, including infrastructure, environment, mineral resources, water supplies, heritage and education.	270	60
<b>INFOMAR (Integrated Mapping for the Sustainable Development of Ireland’s Marine resource).</b>  The Irish National Seabed Survey (INSS), which was funded to a total of €33m over a seven-year period under this subhead, ended in 2005 and mapped all Irish waters over 200m. The objectives of the follow-up INFOMAR Programme is on continuing the seabed surveying to completion by mapping of Ireland’s valuable but complex shallow inshore waters, the development of a state of the art data-store and the development of outputs based on the data acquired. The programme runs research calls every year and funds up to €400k p.a. of applied and added value research utilising INFOMAR generated data. In addition two staff are actively engaged in completion of PhD programmes, one of whom manages INFOMAR’s research programme.	3,014	300
<b>Tellus Border Interreg project</b>  This is a new project which has attracted Interreg 4A funding of €4m to extend existing airborne data in Northern Ireland to the six border counties over a 3 year period. The execution of this project will accrue economic and environmental benefit to the island of Ireland and also facilitate the implementation of certain EU Directives.	0	10
<b>Griffith Geoscience Research Awards</b>  The objective of the awards, which are managed by the Geological Survey of Ireland (GSI), is to develop overall research capacity particularly in priority areas of geosciences research as outlined in the National Geoscience Programme, 2007-2013 <a href="http://www.gsi.ie">www.gsi.ie</a> The awards among other things support the establishment of an all-island geosciences graduate school and seek to stimulate interest by primary and secondary school students in Geology/Geoscience through the production and distribution of geosciences outreach products. These awards fund 9 projects at 7 colleges throughout the Island of Ireland with a total value of €9.1m and run from 2007 to 2014.	2,660	490

<p><b>Geoscience Initiatives</b></p> <p>The Geoscience Initiatives is a series of co-ordinated actions managed by GSI and principally aimed at local authorities to support infrastructural development planning and environmental protection under the NDP. The actions include Groundwater protection (National Groundwater Vulnerability Mapping), Resource Planning (National Aggregate Potential Mapping), Hazard Mitigation (Regional Landslide Susceptibility Maps) and Urban Planning (GeoUrban, a geotechnical and geochemical 3D characterisation of major urban centres beginning with Dublin). There are also initiatives in the area of Geoheritage and Geoparks, International Geoscience Communication (through the One Geology initiative) and developing an Irish network for the Integrated Ocean Drilling Programme (IODP).</p>	662	60
<p><b>Energy Planning</b></p> <p>This covers a range of Energy RTDDI, administration, capital initiatives and programmes and policy support and advice.</p>	414	500
<p><b>National Digital Research Centre (NDRC)</b></p> <p>On foot of the closure of Media Lab Europe (MLE), the Government, in April 2005, approved a competitive tendering competition for the operation of the NDRC. The Liberty Consortium which won the contract comprises of five of the leading third level institutes (TLI's) in Ireland, namely University College Dublin (UCD), Trinity College Dublin (TCD), Dublin City University (DCU), Dun Laoghaire Institute of Art, Design and Technology (IADT) and the National College of Art and Design (NCAD). Its objectives are translational digital research and research training (PhD level). The National Digital Research Centre was established to become a leading centre for translational research - translating research ideas from late research to commercial potential. The NDRC aims to collaborate with research bodies and commercial companies on joint-venture translational research projects in the development of innovative new digital products aiming to address social and commercial needs.</p>	5,333	5,780
<p><b>Exemplar Test-bed Lab</b></p> <p>This is the world's first example of a next generation network based on a truly dynamic optical infrastructure. It is based on a new technology called Optical Packet Switch and Transport (OPST), developed by an Irish company Intune Networks, which enables the infrastructure to respond dynamically to unpredictable traffic patterns. OPST can guarantee the performance level of a multi-service network with respect to bandwidths, delay and jitter of packet flows across the network.</p> <p>The Exemplar Network Test bed lab was opened in July 2010.</p>	10,000	200
<p><b>Technical Services</b></p>	149	150

# Department of Communications, Energy & Natural Resources

## Inland Fisheries Ireland

Inland Fisheries Ireland (IFI) was formed on 1<sup>st</sup> July, 2010 following the amalgamation of the Central Fisheries Board and the seven former Regional Fisheries Boards into a single agency. Inland Fisheries Ireland is responsible for the conservation, protection, management, development and promotion of the inland fisheries resource (including sea angling) across the country. Ireland has over 70,000 kilometres of rivers and streams and 144,000 hectares of lakes all of which fall under the jurisdiction of IFI. IFI also has a role in the provision of advice to the Minister and stakeholders in relation to the Inland Fisheries Resource. It is the role of IFI's R&D function to provide data and analysis on the status of rivers, fish species and habitats to support IFI management in development of policies and in offering advice relating to the inland fisheries natural resource.

	€'000 2010	€'000 2011
<b>Research and Development Programmes</b>		
<b>Programme Monitoring</b>		
<p>Ongoing activity includes assessing the biological potential of freshwater lakes and rivers for fishery development; many of these databases are used to design riverine rehabilitation programmes. Surveys of estuaries and inshore marine areas to locate habitats of popular marine sport fish and surveys of stocks of such fish; evaluating the progress of current development programmes in terms of fish numbers, etc. checking on conditions of fishing waters i.e. measuring trophic/nutrient status and pollution hazards which might threaten the State's investments in fisheries; water sampling and analysis for pollution control and prosecutions.</p> <p>Current work being carried out by the Research and Development Division includes the fish monitoring component as part of the EU's Water Framework and the Habitats Directives. The National Fish Stock Assessment Programme continues with work species of fish stocks that are of socio economic importance to the country such as salmon, eels, coarse fish and marine sports fish species. The National Fisheries Environment and Biodiversity Programme incorporates research in a holistic way to support conservation of our natural aquatic ecology. Currently studies are undertaken on invasive species, providing a chemical and nutrient analysis programme, designing enhancement programmes for drained river systems and monitoring their effectiveness along with management of the board's fish farms.</p>	2,458	2,368
<b>Training, Education and Information</b>	11	19
<b>Technical Services</b>	73	95



## Department of Communications, Energy & Natural Resources

### Sustainable Energy Authority of Ireland (SEAI)

Sustainable Energy Authority of Ireland established under the Sustainable Energy Act 2002, has a mission to play a leading role in transforming Ireland into a society based on sustainable energy structures, technologies and practices.

This encompasses environmentally and economically sustainable production, supply and use of energy, in support of government policy across all sectors of the economy. Its remit relates mainly to improving energy efficiency, advancing the development and competitive deployment of low carbon sources of energy and combined heat and power, and reducing the environmental impact of energy production and use, particularly in respect of greenhouse gas emissions.

The Authority is charged with implementing significant aspects of the Energy White Paper and Energy Research, as provided for in the National Development Plan 2007-2013. SEAI is financed by Ireland's EU Structural Funds Programme and co-funded by the Irish Government and the European Union and manages programmes aimed at:

- supporting Government decision-making through advocacy, analysis and evidence
- driving demand reduction and providing advice to all users of energy
- driving the decarbonisation of energy supply
- raising standards in sustainable energy products and services
- building markets based on quality, confidence and proven performance
- fostering innovation and entrepreneurship
- improving the coherence of Irish energy research and development

	€'000 2010	€'000 2011
<b>Research and Development</b>		
Sustainable Energy Ireland's research, development and demonstration (RD&D) programme is designed to assist the development of a least-cost path to CO <sub>2</sub> reduction and sustainable energy in Ireland. It has programmes active in the areas of built environment, industry, renewables, and transport.		
SEAI's Renewable Energy RD&D Programme was established to support the acceleration of uptake of renewable energy solutions and new renewable technologies.		
The Renewable Heat (ReHeat) Deployment Programme is aimed at stimulating the installation of new renewable energy plants supplying space, water and process heating in the commercial, industrial, services, public sectors as well as ESCO (Energy Supply Company) installations by means of grant assistance.	12,227	18,250
The CHP Deployment Programme provides grant support to assist the deployment of small-scale (<1MWe) fossil fired CHP and biomass (anaerobic digestion (AD) and wood residue) CHP systems.		
The Ocean Energy Programme was established to advance the deployment of ocean energy technologies in Ireland by increasing the capacity for research and development		

<p>both with academic institutions and commercial entities developing devices in Ireland.</p> <p>SEAI's Sustainable Transport Programme demonstrates the technical and economic feasibility of sustainable technologies in Ireland by supporting a number of RD&amp;D studies into the integration of renewable energy technologies into transport systems.</p> <p>SEAI's Microgeneration programme assesses the technical, financial and regulatory issues surrounding the deployment of small and micro generation technologies in Ireland.</p> <p>The House of Tomorrow Programme offers a range of supports to developers towards the construction or refurbishment of a broad portfolio of residential units which demonstrate superior approaches to the design and implementation of energy services and technologies in homes.</p> <p>SEAI under the Smart Metering Programme is leading the behavioural dimension of the national smart metering trial.</p> <p>The Public Sector Energy Efficiency Programme provides a two strand approach to delivering public sector energy efficiency target of 33 percent savings by 2020</p> <p>The Sustainable Energy Zone (SEZ) Programme aims to stimulate a paradigm shift in energy efficiency and the use of renewable energy within communities.</p> <p>The Energy in Business/Industry programme supports all business sectors' efforts to improve energy efficiency and competitiveness through services that promote structured energy management.</p>		
<b>Training, Education and Information</b>	3,859	3,315
<b>Technical Services</b>	1,770	1,550
<b>Technology Transfer</b>	11,916	6,297
<b>Other S&amp;T Activities</b>	88,741	93,939

## Department of Education and Skills

The Department's gross allocation for 2011 as included in the 2011 Revised Estimate for Public Services is €8.89bn. Included in this allocation is €1.29bn which will be made available to Universities and Institutes of Technology (*ref: Subheads E04, E06, E13 and F03*). This includes current and capital funding for Research and Development.

Current funding is available to all Universities and Institutes of Technology to support the development of their research capabilities, to support outstandingly talented individual researchers, and to encourage co-operation within and between institutions. The funding is provided under a number of programmes, all of which are primarily aimed at developing research capacity in the higher education system through the development of high quality 4th level education.

Funding is provided for PhD students and early-stage postdoctoral researchers under the auspices of the Irish Research Council Science for Science, Engineering and Technology (IRCSET) and the Irish Research Council Science for Humanities and Social Sciences (IRCHSS).

Funding for these programmes is made through the Higher Education Authority (HEA).

Dedicated funding is also provided through HEAnet and E.Journals to ensure that high quality internet services and research journals are available to students and researchers in higher education institutions. These are essential supporting services for the research system as a whole and benefit all research funding agencies.

It should be noted that with effect from May 2010, responsibility for the Programme for Research in Third Level Institutions (PRTLTI) transferred from this Department to the Department of Jobs, Enterprise and Innovation.

Under the NDP/Community Support Framework for 2007-2013, EU funding will be delivered through (1) Human Capital Investment Operational Programme and (2) Regional Operational Programmes, one each for the Border/Midlands Western and Southern & Eastern part-funded by the European Regional Development Fund. The Regional Operational Programmes are managed by the Regional Assemblies.

