

CAPITAL EXPENDITURE REVIEW 2011

**Department of Communications, Energy
and Natural Resources**

Introduction

The Department of Communications, Energy and Natural Resources has responsibility for the telecommunications, broadcasting and energy sectors, and to regulate, protect and develop the natural resources of Ireland. The main areas of overall expenditure (capital and current) are summarised in the table below:

Programme:	2007 Outturn	2008 Outturn	2009 Outturn	2010 Prov. Outturn	2011 FREV Estimate
	€ million	€ million	€ million	€ million	€ million
A: Communications	46.580	58.644	49.650	60.918	42.313
B: Broadcasting	258.410	268.043	269.270	256.514	250.266
Broadcasting Licence Fees	217.466	224.174	228.587	222.376	222.130
C: Energy	63.700	71.766	84.113	119.149	136.249
D: Natural Resources	16.088	25.784	20.604	23.911	24.468
E: Inland Fisheries	44.132	47.784	36.940	29.497	29.391
F: Administration (Corporate Management Programme)	18.518	15.832	11.783	10.226	12.029
Other					
Miscellaneous	-	-	-	-	-
Marine Safety	-	-	-	-	-
Sea Fisheries	73.081	-	-	-	-
TOTAL GROSS EXPENDITURE	520.509	487.853	473.232	500.215	494.716
<i>Included Total Gross Expenditure:-</i>					
Exchequer Pay	70.401	55.573	47.147	39.003 ¹	42.093
Of which is					
Exchequer Pensions*				1.894	2.826

* If paid from the Vote

NOTES

- Capital carryover amounts included in the above figures
- Marine Safety transferred to D/Transport on 1 January 2006
- Sea Fisheries transferred to D/Agriculture & Food on 20 October 2007
- No breakdown of Exchequer Pensions prior to 2010

¹ The 2010 Outturn is lower than the 2011 Estimate for two reasons: (1) The pension contributions received from bodies under the aegis of the Department are netted off the gross Exchequer 2010 pay figure but not the 2011 pay figure and (2) In a number of cases (SEAI, IFI and the Loughs Agency) the 2010 Outturn was lower than the 2010 Estimate due to delays in redeploying in and/or recruiting approved staffing numbers. These were provided for in the 2011 Estimate which is fully consistent with Department of Public Expenditure and Reform pay ceilings.

This review focuses on capital expenditure. The main areas of capital expenditure are summarised in the table below:

Programme:	2007 Outturn	2008 Outturn	2009 Outturn	2010 Prov. Outturn	2011 FREV Estimate
	€ million	€ million	€ million	€ million	€ million
A: Communications	41.009	51.869	43.834	56.167	34.086
B: Broadcasting	5.237	2.431	0.900	1.801	2.302
Broadcasting Licence Fees	-	-	-	-	-
C: Energy	47.348	57.325	61.692	95.583	110.153
D: Natural Resources	7.403	12.358	8.244	8.530	8.586
E: Inland Fisheries	3.939	2.126	1.781	1.457	1.307
F: Administration (Corporate Management Programme)	3.028	2.141	0.638	0.525	1.566
Other					
Miscellaneous	-	-	-	-	-
Marine Safety	-	-	-	-	-
Sea Fisheries	30.380	-	-	-	-
TOTAL GROSS EXPENDITURE	138.344	128.250	117.089	164.063	158.000

NOTES

- Capital carryover amounts included in the above figures
- Marine Safety transferred to D/Transport on 1 January 2006
- Sea Fisheries transferred to D/Agriculture & Food on 20 October 2007

The Department accounts for €158m (or 3%) of total Voted gross Exchequer capital expenditure in 2011, broken down into the following key programme areas:

€m	Overall
Communications	34.086
Broadcasting	2.300
Energy	110.153
Natural Resources	8.553
Inland Fisheries	1.307
Administration	1.101
Other Services	0.500
TOTAL	158.000

The vast bulk of capital expenditure in the Energy area is undertaken by State Companies, not by the Private Sector. As set out above, historically the direct Exchequer contribution has been minimal. ESB/BGE/Eirgrid currently propose to invest about €8bn in Energy Infrastructure over the period embraced by the Capital Review. It is estimated that the Private sector is currently investing some €400m to €500m annually in Telecommunications. The NewERA proposals in the Programme for Government envisaged significant and accelerated investment in Energy and Telecommunications. These are stated to be funded by the State Companies, the National Pensions Reserve Fund and €2bn from the sale of non strategic State assets. Parallel work is ongoing in relation to the establishment of NewERA under the auspices of the Cabinet Committee on Economic Infrastructure.