The education related elements of the regional operational programmes support R&D activities in the higher education sector and support the objectives of the Strategy for Science, Innovation and Technology as follows:-

- Provide high quality and strategically relevant research and capacity in higher education institutions in the region.
- Enhance the collaboration and networking across the higher education institutions so as to optimise return on investment.
- Strengthen the training of researchers.
- Strengthen the culture of intellectual property capture and management among research performers at a laboratory level within regional higher education institutions.

Expenditure and programmes run by the HEA and the Dublin Institute for Advanced Studies are listed separately.

	€'000 2010	€'000 2011
<b>Research and Development Programmes</b>		
<b>Direct Research &amp; Development committee support</b>		
<p>The Department's Research &amp; Development Committee is currently supporting 13 research projects, carried out mainly by researchers in Colleges of Education or University Education Departments. These projects cover a range of topics, including :</p> <ul style="list-style-type: none"> <li>▪ Accreditation of in-career education for teachers.</li> <li>▪ Development of junior certificate science investigations by guided inquiry.</li> <li>▪ Oral language development in designated disadvantaged schools in Ireland.</li> <li>▪ Identifying teacher professional development needs for teaching the data analysis component of primary level mathematics.</li> <li>▪ Addressing the challenges of inclusion in Irish schools.</li> <li>▪ Opportunities to develop curricular and cross-curricular competencies in initial teacher education.</li> <li>▪ Theory and classroom practices in multiple comprehension strategy instruction.</li> <li>▪ Valuing Visibility.</li> </ul>	221	220
<b>EU projects supporting R&amp;D</b>		
<p>Support is being provided for certain projects jointly with the EU. In 2010 activities will include the Lifelong Learning Programme (LLP) comprising the following actions :</p> <ul style="list-style-type: none"> <li>▪ Leonardo da Vinci - the vocational education and training action of the LLP of young people in the context of the EU action programme in education.</li> <li>▪ Comenius - the school education action of the LLP.</li> <li>▪ Grundtvig - the adult education action of the LLP.</li> <li>▪ Erasmus - the higher education action of the LLP.</li> </ul>	1,338	1,340
<b>European University</b>		
<p>Contributions to the budget of the Institute (Italy) and support of Irish students to pursue research projects. The Institute's Centre for Advanced Studies is the research arm of the Institute and offers Jean Monnet Fellowships for post-doctoral research. A Transatlantic Programme of the European University Institute was established in September 2000, enabling the EUI to organise policy-orientated and basic research on transatlantic relations and transatlantic governance.</p>	298	348
<b>St. Patrick's College</b>		
<p>Support for research activities in the field of education in St. Patrick's College, Drumcondra.</p>	1,310	1,310
<b>Training, Education and Information</b>		
<b>Third level grants:</b>		
<ul style="list-style-type: none"> <li>▪ Provision of maintenance grants for students under the Higher Education Grants</li> </ul>	109,779	120,007

<p>scheme, the VEC Scholarship Scheme and the Third Level Maintenance Grants Scheme for Trainees to enable them pursue S&amp;T related courses in third level colleges, institutions, and Institutes of Technology.</p> <ul style="list-style-type: none"> <li>▪ Provision of Third Level Scholarships enables students to pursue S&amp;T courses in third level colleges and institutions.</li> <li>▪ Scholarships are also paid to Irish students to attend the College of Europe, Bruges.</li> </ul>	813	945
<p><b>Science and Technological Education (Investment) Fund</b></p> <p>The passing of the Scientific and Technological Education (Investment) Fund Bill 1997 by both Houses of the Oireachtas resulted in the establishment of the Fund which is used to develop technology education at all levels ranging from primary schools to advanced research. The three main objectives of the Fund are:</p> <ul style="list-style-type: none"> <li>▪ To review, extend and modernise the infrastructure of third level institutions, particularly in the technological sector.</li> <li>▪ To develop new areas of activities where emerging skill needs have been identified</li> <li>▪ To invest in promoting innovation to maintain and further our economic growth.</li> </ul> <p>2010 was the final year of the Fund and approximately €6.277m was spent on projects in the Institutes of Technology and the Universities.</p>	6,277	0
<p><b>International Science &amp; Technology Activities</b></p> <p>Irish contribution to UNESCO, the International Institute for Education Planning, and the International Centre for Registration of Serials.</p>	669	671
<p><b>ICTs Programme for Schools</b></p> <p>The schools ICT Programme aims to ensure that pupils in first and second level schools have the opportunity to achieve computer literacy and to equip themselves for participation in the information society. It includes a comprehensive teacher-training programme in ICTs.</p> <p>The new National Development Plan also includes provision to support a new Strategy for the ICT in Schools Programme. The Schools ICT initiative will build on the roll-out of broadband to all schools and is aimed at embedding ICT in teaching and learning through a programme of development that will involve investment in hardware and software facilities at classroom level, the development of technical support services for schools, enhanced curriculum based digital content, teacher education and ongoing professional development support. The new Strategy will be pursued in partnership with industry and wider stakeholders.</p> <p>The provision in 2011 for the current and capital components of this programme is €13.57m and €1.5m respectively compared to €11.347m and €62.906m in 2010. This money will assist with the development of computer networks in first and second level schools.</p>	74,253	15,078

# Department of Education and Skills

## Dublin Institute for Advanced Studies

The Dublin Institute for Advanced Studies is a statutory corporation established in 1940 under the Institute for Advanced Studies Act, 1940. The Institute has three constituent schools - the School of Celtic Studies, the School of Theoretical Physics and the School of Cosmic Physics. Each school has an independent governing board. The Institute, through the constituent schools, pursues fundamental research and trains students in advanced methods of original research.

	€'000 2010	€'000 2011
<b>Research and Development Programmes</b>		
<p><b>The School of Theoretical Physics</b></p> <p>The School pursues research in the general areas of theoretical physics and mathematics. Particular areas of expertise are: theoretical particle physics, quantum field theory, quantum gravity, quantum mechanics, quantum information theory, quantum and classical statistical mechanics, disordered systems, geometry and topology, non-commutative geometry and infinite-dimensional algebras, lie groups and algebras, C*-algebras, functional analysis, and probability.</p>	842	820
<p><b>The School of Cosmic Physics</b></p> <p>The School of Cosmic Physics has two research sections, one in Geophysics and one in Astronomy/Astrophysics.</p> <p>The Geophysics section studies the physical and geological structure of the Earth as well as its evolution in time. Major areas of research include seismology, electromagnetism and the Earth's gravity field. Section members are key collaborators to TOPO-EUROPE (<a href="http://www.topo-europe.eu/">http://www.topo-europe.eu/</a>), a European-wide geoscience initiative.</p> <p>The IRE THERM (Ireland's geothermal potential) project to develop a strategic and holistic understanding of Ireland's geothermal energy potential. (<a href="http://www.iretherm.ie/">http://www.iretherm.ie/</a>).</p> <p>The INDEPTH (InterNational DEep Profiling of Tibet and the Himalaya) study of the Tibetan plateau (<a href="http://www.geo.cornell.edu/geology/indepth/indepth.html">http://www.geo.cornell.edu/geology/indepth/indepth.html</a>).</p> <p>The PICASSO (Program to Investigate Convective Alboran Sea System Overturn) study of the collision of NW Africa with Iberia. (<a href="http://earth.usc.edu/research/picasso/">http://earth.usc.edu/research/picasso/</a>).</p> <p>In the Astronomy/Astrophysics section the main areas of research are high-energy astrophysics, astroparticle physics, star formation and computational astrophysics. The e-INIS project, funded under PRTL I-4 aims to develop an integrated national e-infrastructure, building on the three existing service providers, HEAnet as the National Research and Education Network Service, ICHEC, the Irish Centre for High-End Computing as the national HPC service and Grid-Ireland as the National Grid Infrastructure provider.</p>	2,030	1,865
<b>Training, Education and Information</b>	1,499	1,456

## Department of Education and Skills

### FÁS

The functions of FÁS, the National Training and Employment Authority are:

- providing training and retraining programmes for employment (whether directly provided by FÁS, or contracted out to external agencies);
- the provision of employment schemes; providing community groups with training and developmental supports in their enterprise and employment creation activities;
- providing employment and placement services, both to employers and the unemployed;
- assisting Irish people to obtain employment in other EU states (primarily through its SEDOC service);
- providing advice and counselling for those of our citizens who wish to emigrate;
- FÁS also provides advice and guidance on and training opportunities for immigrants, whether asylum seekers or economic migrants.

	€'000 2010	€'000 2011
<b>Research and Development Programmes</b>		
The Planning and Research Department assists in the development of FÁS through providing planning and research inputs at corporate level. Its main areas of work include strategic planning; labour market and skills research evaluation/customer surveys. It also provides a central Library and Technical Information Service for FÁS. The Skills and Labour Market Research Unit within the department maintains a National Skills Database and provides regular reports for the Expert Group on Future Skills Needs.	881	770
<b>Training, Education and Information</b>	84,493	63,129

# Department of Education and Skills

## Higher Education Authority

The Higher Education Authority (HEA) which is under the aegis of the Minister for Education and Skills, is a corporate body with perpetual succession, established in May 1972 under the provisions of the Higher Education Authority Act, 1971. The HEA has the following general functions:

- furthering the development of higher education;
- assisting in the co-ordination of State investment in higher education and preparing proposals for such investment;
- promoting the attainment of equality of opportunity in higher education;
- promoting the democratisation of the structure of higher education.

The HEA is financed by a grant-in-aid from the Department of Education and Skills out of a total vote for third level and further education. The Programme for Research in Third Level Institutions was transferred to the Department of Jobs, Enterprise and Innovation in 2010. Besides the exchequer grant (via the HEA), Universities, Institutes of Technology (IOTs) and other institutions receive non-exchequer monies, i.e. non-exchequer fees, research grants and other income.

	€'000 2010	€'000 2011
<b>Research and Development Programmes</b>		
<b>The Programme for Research in Third Level Institutions</b> (delivered on behalf of the Minister for Jobs, Enterprise and Innovation)	49,934	55,507
The Programme for Research in Third Level Institutions (PRTLTI) supports building strategic institutional research capacity, enabling the establishment of research centres and facilities, and joint research programmes and national initiatives. The programme is also taking the lead in the establishment of Structured PhD Programmes as the standard mechanism for education of PhDs, producing PhDs with the skill sets to work both in the public and private sectors. The HEA manages this component of PRTLTI in partnership with the Irish Research Councils. PRTLTI is concerned with building a sustainable, long-term and broadly-based research capability in third level institutions and encourages the institutions to develop institutional research strategies to achieve this. The aim is to help to accelerate the development of critical mass in their existing strengths and to develop new areas consistent with their institutional strategies and plans for research. PRTLTI also seeks to develop stronger inter-institutional collaboration and to promote close linkage between research and the quality of teaching and learning at all levels in the institution.		
<b>The Technological Sector Research Fund (TSR)</b>		
TSR supports underpinning capacity development in the institutes of technology, the	4,037	2,100



latter institutions having only more recently begun to conduct research in line with regional objectives. The TSR is comprised of three strands: Strand 1, Postgraduate R&D Skills Programme; Strand 2, Enterprise Platform Programme and Strand 3, Core Research Strengths Enhancement Programme. In 2010, responsibility for TSR Strand 2 also transferred to the Minister for (now) Jobs, Enterprise and Innovation and it is now administered by Enterprise Ireland.		
<b>HEAnet</b> HEAnet is Ireland's National Education and Research Network, providing high quality Internet Services to over 150,000 students and staff in Irish Universities, IoT's and other educational and research organisations. Established in 1983 by the seven universities with the support of the HEA to promote the interchange of information electronically within third level education, it now plays a critical role in establishing Ireland as a global centre of excellence in internet activity. HEAnet provides a high-speed national network with direct connectivity for its community to other networks in Ireland, Europe, the USA and the rest of the world.	7,232	7,000
<b>Research Facilities Enhancement Scheme</b> The Research Facilities Enhancement Scheme (RFES) was established to address the deficits in research infrastructure in the higher-education sector. Specifically, the Scheme aimed to enable higher-education institutions to refurbish, convert, or upgrade their facilities to the standard requisite for undertaking high-quality research, and, to the same end, to enable institutions to purchase equipment. 20 institutions were awarded a total of €58m between 2008-2011.  There are no plans for a second RFES.	380	90
<b>Institutes of Technology</b> This refers to the annual funding provided by the State via the HEA for the purposes of funding the recurrent activities of Institutes of Technology (IoTs).  This core grant is allocated as a block grant to cover core teaching and research activities within institutions - the internal allocation of funds as between teaching and research are at present a matter for each institution. A new funding model similar to the funding model used for the University sector has been developed for the IoTs.  The new model follows the principles of the RGAM (more information on this is given below), whereby funding follows students, with provision made for broad differences in the costs of the type of education being pursued by the student. In 2009 €3m was allocated on this basis, and a further €10 million in 2010. The HEA has committed that the RGAM will be fully implemented over 2011 to 2013, commencing with 25 percent of the indicated transfers in 2011.  It is noted below that a top-slice is made in respect of research for the universities. This top-slice is not made in respect of IoTs.	20,334	19,383
<b>Strategic Innovation Fund</b> The Strategic Innovation Fund (SIF) was announced in April 2005 as part of the Irish Government's response to the OECD's Review of Higher Education in Ireland (2004), which called for a 'quantum leap' in investment in higher education and recommended that there should be 'a Strategic Investment Fund for National Priorities along the lines	6,357	4,666

<p>of the PRTL I [Programme for Research in Third-Level Institutions]'.<sup>15</sup> Specifically the programme had the following main objectives:<sup>16</sup></p> <ul style="list-style-type: none"> <li>▪ to enhance the delivery of education and research;</li> <li>▪ to prepare for the expansion and development of postgraduate education;</li> <li>▪ to support innovation and quality improvement in teaching and learning; and</li> <li>▪ to support access, retention and progression.<sup>17</sup></li> </ul> <p>One of the most distinctive features of the SIF is the emphasis on inter-institutional collaboration and on the alignment of institutional strategies with national priorities. Building on a trend first supported by the PRTL I, the SIF has contributed to a broadening and deepening of collaboration within the higher education sector, transforming it from a loose assemblage of disparate entities competing for shrinking resources into a more consolidated organic entity comprising teams of institutions facing common challenges together.<sup>18</sup></p>		
<p><b>Recurrent (Core) Funding</b></p> <p>This refers to the annual funding provided by the State via the HEA for the purposes of funding the recurrent activities of higher education institutions (HEIs). This core grant is allocated as a block grant to cover core teaching and research activities within institutions - the internal allocation of funds as between teaching and research are at present a matter for each institution. The allocation of the core grant is determined on a formula basis. The allocation will be based on a standard per capita amount in respect of weighted EU student numbers in four broad subject price groups. Student numbers in the four groups are weighted to reflect the relative cost of the subject groups. A further weighting is given for research students. The price groups and weightings are as follows:</p>	232,979	222,660

15 Organisation for Economic Cooperation and Development, *Review of Higher Education in Ireland* (Paris: OECD, 2004), 66.

16 See Government of Ireland, *National Development Plan 2007-2013: Transforming Ireland: A Better Quality of Life for All* (Dublin: Government of Ireland, 2006), 205-6.

17 *Ibid.* 205.

18 The National Academy for Integration of Research, Teaching and Learning ([www.nairtl.ie](http://www.nairtl.ie)), the Learning Innovation Network ([www.lin-ireland.com](http://www.lin-ireland.com)), and the IUA's national online repository for Irish research ([www.rian.ie](http://www.rian.ie)) provide a rich sense of the collaborations achieved under Cycle 1 of the SIF. Similarly the Shannon Consortium ([www.ul.ie/shannonconsortium](http://www.ul.ie/shannonconsortium)) and, more recently, the Dublin Region Higher Education Alliance ([www.drhea.ie](http://www.drhea.ie)) illustrate the deepening of cooperation on a regional basis which has emerged through the SIF—cooperation further exemplified by the BlueBrick online portal. This is an initiative of the Institutes of Technology, Ireland (IOTI) which enables prospective students to search and apply for a range of courses offered on a flexible basis in the institutes of technology, and which epitomises the system-wide enhancement and modernisation that the SIF has facilitated (see [www.bluebrick.ie](http://www.bluebrick.ie)). That Bluebrick.ie is now the portal through which applications to Springboard programmes across the sector are being made is testament to its success and continuing relevance as the sector evolves.

Price Group Subject	Price Group Weighting		
Clinical stages of undergraduate medicine	2.3		
Undergraduate dentistry, veterinary	4		
Laboratory-based subjects (Science, Engineering, Pre-clinical Medicine & Dentistry)	1.7		
Postgraduate Research	1.6 x 3 (i.e. 4.8)		
Subjects with a studio, laboratory or fieldwork element	1.3		
Postgraduate Research	1.3 x 3 (i.e. 3.9)		
All other subjects	1		
Postgraduate Research	1 x 3 (i.e. 3)		
<p>5% is also top-sliced from the aggregate grant for all higher education institutions, exclusive of the grant in lieu in tuition fees. This top-sliced amount is allocated as follows -</p> <ul style="list-style-type: none"> <li>▪ 75% in proportion to proportion of Ph.D. and Masters research degrees awarded</li> <li>▪ 25% in proportion to proportion of research income per academic staff member, earned by each institution. This top-slice does not oblige HEIs to spend this amount on research - the internal allocation of the core grant is still a matter for each institution. The top-slice instead represents recognition of the research activities that take place in HEIs.</li> </ul>			
<b>Training, Education and Information</b>			
▪ Universities		548,102	438,785
▪ Institutes of Technology		385,119	363,853

## Department of Education and Skills

### Irish Research Council for the Humanities and Social Sciences

The Research Council for the Humanities and Social Sciences (IRCHSS) was established in 2000 by the Minister for Education and Science in response to the need to develop Ireland's research capacity and skills base in a rapidly-changing global environment where knowledge is key to economic and social growth.

With the support of the National Development Plan the IRCHSS promotes cutting-edge research in the humanities, social sciences, business and law with the objective of creating new knowledge and expertise beneficial to Ireland's economic, social and cultural development. The research council operates a suite of inter-linked research schemes from postgraduate scholarships through to project funding for principal investigators.

The research council supports the participation of Irish researchers in the European Research Area (ERA) through a range of international programmes. The council manages and participates in a number of international programmes. The council also promotes international research funding opportunities, in particular through the role of the National Contact Point for the Humanities and Social Sciences within [Framework Programme 7](#) (FP7).

	€'000 2010	€'000 2011
<b>Research and Development Programmes</b>		
Research Grants in the Humanities & Social Sciences	11,700	10,400

## Department of Education and Skills

### Irish Research Council for Science, Engineering and Technology

IRCSET (Irish Research Council for Science, Engineering & Technology) forms a Board of senior academic and industrial figures and operates multi-million euro research funding initiatives which support talented researchers in their early stage career formation across Masters, Doctoral and Postdoctoral levels in the area of science, engineering and technology.

The emphasis of our funding programmes is on exploratory research aimed at yielding new concepts, findings and innovations within Ireland. Funding is made available through a series of strictly competitive calls for applicants. Selection for funding is based on merit and the decision processes are overseen by independent assessment panels.

IRCSET's initiatives are funded by the National Development Plan of Ireland under the auspices of the Department of Education & Skills.

	€'000 2010	€'000 2011
<b>Research and Development Programmes</b>		
Research programmes include:	23,302	22,600
<ul style="list-style-type: none"> <li>▪ Embark Initiative positions Ireland decisively as an international centre of excellence and achievement in research by encouraging students and researchers to pursue a full-time career in their chosen research area. Providing funding to full-time researchers at the early stages of their careers will ensure that research is a viable and beneficial career option and that ideas, potential and creativity, crucial to Ireland's future success, are not lost. Not only will it increase research capacity, but it will also enhance teaching with relevant and current research experience.</li> <li>▪ IRCSET is involved in a number of EUROCORES projects through the European Science Foundation. IRCSET is also participating in a number of further initiatives under this funding mechanism. IRCSET's involvement in the ERAnet Chemistry programme implements joint bottom-up European Programmes in chemistry. The network comprises of the national research funding organisations from 14 EU member countries and Switzerland, with 7 other EU countries as associate members. The programme aims to establish an EU Research Area in curiosity-driven chemical research without noticeable national, formal and research subject boundaries.</li> <li>▪ The postgraduate research scholarship scheme and postdoctoral fellowship scheme</li> <li>▪ INSPIRE: IRCSET-Marie Curie International Mobility Fellowships in Science Engineering and Technology .</li> <li>▪ EMPOWER: Government of Ireland Postdoctoral Fellowships in Science, Engineering and Technology.</li> <li>▪ The Enterprise Partnership Scheme.</li> </ul>		

# Department of Jobs, Enterprise and Innovation

## Office of Science, Technology and Innovation (OSTI)

The Department of Jobs, Enterprise and Innovation has a wide economic development and job creation remit.

A key Department goal, identified under the Science, Technology and Innovation pillar, is: *To improve competitiveness by significantly enhancing Ireland's capacity to generate, protect and use new knowledge for economic and social gain.*

Within the Department, the Office of Science, Technology and Innovation (OSTI) is focussed on delivering this goal through the development, promotion and co-ordination of national science, technology and innovation policy, and by progressing the Strategy for Science, Technology and Innovation, in particular through its enterprise development agencies. It also plays a role in co-ordinating the delivery of wider science, technology and innovation policy across a number of Government Departments and Agencies.

The Department's enterprise development agencies are assigned significant powers, functions and responsibilities under legislation for the management and promotion of scientific research and development. The agencies involved are:

- Enterprise Ireland (EI)
- Science Foundation Ireland (SFI)
- IDA Ireland
- Forfás
- Shannon Development
- The Patents Office

The Department's activities are financed through a general vote of the Oireachtas. 16 staff are currently employed (excluding vacant positions) at the Office of Science, Technology and Innovation. The OSTI is responsible for

- Advising the Minister on general STI activities and directing and coordinating programmes for the R&D programmes of the agencies.
- Providing basic research funding allocated to Science Foundation Ireland
- Providing applied research and commercialisation funding for Enterprise Ireland.
- Providing an annual support for core enterprise focussed activities within the Tyndall National Institute, Cork.
- Supporting and monitoring the integrated awareness programme, Discover Science and Engineering (DSE), with the aim of increasing the numbers of students taking science as a career and promoting in interest in science generally.

- Develops and co-ordinates Ireland's input in regard to EU research policies and programmes. The OSTI is responsible for the funding of, and is represented on, the policy formulation committees of the following five Inter-Governmental S&T Organisations:
  - European Space Agency (ESA)
  - European Molecular Biology Conference (EMBC)
  - Co-operation in Science and Technology Programmes (COST)
  - EUREKA
  - European Molecular Biology Laboratory (EMBL)

With effect from 1<sup>st</sup> May 2010, responsibility for the Programme for Research in Third Level Institutions (PRTLTI) transferred from the Department of Education and Skills to the Department of Jobs, Enterprise and Innovation. For details of expenditure under PRTLTI see Page 56.

	€'000 2010	€'000 2011
<b>Research and Development Programmes</b>		
<b>European Space Agency (ESA)</b>  A principal objective of Ireland membership of the ESA is to promote opportunity for high technology industry in Ireland. The greater part of Ireland's contribution is returned as industrial contracts involving collaboration between enterprises in the Member States.	14,483	14,029
<b>European Molecular Biology Conference (EMBC)</b>  Since 2000, Irish researchers have been successful in obtaining 10 long-term fellowship awards, as well as 11 short-term fellowships and one young investigator's award; further promoting Ireland's standing within the European scientific community.	193	196
<b>EUREKA</b>  Eureka is a European research initiative designed to ensure that the technological gap with other countries is narrowed. It promotes joint research between firms in different countries.	34	33
<b>European Molecular Biology Laboratory (EMBL)</b>  EMBL is an Inter-Governmental Research Organisation whose mission is the development of molecular biology throughout Europe. Membership of EMBL complements Ireland's significant investment in the biotechnology area by presenting opportunities for research training, networking and enhanced international collaboration.	1,067	1,217

# Department of Jobs, Enterprise and Innovation

## Enterprise Ireland

	€'000 2010	€'000 2011
<b>Research and Development Programmes</b>		
<b>R&amp;D Fund</b>		
<p>El provides assistance for significant investment in R&amp;D initiatives which arise as part of a company's strategic development. The R&amp;D Fund is designed to provide support for research, development and technological innovation relevant at all stages of company development, and will enable companies to progress from undertaking an initial research project to high level innovation and R&amp;D activity.</p>	55,117	58,220
<b>Applied Research Enhancements</b>		
<p>El provides funding for the establishment of applied research centres in Institutes of Technology, aimed at building sufficient scale to allow them to make an impact on industry in their locality through collaboration.</p>	3,289	3,638
<b>Industry Led Networks</b>		
<p>These are aimed at providing support for research in areas defined by networks of companies in specific industry sectors. The work is overseen by an industry board and El works to create real collaboration between companies and the researchers to ensure the transfer of technology.</p>	1,312	1,374
<b>Innovation Partnerships</b>		
<p>These are aimed at harnessing the strengths of the third level sector to work in partnership with companies on specific R&amp;D projects.</p>	7,768	7,697
<b>Commercialisation Fund</b>		
<p>This programme supports academic researchers to take the outputs of research with commercial potential and bring it to a point where it can be transferred into industry.</p>	25,208	25,007
<b>Technology Transfer</b>		
<b>Competence Centres</b>		
<p>El supports the establishment and maintenance of centres where the research agenda is directed by groups of companies who work together with higher level researchers to perform medium term commercially relevant research.</p>	9,474	13,763



<p><b>Innovation Vouchers</b></p> <p>Innovation Vouchers support small companies to engage with higher level researchers in order explore a business opportunity or solve problems</p>	3,314	3,706
<p><b>Technology Transfer Strengthening</b></p> <p>This programme supports a network of commercial experts in Irish Universities who ensure that research outputs with commercial potential are identified, protected and transferred to industry where they can be fully utilised.</p>	7,077	6,216
<p><b>Incubation Centres</b></p> <p>Through its incubation programme, EI invests in on-campus space for start-up companies, including specialised biotech facilities (Wet Labs).</p>	2,791	1,585
<p><b>IPR Fund</b></p> <p>This funding provides support to 3<sup>rd</sup> level institutions to assist with the protection and management of patents. This is part of a coherent package of supports (along with the Commercialisation Fund) to ensure the best possible level of technology transfer from research. Funding for this activity is now subsumed into the Technology Transfer Strengthening funding stream</p>	1,026	137
<p><b>Training, Education and Information</b></p> <p><b>Innovation Management</b></p> <p>EI provides funding for the establishment of information sharing networks between companies, facilitates training for companies on R&amp;D techniques, and funds business development courses for new entrepreneurs throughout the country.</p>	3,512	3,950
<p><b>International Collaboration (by colleges)</b></p> <p>Supports academic researchers to engage in international collaborations and to access international best practice (in terms of research and facilities).</p>	3,941	4,500
<p><b>Other S&amp;T Activities</b></p> <p><b>Programme Management</b></p> <p>This area supports a central resource in EI to manage and facilitate the transfer of technology from the research environment into business and also covers the costs associated with a significantly enhanced R&amp;D promotional campaign.</p>	6,860	6,366

## Department of Jobs, Enterprise and Innovation

### Forfás

Forfás is Ireland's national policy advisory body for enterprise and science. Forfás' policy functions are to:

- Provide independent and rigorous research, advice and support in the areas of enterprise and science policy.
- Ensure the coherence of policies across the development agencies supporting enterprise.
- Evaluate enterprise policy interventions.
- Provide research and administrative support to independent advisory groups.

	€'000 2010	€'000 2011
<b>Research and Development Programmes</b>		
<b>Science, Technology and Human Capital Division</b>  The mission of Forfás in science and technology is to enhance Ireland's performance in science, technology and innovation and thereby contribute to economic and social development. <ul style="list-style-type: none"> <li>▪ Delivering timely and well-founded policy analysis and advice on science, technology and innovation issues to national policy-makers.</li> <li>▪ Undertaking evaluations of existing S&amp;T policies and programmes.</li> <li>▪ Providing data, indicators and a flow of other information on science, technology and innovation.</li> <li>▪ Providing secretariat and research support for the Advisory Council for Science, Technology and Innovation (ACSTI).</li> <li>▪ Advising and providing support to the Office of Science Technology and Innovation on international science and technology programmes and issues.</li> <li>▪ Discover Science &amp; Engineering Programme - its overall objectives are to increase the numbers of students studying the physical sciences, promote a positive attitude to careers in science, engineering and technology and to foster a greater understanding of science and its value to Irish society.</li> </ul>	153	182
<b>Chief Scientific Adviser</b>  The main responsibilities of the Chief Scientific Adviser (CSA) are: <ul style="list-style-type: none"> <li>▪ To provide high level advice on scientific issues of concern to government across the spectrum of disciplines.</li> <li>▪ To play a key role in monitoring, evaluation, and delivery of the government's Strategy for Science, Technology and Innovation (SSTI 2006-2013).</li> <li>▪ The CSA reports, via the Interdepartmental Committee (IDC) on Science, Technology and Innovation, to the Cabinet Committee on Science, Technology and Innovation.</li> </ul>	273	280
<b>Other S&amp;T Activities</b>	1,382	1,640

## Department of Jobs, Enterprise and Innovation

### IDA Ireland

IDA Ireland has national responsibility for securing new investment from overseas in manufacturing and international services and for encouraging existing foreign enterprises to expand their businesses. With a staff of 250 people and headquarters in Dublin, IDA Ireland has 18 overseas offices.

Activities include the international and national promotion of Ireland as a location for overseas investment and the provision of financial incentives for the attraction of new overseas investment into Ireland, as well as the expansion of its existing client base of almost 1,000 companies. As part of its brief to develop overseas companies already in Ireland, IDA Ireland focuses on encouraging these companies to locate additional or higher order functions in Ireland, e.g. a research and development unit.

IDA Ireland is committed to supporting its clients to establish and grow R&D activities in Ireland. The objective is to ensure that its client companies are focused on activities for which Ireland is a cost-effective location and thus help to secure their competitiveness and strategic importance within the overall company.

There are no administrative costs associated with science and technology activities as no separate staff are assigned to administer research and development grants.

	€'000 2010	€'000 2011
<b>Research and Development Programmes</b>		
The IDA Research, Development & Innovation (RD&I) Support programme is designed to support companies at all stages of RD&I and enable them to move from start-up R&D, through developing capacity and adding competence, to a fully integrated RD&I function. Support levels are tied to an assessment of strategic objectives, in conjunction with commercial and technical assessments.	79,738	82,000
Support for other activities that would enable a company to undertake the RD&I project is also available which could include support for feasibility studies.		
In total, over 37 companies undertook to invest in RD&I activities in their Irish operations during 2010.		

## Department of Jobs, Enterprise and Innovation

### Inter *Tradel*reland

Inter *Tradel*reland is the only organisation which supports SMEs across the island to develop North/South trade and business development opportunities for the mutual benefit of both economies.

“We encourage better use of our collective resources to accelerate trade and business growth across the island and create an environment where it is easier to do business. We achieve this through co-operative business, policy and research programmes, partnerships and networks.”

	€'000 2010	€'000 2011
<b>Research and Development Programmes</b>		
<b>INNOVA</b>		
INNOVA supports cross-border R&D collaboration between companies, with the support of public research organisations where required. INNOVA assists companies to create new products, processes or services or significantly improve existing ones.	1,566	1,397
<b>Training, Education and Information</b>		
<b>All-Island Innovation Programme</b>		
The Inter <i>Tradel</i> reland All-Island Innovation Programme aims to promote and encourage innovation across the island of Ireland. This programme is being delivered jointly by Inter <i>Tradel</i> reland, Queens University Belfast, NUI Galway and University College Dublin. The Programme brings international expertise in innovation to the island of Ireland.	100	144
<b>Technology Transfer</b>		
<b>FUSION</b>		
FUSION is an all-island programme which enables knowledge and technology transfer between business and academia to support innovation and increased capability. FUSION develops and facilitates three-way partnerships and projects between companies, third-level research institutions with specialist expertise and high-calibre science and technology graduates.	1,921	1,719
<b>Other S&amp;T Activities</b>		
<b>All-Island Innovation Awards</b>		
The Irish Times All-Island Innovation Awards in association with Inter <i>Tradel</i> reland recognise the best innovations throughout the island in organisations of all sizes and sectors.	26	53

## Department of Jobs, Enterprise and Innovation

### Science Foundation Ireland

Science Foundation Ireland, the national foundation for excellence in scientific research, was established under the Industrial Development (Science Foundation Ireland) Act 2003 to establish Ireland as a centre of research excellence in strategic areas relevant to economic development, particularly the areas of biotechnology (BioT) and information and communications technologies (ICT). In 2008 SFI's remit was extended to include Sustainable Energy and Energy-efficient Technologies. To accomplish its mission, SFI makes grants based upon the merit review of proposals from distinguished researchers.

In addition, SFI supports, through the Research Frontiers Programme (RFP), the very best research by academic researchers and research teams who are most likely to generate new knowledge, leading edge technologies and competitive enterprises in a broad range of disciplines in science, mathematics and engineering. Competition for this funding is driven by the scientific merit of the proposals. Grants are awarded to eligible Research bodies which include all the major Universities and Institutes of Technology in Ireland.

SFI also advances co-operative efforts among education, government and industry that support its fields of emphasis and promotes Ireland's ensuing achievements around the world.

	€'000 2010	€'000 2011
<b>Research and Development Programmes</b>		
<b>SFI Principal Investigator (PI) Programme</b> The SFI Principal Investigator (PI) Programme supports those fields of science and engineering that underpin biotechnology, information and communications technology, and sustainable energy and energy-efficient technologies. PI grants may range from €100,000 to €1,000,000 direct costs per year and may be 3-5 years in duration.	150,000	160,800
<b>SFI Principal Investigator Career Advancement Award (PICA)</b> The SFI Principal Investigator Career Advancement (PICA) Programme supports outstanding researchers returning to active research after a prolonged absence. PICA has been integrated into the Principal Investigator programme. PICA applicants must be eligible under all of the standard PI criteria. In addition, applicants need to be eligible under the PICA-specific criteria. PI awards, and hence PICA awards, may range from €100,000 to €1,000,000 direct costs per year and may be up to 5 years in duration.		
<b>SFI Centres for Science, Engineering, and Technology: Campus-Industry Partnerships (CSET)</b> CSETs help link scientists and engineers in partnerships across academia and industry to address crucial research questions, foster the development of new and existing Irish-based technology companies, attract industry that could make an important contribution to Ireland and its economy, and expand educational and career opportunities in Ireland in science and engineering. Grants normally range from €1 to €5 million per year for five years		

**SFI Strategic Research Cluster Programme**

SFI Strategic Research Clusters (SRCs) will help link scientists and engineers in partnerships across academia and industry to address crucial research questions. Grants of approximately €1m to €1.5m per year for five years are normally awarded.

**SFI Research Frontiers Programme**

The SFI Research Frontiers Programme aims to support the very best research in a broad range of disciplines in Science, Mathematics and Engineering. Awards typically run for up to 3 years.

**SFI North-South Research Partnership Supplement**

The SFI North-South Research Partnership Supplement award facilitates collaborations between SFI funded researchers and researchers in Higher Education Institutions (HEIs) in Northern Ireland. Supplements should be directly related to, and enhance, the existing SFI peer-reviewed programmes.

**US-Ireland R&D Partnership Programme**

The US-Ireland R&D Partnership will help link scientists and engineers in partnerships across academia and industry to address crucial research questions; will foster new and existing industrial research activity that could make an important contribution to the respective economies: and will expand educational and research career opportunities in science & engineering.

**SFI Research Professor Recruitment Awards**

The SFI Research Professor Recruitment Awards aims to attract to Ireland outstanding researchers, with particularly distinguished international reputations, awards normally ranging up to €500,000 per annum for up to two years.

**SFI Workshops and Conferences Grants**

The SFI Conference & Workshops programme aims to support international meetings held in Ireland for intensive inquiry and collaboration on topics of timely scientific importance relating to the areas of research that underpin Biotechnology, Information and Communications Technology and Sustainable Energy and Energy-Efficient Technologies. Awards range from €500 to €50,000.

**SFI Technology Innovation Development Awards (TIDA)**

The TIDA awards are designed to enable researchers to focus on the first steps of an applied research project which may have a commercial benefit if further developed. The objective of the TIDA awards is to realise a greater economic impact from the state investment in oriented basic research.

**SFI Healthcare Innovation Award Programme (HIPA)**

The Healthcare Innovation Programme is intended to encourage biomedical exploration in the areas of Immune-modulated inflammatory diseases.

**SFI Short Term Travel Fellowship Supplement**

The Short Term Travel Fellowship (STTF) is designed to enable Irish-based researchers to collaborate on research projects in academic and industrial laboratories outside the Republic of Ireland for a period of 1 month minimum to a maximum of 6 calendar months. The budget available, on a competitive basis, is up to **€30,000** direct costs for a period of 1 month minimum to a maximum of 6 calendar months.

**SFI-HRB Translational Research Award**

The Translational Research Award (TRA) joint initiative aims to support the research funding strategy of both the HRB and SFI (HRB-SFI). The initiative focuses resources in areas which offer the greatest potential for translation into impacts and benefits for health and long term economic development, as well as for more efficient and effective collaboration between researchers based in an academic setting and those working in a service delivery/clinical setting who are engaged in translational research.

**Tyndall National Access Programme**

The Tyndall National Institute in association with the Department for Jobs, Enterprise and Innovation provides access for researchers to state-of-the-art research facilities and equipment, funded by SFI, with consequent benefits for research quality, innovation and economic competitiveness.

**SFI UREKA Supplements**

SFI UREKA Supplement Awards support active undergraduate research participation in the summer months in the laboratories of SFI funded researchers for a period of 10-12 weeks.

**SFI UREKA Site International Exchange Programme**

The SFI UREKA Site International Exchange Programme formalises exchange programmes between a currently funded UREKA Site and a similar international programme (eg. REU Sites in the US), having a complementary research focus. Awards support reciprocal exchange of up to two Irish students to the partner site.

**SFI E.T.S. Walton Visitor Awards**

SFI E.T.S. Walton Visitor Awards support leading international scientists who wish to undertake research in Ireland for up to 12 months. Awards normally range up to €200,000.

**SFI UREKA Sites**

SFI UREKA Site Awards support active undergraduate research participation for a period of 10-12 weeks in the summer in the laboratories of clustered researchers from Irish 3<sup>rd</sup> level institutions. Each supported site has a focused research theme, and engages 10-16 undergraduate student researchers each year, over a period of three years award duration. Awards typically range between € 60,000 and €110,000 per year.

#### **SFI President of Ireland Young Researcher Award (PIYRA)**

SFI PIYRA Awards recognize outstanding engineers and scientists who, early in their careers (no more than five years since PhD), have already demonstrated or shown exceptional potential for leadership at the frontiers of knowledge. Awards are normally up to €1m over five years.

#### **SFI Engineering Professorship and Lectureship Programme**

Proposals to this Programme are invited from all fields of engineering. SFI funding will be €150,000 (Professorships) and €75,000 (Lectureships) in direct costs per annum. A minimum cost share contribution for each post of 20% (of SFI direct costs) by industry sponsors will be required (€30,000 and €15,000 p.a., respectively), bringing the total award value per annum to €180,000 and €90,000, respectively. SFI Engineering Professorship and Lectureship posts may be held for up to five years.

#### **SFI Stokes Professorship and Lectureship Awards**

The SFI Stokes Professorship and Lectureship Programme aims to support the research strategy of Schools and Departments by funding Lectureship and Professorship positions in situations where a permanent post is not currently vacant. Professorships are funded at the rate of €180,000 per annum and Lectureships at €90,000 per annum in Direct Costs. Awards may be held for 5 years.

#### **SFI Mathematics Initiative**

This initiative is intended to encourage mathematical research that has a potential impact on enterprise, industry, science, engineering and mathematical education. Proposals to this initiative are now invited in all fields of mathematics. The maximum award would be approximately €1m (direct costs) over 4 years.

#### **SFI Starting Investigator Research Grant (SIRG)**

SIRG provides an opportunity for excellent early-career-stage investigators to carry out independent research in the fields of science and engineering that underpin biotechnology, information and communications technology, and sustainable energy and energy-efficient technologies. The award also provides funding for a postgraduate student, who will be primarily supervised by the Starting Investigator (SI). SIRG awards are up to €500,000 direct costs for a period of four years.

#### **European Research Council (ERC)**

SFI acts as Ireland's National Delegate and National Contact Point for Sciences & Engineering to the European Research Council (ERC). The ERC's 'IDEAS' programme will spend approx €7bn on funding principal investigator-driven, frontiers research projects between 2007-2013.



## Department of Jobs, Enterprise and Innovation

### Shannon Development

Shannon Free Airport Development Company Act 1959 and several amendment Acts govern the activities of Shannon Development and provide for State equity (from the Minister for Finance), and grants, for specific functions from the Ministers for Jobs, Enterprise and Innovation and for Transport, Tourism and Sport in relation to Limerick, Clare, North Tipperary, South-West Offaly and North Kerry. Shannon Development acts under the aegis of the Ministers for Jobs, Enterprise and Innovation and Transport, Tourism and Sport. Shannon Development's vision for the Shannon Region is that it will fully develop its natural and man-made assets in order to play a central role in Ireland's economic recovery.

Shannon Development's key goals are:

- To focus on the broader regional economic development of the Shannon Region.
- To give priority to addressing the needs of the less developed areas of the Shannon Region.
- To help build a viable counter-pole to the more developed eastern region in accordance with the objectives of the National Spatial Strategy.
- To play a key role in the development of the potential of Shannon International Airport.
- To develop the Property portfolio of the Company to deliver on our mandate.
- To exercise a strong regional tourism remit as the Tourism Authority for the Shannon Region.

The key responsibilities of the Company include the development and promotion of the Shannon Free Zone; the promotion and development of tourism in the Region; the development of industrial and tourism infrastructure; managing the Company's property portfolio and the development of strategic projects that have a significant economic impact throughout the Region.

	€'000 2010	€'000 2011
<b>Research and Development Programmes</b>		
<b>Product and Process R&amp;D</b>		
Grants of up to 35 percent of eligible expenditure are available to firms in the Mid-West region carrying out product and process development projects. All R&D grants paid by Shannon Development are funded from the Exchequer Allocation.	4,117	6,206
<b>Feasibility Grants</b>		
Grants of up to 50 percent of eligible expenditure are provided for feasibility studies to enable individuals, groups and firms to seek out and evaluate prospective new product ventures and market opportunities. Grants paid to industries located on the Shannon Free Zone are funded from Shannon Development's Exchequer Allocation.	72	56
<b>Training, Education and Information</b>		
Specialised training is given to assist in the starting-up of new high tech firms.	406	803
<b>Other S&amp;T Activities</b>	97	97

## Dept. Environment, Heritage & Local Government

The Department is responsible for policy and programme formulation in relation to the environment, heritage, planning and housing; the development and financing of public infrastructure; the local government system; and for a number of regulatory functions.

Most of the Department's spending is channelled through local authorities and as such local authorities are the main providers of public infrastructure and the provision of services locally. The Department's mission is "to promote sustainable development and improve the quality of life through protection of the environment and heritage, infrastructure provision, balanced regional development and good local government".

	€'000 2010	€'000 2011
<b>Research and Development Programmes</b>		
<b>Housing Programme</b>		
<ul style="list-style-type: none"> <li>▪ Research on appropriateness of CO2 Detectors with biomass boilers.</li> <li>▪ Research into the use of 'form factor' in energy ratings calculations.</li> <li>▪ Part L - Potential for energy saving targets in non-domestic buildings.</li> <li>▪ Developing a code of practice for the retro-fit of Irish dwellings.</li> <li>▪ Assessing acceptable construction details to support TGD L conservation of fuel and energy dwellings 2010.</li> </ul>	104	50
<b>Planning</b>		
ESPON - The European Spatial Planning Observatory Network (ESPON) programme was launched after the adoption of the European Spatial Development Perspective (ESDP) in 1999. ESPON is now in its second phase - the Department is committed to continuing to support ESPON in that phase (2007 to 2013) to the total amount of €401,017.	57	58
International Centre for Local and Regional Development - spatial housing indicators.	6	0
Friends of the Irish Environment - examining the potential for development of a GIS tool to quantify peat extraction in Ireland.	7	0
<b>Technical Services</b>		
<b>Planning</b>		
An Irish environmental spatial data centre, the Irish Spatial Data Exchange (ISDE), is being developed by a six-member consortium of which the Department is a partner. The Marine Institute is the lead agency and manages the technical development in cooperation with a private GI company Compass Informatics.	65	66
The Department is developing a national GIS database of local authority development plan and LAP zoning maps, otherwise known as the DevPlanGIS project. The DevPlanGIS project is a major priority for the Department and is aimed at developing a national mapping system for statutory plans with which key DECLG and other publicly available spatial data sets, including the National Housing Development Survey, OPW flood zones, school catchments etc., will be integrated over time. The mapping will also be an essential input to the work of the National Asset Management Agency, the National Transport Authority and		

<p>other relevant agencies who are contributing to the cost of developing the project.</p> <p>The EU INSPIRE Directive (2007/2/EC), which entered into force on 15 May 2007, aims to create a European Union spatial data infrastructure to enable the sharing of environmental spatial information among public sector organisations and better facilitate public access to spatial information across Europe. The INSPIRE Directive was transposed into Irish law on 1<sup>st</sup> August 2010.</p>		
<p><b>Other S&amp;T Activities</b></p>		
<p><b>Developing a Risk Based Approach to Fire and Emergency Cover</b></p> <p>The Department of the Environment, Community and Local Government is working with fire authorities around the country to devise and implement a risk based approach to fire and emergency cover.</p> <p>This project will improve fire services capability, assist in optimising the deployment of resources and identify future fire cover requirements through population related risk analysis.</p>	315	300
<p><b>Local Services - The Library Council</b></p> <p>Used for the maintenance and upgrading of the <a href="http://www.askaboutireland.com">www.askaboutireland.com</a> website. The website contains information about libraries in Ireland as well as much information that can be used by school students across the country in their research projects.</p>	65	60

# Dept. Environment, Heritage & Local Government

## Environmental Protection Agency

The Environmental Protection Agency (EPA) is an independent public body established in July 1993 under the Environmental Protection Agency Act, 1992. Its sponsor in Government is the Department of the Environment, Community and Local Government. The EPA is a statutory body responsible for protecting the environment in Ireland. The EPA regulate and police activities that might otherwise cause pollution and ensure there is solid information on environmental trends so that necessary actions are taken. Priorities are protecting the Irish environment and ensuring that development is sustainable. Since 1994, the EPA research programme has supported R&D activities in a range of environmental areas. This work was carried out by researchers in third level institutions, state agencies, government departments, local and regional authorities, the private sector and by individuals.

### STRIVE

The current Research programme - the Science, Technology, Research and Innovation for the Environment (STRIVE) Programme, focuses on protecting and improving the natural environment, through the provision and accumulation of scientific research and knowledge. It is currently funded through the Environment Fund as part of the National Development Plan 2007 - 2013.

There were 28 STRIVE research reports and 4 CCRP research reports published in 2010.

- Climate Change

The CCRP continued to provide essential information in support of national actions on climate change. This includes support for analysis of greenhouse gas (GHG) emissions and sinks reported to the EU and UN annually and analysis of climate change impacts and adaptation. Work on assessment of national adaptive capacity was finalized for publication in 2011.

National Integrated Assessment and Energy Modelling was advanced to provide analysis of emissions pathways to 2020 and up to 2050. Irish expert engagement with the IPCC Special Report on renewable energy was enabled. This will be published in 2011.

- Water

Continued support for research supporting WFD policy formation and implementation nationally. Publication of four significant research reports directly supporting WFD.

In addition, publication of three research reports that have developed innovative technologies to treat Nitrogen and Phosphorous containing wastewaters. These have been piloted & used in waste water treatment works in NI, in slaughter house facility industries & Teagasc sites with waste (alum sludge) from DCC drinking water treatment plants.

The EPA in conjunction with NUI Galway and Galway County Council formally launched a state-of-the-art wastewater treatment facility at Tuam, Co. Galway. The facility has significant potential for innovative research for the development and testing of novel environmental technologies.

- Sustainable Environment

The EPA published a report on Science and Sustainability outlining 45 Case Studies how EPA funded research has provided significant support for environmental policy and decision making at national and international levels.

The research project Biochange was completed in 2010. This interdisciplinary, multi-institutional study project provided necessary information for protecting the diversity of Ireland's flora and fauna and focused on emerging and important issues surrounding Irish biodiversity.

There were 9 new projects funded under the business-led Cleaner Greener Production Programme Phase 5, (CGPP), which have been co-funded by NWPP.

	€'000 2010	€'000 2011
<b>Research and Development Programmes</b>		
Strive and ERTSI Programmes	10,605	13,000
Climate Change Research Programme	3,017	-

## Dept. Environment, Heritage & Local Government

### Met Éireann

Met Éireann, the Irish Meteorological Service, established in 1936, is a division of the Department of the Environment, Community & Local Government. The service is engaged in the following activities:

- Collection, analysis and publication of meteorological, geophysical and geochemical data;
- Supply of weather forecasts, statistical information and scientific advice to agricultural, industrial and public utility undertakings, radio, television and the web, maritime interests and members of the public;
- Supply of similar information to government departments, semi-State bodies, and the defence forces;
- Provision of meteorological facilities in Ireland in support of civil aviation and the supply of advice on meteorological aspects of civil aviation matters generally;
- Development work in applied meteorology;
- Climate Change research;
- Co-operation with the meteorological services of other countries and the representation of Ireland at meetings concerned with international co-operation in meteorology.

	€'000 2010	€'000 2011
<b>Research and Development Programmes</b>		
Research is carried out in various fields of meteorology and climatology.	459	524
<ul style="list-style-type: none"> <li>▪ The primary thrust of the research effort is towards the development of computer models for weather analysis and prediction and participation in an international research collaboration called HIRLAM (High Resolution Limited Area Modelling), together with Norway, Sweden, Finland, Denmark, Spain, the Netherlands and Iceland. The HIRLAM forecasting model is now in routine use and upgraded regularly.</li> <li>▪ Work on homogenisation methods of climate series and development and implementation of improved gridding methodologies for climate data will also continue.</li> <li>▪ Development work is also ongoing in the area of NWP post-processing and also in the area of Forecaster Workstation and Automatic Weather Observations.</li> </ul>		
<b>Training, Education and Information</b>	8,526	8,819
<b>Technical Services</b>	7,068	7,152
<b>Technology Transfer</b>	219	219
<b>Other S&amp;T Activities</b>	3,583	3,736

## Dept. Environment, Heritage & Local Government

### Radiological Protection Institute of Ireland (RPII)

The Radiological Protection Institute of Ireland was established on 1st April 1992 in accordance with the provisions of the Radiological Protection Act, 1991. Its main functions are:

- to advise the government and to provide information to the public on matters relating to radiological safety;
- to regulate the use, transportation and disposal of radioactive materials;
- to prepare safety codes and regulations for the safe use of ionising radiation;
- to measure levels of radioactivity in the environment and assess their significance;
- to assist in the development of a national plan from an emergency arising from a nuclear accident;
- to provide a dosimeter service and to promote knowledge, proficiency and research in nuclear science and technology.

	€'000 2010	€'000 2011
<b>Research and Development Programmes</b>		
<b>Monitoring of environmental radiation</b> This programme monitors contamination of the aquatic and terrestrial environment by radioactivity from man-made sources. It also carries out other related research.	178	172
<b>Radon studies and information service</b> The monitoring of indoor radon levels in homes, schools and workplaces and related research to determine the extent of elevated radon levels in buildings is the main element of the programme. Information and advice to government and other agencies on all matters relating to ionising radiation are provided by the Information Service.	309	217
<b>Nuclear Safety</b>	90	85
<b>Technical Services</b>	1,418	1,293
<b>Training, Education &amp; Information</b>	1,887	1,726

## Department of Finance

### Economic and Social Research Institute (ESRI)

The Economic and Social Research Institute (ESRI) is a not-for-profit organisation which was founded in 1960 as the Economic Research Institute. In 1966 the Institute assumed responsibility for social research and extended its title to the Economic and Social Research Institute. The ESRI is a company limited by guarantee with no share capital.

ESRI research has been a vital constituent in the national debate on economic and social issues over the past 50 years. The ESRI's mission is to produce high-quality research that contributes to understanding economic and social change in the new international context and that informs public policymaking and civil society in Ireland and throughout the European Union. The Institute is governed by a Council, currently twelve in number, elected from the general body of its membership.

Current research is in the areas of competition & regulation, demography & migration, education, energy, environment, equality & integration, health, internationalisation & competitiveness, labour market, macroeconomics, social inclusion & quality of life, taxation, welfare & pensions, transport & infrastructure. Institute research staff undertake commissioned studies, surveys and data analysis on behalf of a wide range of Irish and international organisations. The Institute also manages the Hospital In-patient Enquiry (HIPE) and the National Perinatal Reporting System (NPRS) for the Department of Health and Children.

	€'000 2010	€'000 2011
<b>Research and Development Programmes</b>		
During 2010 the Institute undertook research projects in competition & regulation, demography & migration, education, energy, environment, equality & integration, health, internationalisation & competitiveness, labour market, macroeconomics, social inclusion & quality of life, taxation, welfare & pensions, transport & infrastructure.	6,275	6,055
<b>Technical Services</b>		
In 2010 work continued on the National Longitudinal Study of Children in Ireland on behalf of the Office of the Minister for Children. The ESRI also continued to provide management services to the Department of Health regarding the operation of the HIPE and NPRS systems.	5,648	8,332



## Department of Health

The Department of Health was established under the Ministers and Secretaries Act (Amendment), 1946. The mission of the Department of Health is "in partnership with the providers of health care, and in co-operation with other government departments, statutory and non-statutory bodies, to protect, promote and restore the health and well-being of people by ensuring that health and personal social services are planned, managed and delivered to achieve measurable health and social gain and provide the optimum return on resources invested".

The role of the Department of Health is to support the Minister and the democratic process by:

- Formulating policy underpinned by an evidence-based approach and providing direction on national health priorities ensuring that quality and value for money are enhanced through the implementation of an evidence-based approach underpinned by monitoring and evaluation.
- Protecting the interests of patients and consumers and supporting practitioners and professionals to practice to the highest standards by providing a prudent and appropriate regulatory framework.
- Providing effective stewardship over health resources by demanding accountability for achieving outcomes including financial, managerial and clinical accountability, and by providing the frameworks, including enhanced service planning at national level, to improve the overall governance of the health system.
- Fulfilling our obligations in relation to EU, WHO, Council of Europe and other international bodies and the continued implementation of the co-operation agenda decided by the North-South ministerial council.

	€'000 2010	€'000 2011
<b>Research and Development Programmes</b>		
<b>National Cancer Registry Board</b>	2,367	2,826
The National Cancer Registry Board was established in June 1991, under the Health (Corporate Bodies) Act, 1961. Its functions are inter alia, to research and analyse information relating to the incidence and prevalence of cancer and related tumours in Ireland and to promote and facilitate the use of data collected in approved research projects and in the planning and management of services.		

# Department of Health

## Health Research Board

The Health Research Board (HRB) is the lead agency in Ireland supporting and funding health research. It provides funding, maintains health information systems and conducts research linked to national health priorities. The HRB's mission is to improve people's health, patient care and health service delivery by:

- leading and supporting excellent research by outstanding people within a coherent health research system;
- generating knowledge and promoting its application in policy and practice; and
- play a key role in health system innovation and economic development.

The HRB's Strategic Business Plan 2010-2014 outlines how it will achieve its mission, working in partnership with other organisations. The HRB's strategic goals are:

- Driving the development of excellent clinical research, including applied biomedical research, within a coherent health research system.
- Building capacity to conduct high-quality population health sciences research and health services research.
- Working with key partners to develop and manage high-quality national health information systems.
- Generating and synthesising evidence, and promoting the application of knowledge to support decision-making by policy makers and relevant practitioners.

	€'000 2010	€'000 2011
<b>Research and Development Programmes</b>		
<b>Research Strategy and Funding Directorate</b>		
<b>Clinical &amp; Applied Biomedical &amp; Research Unit</b> has responsibility for developing the infrastructure, career support and programmes for biomedical and clinical research in Ireland. The Unit manages the award to ICORG (the cancer clinical trials network), and the development of other large-scale infrastructure initiatives such as clinical research centres and further networks. The Unit also manages a wide portfolio of project and programme grants, including specific initiatives in translational research. The Unit co-funds awards with SFI, Wellcome Trust, the HSC RDO (Belfast), and others.	26,178	28,546
<b>Population Health and Health Services Research Unit</b> has responsibility for building capacity to conduct world-class health services and population health research in Ireland. This involves providing support for healthcare professionals to engage in research across their career pathways and in growing the number of individuals and teams trained in the applied research methods required to conduct this type of research. The unit works closely with the Health Services Executive and other health and social care agencies to fund centres and networks aligned with policy and practice priorities in our healthcare system.	11,357	9,579
(See next box for detailed breakdown of this funding)		

<b>Research Strategy and Funding Directorate - Awards in 2010</b>		
The HRB currently manages funding programmes and commitments worth approximately €100m. Funding covers all areas of health research from biomedical, translational, clinical and practice-based research, through to population health and health services research. Research Strategy and Funding Directorate awards in 2010 within the eight main Research Areas that it supports were:		
1. Basic Biomedical Research	3,892	2,671
2. Applied Biomedical Research	11,894	5,746
3. Clinical Research	7,155	16,622
4. Applied Biomedical/Clinical Research	3,237	3,507
5. Population Health Sciences Research	2,733	2,604
6. Clinical/Population Health Sciences Research	1,372	314
7. Health Services Research	3,544	4,406
8. Clinical/Health Services Research	3,708	2,255
<b>Health Information and Evidence Directorate</b>		
National Health Information Systems Unit manages five national health information systems:	1,485	1,414
<ul style="list-style-type: none"> <li>▪ The National Drug Treatment Reporting System</li> <li>▪ The National Drug-Related Death Index</li> <li>▪ The National Psychiatric In-Patient Reporting System</li> <li>▪ The National Intellectual Disability Database</li> <li>▪ The National Physical and Sensory Disability Database</li> </ul>		
The databases provide a comprehensive and accurate information base for informing policy on and decision making in relation to the planning of specialised health and personal social services for:		
<ul style="list-style-type: none"> <li>▪ drug use</li> <li>▪ intellectual, physical or sensory disabilities</li> <li>▪ mental health</li> </ul>		
The <b>Evidence Generation &amp; Knowledge Brokering Unit</b> is a multi-disciplinary team of researchers and information specialists who provide objective, reliable and comparable evidence generation. They also facilitate a knowledge centre and on-line portal for the delivery of high-quality health information and research evidence. The Unit is the Irish national focal point for the European Monitoring Centre for Drugs and Drug Addiction (EMCDDA). The Unit also manages the National Documentation Centre on Drug Use.	1,143	1,179

## Department of Social Protection

The main functions of the Department are to formulate appropriate social protection policies and to administer and manage the delivery of statutory and non-statutory social protection schemes/services.

The mission of the Department is “to promote a caring society through ensuring access to income support and other services, enabling active participation, promoting social inclusion and supporting families”.

	€'000 2010	€'000 2011
<b>Research and Development Programmes</b>		
<b>Planning (Policy) Unit - monitoring and evaluation</b> The main objectives here are: the systematic review and evaluation of social welfare policies, programmes and schemes; the monitoring of economic and demographic developments and their impact on social welfare; the formulation of new social policy developments and their budgeting; liaising with government departments and other agencies on social policy matters; the compilation/ development of statistical bases for internal management and for publication. 60 staff are employed on these activities.	2,341	3,300
<b>Citizens Information Board</b> The Citizens Information Board is the national support agency responsible for supporting the provision of information, advice and advocacy on social services. The Board provides citizen’s information for the general public, support for information providers and social policy and research information.	998	996
<b>Technical Services</b> This expenditure is mainly in respect of fees and expenses for consultancy assignments, research and studies. The services covered are mainly the eGovernment projects; the design and development of new computer systems to support the administration of social welfare services; technical software support.	12,011	18,860

## Department of the Taoiseach

### The National Economic and Social Council

The National Economic and Social Council (NESC) was established by Government in November 1973. Its members include representatives from employer associations, trade unions, agricultural groups, community and voluntary organisations, environmental organisations, plus a number of independent members nominated by Government.

The function of the Council is to analyse and report to the Taoiseach on strategic issues relating to the efficient development of the economy and the achievement of social justice and the development of a strategic framework for the conduct of relations and the negotiation of agreements between the government and the social partners.

The NESC is financed by grant-in-aid from the Department of the Taoiseach and by income from the sales of publications. It employs a total of 16 staff. The NESC conducts studies on a wide range of relevant topics in the areas of economic and social policy.

Areas researched include: industrial policy, economic performance, social developments, the welfare state, migration, housing, the labour market, the environment, the European Union and the public policy system.

	€'000 2010	€'000 2011
<b>Research and Development Programmes</b>		
During 2010, the NESC published two studies on Ireland's experience in the European Union	1,156	1,184
(i) The Euro: An Irish Perspective (Report No 121)		
(ii) (ii) Re-finding success in Europe: The Challenges for Irish Institutions and Policy (Report No 122)		
The 2011 Work Programme included;		
▪ Economic Recovery		
▪ Activation		
▪ Standards and Accountability in Human Services		
▪ Enterprise and Innovation		

# Department of Transport

## National Roads Authority

The National Roads Authority was established with effect from 1 January, 1994, under the provisions of the Roads Act, 1993.

The Authority's primary function, under section 17 of the 1993 Act, is to secure the provision of a safe and efficient network of national roads. For this purpose it has overall responsibility for the planning and supervision of construction and maintenance works on these roads. In addition to its general mandate, the Authority has been assigned a number of specific functions under the Roads Act, including:

- preparing or arranging for the preparation of road designs, maintenance programmes and schemes for the provision of traffic signs and delineation/road markings on national roads;
- securing the carrying out of construction, improvement and maintenance works on national roads, allocating and paying grants to local authorities for these purposes;
- specifying standards in relation to construction or maintenance works;
- carrying out or assisting with training, research or testing activities in relation to any of its functions;
- promoting the case for Exchequer funding and EU assistance for national roads;
- entering into agreements with the private sector for the financing, operation and management of national road projects, and
- making toll schemes for national roads.

To ensure that all of the Authority's research activities are carried out in a coordinated way a formal Research Strategy has been initiated by the Board. The aim of this Research Strategy is to promote practical measures that will contribute to cost reducing and/or quality enhancing innovation in regard to the Authority's functions.

The research activities cover two broad functions:

- to undertake or arrange for research and development on road construction, maintenance, safety and transport matters of particular importance in Ireland, and
- to serve as a centre which can disseminate the findings of research in Ireland and other countries.

Research undertaken or commissioned by the National Roads Authority provides the Authority, the Department of Transport, local authorities and their consultants and contractors with information, technical assistance and guidance related to all aspects of road construction, traffic, and transportation which enable them to formulate policy and plan, design, construct, maintain and operate the road system in the most cost effective and environmentally sustainable manner and to best practice standards.

	€'000 2010	€'000 2011
<b>Research and Development Programmes</b>		
Research programmes include materials, environmental/sustainable construction; safety, heritage, value for money, transportation and land use.	1,406	1,519

## Offices

### Central Bank and Financial Services Authority of Ireland

The Central Bank Reform Act, 2010, created a new single unitary body - the Central Bank of Ireland - responsible for both central banking and financial regulation. The new structure replaces the previous related entities, the Central Bank and the Financial Services Authority of Ireland and the Financial Regulator.

The high level goals of the Central Bank of Ireland are to:

- **Contribute to Eurosystem effectiveness and price stability**  
Responsible for maintaining price stability through monetary policy formulation at ECB level. Aim to enhance the effectiveness of participation in monetary policy formulation through the provision of quality briefing for the Governor on Governing Council issues, while recognising that the Governor is solely responsible as a member of the Governing Council. Also responsible for the effective implementation of monetary policy.
- **Contribute to financial stability**  
The Authority has a legal mandate, in both domestic legislation and under the Maastricht treaty, to contribute to financial stability both in Ireland and across the euro area. A key focus is the resolution of the financial crisis. This includes monitoring overall liquidity for the banking system.
- **Ensure proper and effective regulation of financial institutions and markets**  
The objective of regulation is to minimise the risk of failure by ensuring compliance with prudential and other requirements. The Authority takes a risk based approach supported by open and challenging dialogue with firms by assertive staff, underpinned by a credible threat of enforcement. The purpose of securities market regulation is to promote an efficient and fair securities market.
- **Ensure that the best interests of consumers of financial services are protected**  
The objective is to protect customers and investors through conduct of business rules and other measures.
- **Provide independent economic advice and high quality financial statistics**  
Contribute to economic development by undertaking economic analysis and research designed to inform economic policy making across a range of areas. A key priority is to provide authoritative economic advice to Government by ensuring that such advice is relevant and timely. The provision of high-quality and timely statistical information is essential for this and also to provide a solid basis for decisions.
- **Ensure efficient financial services infrastructure to the economy: payment and currency**  
Oversight of payment systems is aimed principally at ensuring that payment and securities settlement systems are safe, effective and efficient and that access to such systems is not restricted and play a strong role in the development of a National Payments Strategy. With regard to currency services, the Authority manufacture, issue, store, process and authenticate bank notes and coins.
- **Maximise operational efficiency and cost effectiveness**  
Ensure that the organisation has the capability to deliver the key challenges set out in our Strategic Plan and that our operations are carried out in an effective and efficient manner.

	€'000 2010	€'000 2011
<b>Research and Development Programmes</b>		
<p>The Bank continued to monitor, analyse and project short-term developments in the Irish and Euro-area economies during 2010. It also conducted research into longer-term structural issues. The Bank co-operated with other Eurosystem national central banks and the ECB in these areas through its participation in ESCB committees and working groups. This work assisted the governor of the bank and other members of the ECB governing council in formulating policy during 2010. The Bank also assessed macroeconomic conditions and considered policy issues in a domestic context, with a view to supporting policies aimed at maintaining low inflation and sustaining long-term growth in the Irish economy.</p> <p>Main areas of economic research include: economic intelligence and forecasting, inflation and competitiveness, monetary issues, econometric modelling, public finances, structural issues, housing market, productivity and growth.</p>	861	1,426

## Central Statistics Office

The Central Statistics Office is responsible for the collection, processing and dissemination of official statistics. The statutory basis for this role is the Statistics Act, 1993. This Act constituted the Central Statistics Office as an independent office under the aegis of the Taoiseach. The CSO's basic mandate, under the Act, is the collection, compilation, extraction and dissemination for statistical purposes of information relating to economic, social and general activities and conditions in the State. The Act also underpins the CSO's role in co-ordinating the statistics produced by other public bodies.

The National Statistics Board (NSB) has the functions of guiding the strategic direction of the CSO and establishing priorities in responding to the demand for official statistics.

The CSO's strategy is to improve the scope, quality and timeliness of our statistics; minimise the burden on survey respondents; and increase the statistical use of administrative data.

	€'000 2010	€'000 2011
<b>Technical Services</b>	53,538	82,616



## Office of Public Works (OPW)

The main focal points of OPW activity are Flood Risk Management, National Procurement Service and Estate Portfolio Management comprising Property and Heritage Services. A number of services provided by the Office are shared/agency services to central Government Departments and Offices.

OPW employs specialist and professional staff in all aspects of architecture, engineering, valuation, quantity surveying and related disciplines. In-house resources are supplemented as required by contracting of services from private sector companies.

Over 90 percent of construction, maintenance and conservation work is contracted from the private sector. Total staff employed at the end of 2010 was 1830. The Office managed expenditure of €433m in 2010 on the OPW Vote in addition to a significant level of works carried out on an agency and repayment basis.

The primary spend on Research and Development in relation to Flood Risk Management in 2010 was €139,000, while there is an allocation of €203,000 for 2011. The total expenditure for Science and Technology for Flood Risk Management in 2010 was €5,731,000, while there is an allocation of €6,627,000 for 2011.

In the course of their work, OPW's professional staff carries out research and development of new building methodologies (including the area of sustainability practice), hydraulic and hydrological research and development and specialist conservation and restoration techniques.

	€'000 2010	€'000 2011
<b>Research and Development Programmes</b>		
Flood Studies Update	54	70
Capital expenditure on R&D buildings (R&D % allocation )	195	377
<b>Training, Education and Information</b>	67	-
<b>Technical Services</b>	6,424	5,525
Capital expenditure on buildings for S&T services	2,423	6,921

## The State Laboratory

The State Laboratory is a Civil Service Government office under the aegis of the Department of Finance. It was established in 1924 following the merger of the revenue laboratory and the chemical laboratory of the Department of Agriculture, Food and the Marine.

Its main function is the provision of an analytical and advisory service to Government Departments and Offices. The bulk of the work is statutory in nature and the main areas of its analytical activity are in the revenue, agricultural and environmental arenas and the provision of a toxicology service to Coroners. Its analytical results and advice are used for the purposes of litigation and advice; the implementation and formulation of legislation; and assessing the potential requirements for future national and/or EU legislation. The Laboratory is represented by its staff on national, European (EU) and international committees. It participates at both EU and international levels in the collaborative testing of analytical methods.

The State Laboratory is directly funded from the exchequer and at end of 2010 had 93 staff serving, of whom 74 (including the State Chemist) are directly involved in science and technology activities; the remainder are in administration and support services.












	€'000 2010	€'000 2011
<b>Technical Services</b>		
<b>Agriculture and Food</b>	8,333	8,600
In the agriculture sector, the analytical work carried out in the State Laboratory is a critical component in the control of the quality and safety of Irish food and food products. Samples from food producing animals, animal feedstuffs, fertilisers, foods and plants are analysed to monitor compliance with European and National legislation governing their production, distribution and sale.		
<ul style="list-style-type: none"> <li>Animal feedstuffs</li> </ul> <p>Animal feedstuffs are analysed for their nutrient content, growth promoters, antibiotics, mycotoxins, dioxins and also for minerals, trace elements and heavy metals.</p>		
<ul style="list-style-type: none"> <li>Microbiology</li> </ul> <p>Microbiological techniques are employed to detect a number of quarantine bacterial plant pathogenic diseases.</p>		
<ul style="list-style-type: none"> <li>Fertilisers</li> </ul> <p>Fertilisers are monitored for compliance with legislation by determining the levels of the nutrients nitrogen, phosphorus and potassium, trace elements and toxic heavy metals. In addition the nitrate content of vegetables is also monitored.</p>		
<ul style="list-style-type: none"> <li>Toxicology - Veterinary</li> </ul> <p>Fluid and tissue from food producing animals are analysed to monitor compliance with EU veterinary residue legislation and the Irish National Residue Plan and to fulfil the Laboratory's role as an EU-appointed National Reference Laboratory for Veterinary Residues. The analysis is primarily for hormones and other drug groups.</p>		

<p>Veterinary medical products are assayed for compliance with various legislative prescripts and analyses are also carried out on samples seized in accordance with the Animal Remedies Act.</p> <p><b>Revenue</b></p> <p>In the Revenue sector, the State Laboratory advises the Revenue Commissioners on the correct classification of goods under the Customs and Excise Tariff of Ireland and on the application of the appropriate excise duties applicable to hydrocarbon oil products and alcoholic beverages. In addition, it assists the Revenue Commissioners in their role of controlling compliance with the export refund and import levy systems of the EU Common Agriculture Policy.</p> <p>Hydrocarbon oils, alcoholic beverages and non-potable alcohol containing products are analysed to assist the Revenue Commissioners to accurately determine the revenue accruing to the State, to prevent the illegal use of rebated products, and to prevent the illegal production of laundered diesel.</p> <p>The Common Customs Tariff (CCT) determines the duty payable on imported goods. Chemical analysis carried out by the State Laboratory enables the Revenue Commissioners to classify goods for this purpose.</p> <p><b>Environment/special services</b></p> <p>In the Environment area, Hydrocarbon oils are analysed for lead, sulphur and benzene levels and biological samples are analysed to monitor exposure of workers to the toxic elements in the workplace. Expert advice and chemical analysis services are provided to architects and conservators responsible for the restoration and conservation of buildings and cultural artefacts.</p> <p><b>Irish Medicines Board</b></p> <p>An analytical service is provided to the Irish Medicines Board to monitor samples seized for enforcement purposes under the provisions of the Medicinal Products (Amendment) Regulations. A variety of analytes ranging from hormones and steroids to pharmaceutical products are analysed.</p> <p><b>Toxicology - Human</b></p> <p>Analysis is carried out on post mortem biological tissues and fluids of human origin in order to ascertain the cause of sudden or unexplained deaths, to identify the presence or absence of legal drugs, illegal drugs and other relevant substances; the analysis quantifies the levels of these substances. Biological samples are also analysed for drugs in criminal cases (such as murders and alleged rapes) and in cases of deaths in custody.</p> <p><b>Quality Control and Accreditation</b></p> <p>Accreditation to EN/ISO 17025 was awarded to the State Laboratory by the Board of Irish National Accreditation Board (INAB) in July 2003. Once accredited, INAB carries out annual surveillance visits to ensure ongoing compliance of the Quality System with their requirements and to assess new test methods being added to the scope of accreditation. The Quality System is continuously assessed and improved through regular internal audits and laboratory performance is monitored through participation in proficiency testing schemes and inter-laboratory comparisons.</p>		
<p><b>Training, Education and Information</b></p>	<p>50</p>	<p>50</p>





## Appendix 7: Forfás Board Members

			
<p><b>Eoin O'Driscoll</b> Chairman, Forfás Chairman, Southwestern</p>	<p><b>Martin Shanahan</b> Chief Executive, Forfás</p>	<p><b>Bob Brannock</b> President, European Operations, Genworth Financial</p>	<p><b>Timothy Dullea</b> Former Chief Executive Officer, Tipperary Co-op</p>
			
<p><b>Mark Ferguson</b> Director General, Science Foundation Ireland</p>	<p><b>Miriam Magner Flynn</b> Managing Director, Career Decisions</p>	<p><b>William O'Brien</b> Chief Executive, William O'Brien Plant Hire Ltd</p>	<p><b>Barry O'Leary</b> Chief Executive Officer, IDA Ireland</p>
			
<p><b>Frank Ryan</b> Chief Executive Officer, Enterprise Ireland</p>	<p><b>Dr Don Thornhill</b> Business Adviser and Company Director</p>		
			
<p><b>Michael O'Leary</b> Secretary to the Board</p>			

## Appendix 8: Recent Forfás Publications

Report of the Research Prioritisation Exercise Group Forfás, DJEI	March 2012
Vacancy Overview 2011 Expert Group on Future Skills Needs	February 2012
Guidance of Higher Education Providers on Current and Future Skills Needs of Enterprise Forfás	February 2012
Addressing High-Level ICT Skills Recruitment Needs: Research Findings Expert Group on Future Skills Needs	January 2012
Ireland's Competitiveness Challenge 2011 National Competitiveness Council	January 2012
Strategy for Science, Technology and Innovation Indicators Forfás, DJEI, DAF&M, DoH, DEC&LG, DE&S, DCENR	December 2011
Review of Energy Competitiveness Issues and Priorities for Enterprise Forfás	December 2011
South East Region Employment Action Plan Forfás	December 2011
Statistics at a Glance 2011 Forfás	December 2011
The Voice of Small Business: Report of the Advisory Group for Small Business Advisory Group for Small Business	November 2011
Review of the Economic Impact of the Retail Cap Forfás	November 2011
Business Continuity Planning In Severe Weather Forfás	November 2011
Intelligent Infrastructure: Delivering the Competitiveness Benefits and Employment Opportunities Forfás	November 2011
The Games Sector in Ireland: An Action Plan for Growth Forfás	October 2011
Ireland's Competitiveness Scorecard National Competitiveness Council	September 2011
Research and Development Funding and Performance in the State Sector 2009 - 2010 Forfás	August 2011
Monitoring Ireland's Skills Supply 2011 - Trends in Education and Training	August 2011

<b>Outputs</b> Expert Group on Future Skills Needs	
<b>Developing a Green Enterprise</b> Forfás	July 2011
<b>National Skills Bulletin 2011</b> Expert Group on Future Skills Needs	July 2011
<b>Forfás Annual Report 2010</b> Forfás	June 2011
<b>Costs of Doing Business in Ireland 2011</b> National Competitiveness Council	June 2011
<b>Annual Employment Survey 2010</b> Forfás	May 2011
<b>Response from Ireland to the European Commission Green Paper: Framework for Research and Innovation Funding</b> Advisory Science Council, Forfás, DJEI	May 2011
<b>The Expert Group on Future Skills Needs Statement of Activity 2010</b> EGFSN	May 2011
<b>Business Expenditure on R&amp;D 2009/2010</b> Forfás, CSO	April 2011
<b>Developing Recognition of Prior Learning</b> EGFSN	April 2011
<b>Vacancy Overview 2010</b> EGFSN	March 2011
<b>Statement on Competitiveness Priorities</b> NCC	March 2011
<b>Analysis of Ireland's Innovation Performance</b> Forfás	March 2011
<b>Progress Report on the implementation of the recommendations of the report of the High Level Group on Green Enterprise</b> Forfás, DETI	March 2011
<b>Staying the Course</b> Advisory Council for Science, Technology and Innovation	January 2011
<b>Research strengths in Ireland: a bibliometric study of the public research base - Extension Report: Public Research Organisations</b> Forfás, HEA	December 2010



The publications of Forfás and the advisory groups to which it provides research support are available at [www.forfas.ie](http://www.forfas.ie)

To sign up for our email alerts contact us at [info@forfas.ie](mailto:info@forfas.ie) or through the website.

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