This review is solely confined to capital areas that are directly funded from the Vote of the Department of Communications, Energy and Natural Resources. The Department of Public Expenditure and Reform has requested that as part of the review, the Department present detailed information in relation to all capital expenditure programmes and projects, and that capital expenditure is modelled at annual allocation levels of €110m and €77m. In addition, the Department is presenting what it considers to be appropriate capital allocations over the period 2012 to 2016 taking account of the key economic and developmental role the Department plays in the energy and communications sectors, and its capacity to contribute to economic growth and the creation of sustainable employment. The summary findings of the review are presented below. The detailed information underpinning the various scenarios is set out in the body of this report and in associated tables.

Scenario 1: Recommended Voted Capital Allocations 2012 to 2016

€m	2011	2012	2013	2014	2015	2016
Energy						
Communications and Broadcasting						
Natural Resources and Inland Fisheries	9.860	12.186	10.066	10.890	8.226	7.951
Other	1.601	1.601	1.601	1.601	1.601	1.601
Total	158.000	174.366	161.993	183.622	150.935	135.433

The above table represents the Department's recommended capital allocation for the period 2012 to 2016. It averages €161m per annum (or 3% of gross capital spend in 2011). This is a very modest allocation given the Department's key economic and development role in ensuring the priorities in the Programme for Government are implemented. A modest reallocation of capital to the Department to fund the recommended envelope would allow key investment to take place in:

- Energy efficiency through the *Better Energy* programme
- Next Generation Broadband
- Ocean Energy

Better Energy Programme

In relation to *Better Energy*, spend in 2011 is targeted to achieve:

Energy savings: 500GWh or €400m to the economy

Homes retrofitted: 40,000

Low-income homes retrofitted: 20,000

Renewable technologies installed: 2,400

Carbon savings: 130 ktCO₂

In addition, the Sustainable Energy Authority of Ireland estimates that Exchequer expenditure in this area will support 5,800 direct and indirect jobs in 2011.

Continued Exchequer expenditure on *Better Energy* is justified for a number of reasons. Firstly, Ireland has committed to a number of binding climate change and energy efficiency targets which will not be met in a cost-effective manner unless *Better Energy* continues to be funded directly by the Exchequer, at least to 2013 when it is intended to continue the implementation of the Programme but with non-Exchequer funding. Secondly, *Better Energy* is providing a considerable economic benefit to the economy. For every €1 spent by the State, a further €2 is spent by the private sector, primarily in construction, an area of the economy that is worst affected by the economic downturn. Thirdly, beneficiaries of the programme realise financial savings long after the State's initial investment. Recent research suggests

that such savings are typically spent in the local economy on services. Thus a net export (energy costs) becomes investment in the local economy.

Next Generation Broadband

In relation to Next Generation Broadband, the Programme for Government commits the Government to co-investing with the private sector and commercial semi-state sector to provide Next Generation Broadband to every house and business in the State. In so doing, the programme aims to accelerate the provision of high speed broadband across Ireland. The NewERA Section on page 13 states:

“A Next Generation Telecoms Network: NewERA will co-invest with the private sector and commercial semi State sector to provide next generation broadband to every home and business in the state. This will be achieved by delivering fibre to the home or kerb for 90% of homes and businesses in Ireland with the remaining 10% provided with high speed mobile or satellite broadband.”

In addition, EU Member States have committed to the rollout of Next Generation Broadband under the Digital Agenda for Europe.

The short to medium term result of a Next Generation Broadband Programme would be that Irish homes and businesses in urban and rural areas would have bigger bandwidth sooner than would be the case if no intervention is made. The programme would generate employment in the immediate delivery phase, and would strongly underpin economic growth.

In addition, there is a general acceptance that increasing trade is happening online. The ESRI estimate that 70% of our exports in 2025 will be services, most of which will be digitally traded. A broadband programme would support sustainable employment by increasing the opportunities to locally based employers to avail of high speed broadband in order to grow their businesses on a national and international basis, as well as increasing the attraction of the country as a base for Foreign Direct Investment.

The Industrial Promotion Agencies, the National Competitiveness Council and numerous other stakeholders have all pointed to the key role which high speed broadband will play in underpinning the strategy of making Ireland a major attractor of FDI in the ICT based areas and in promoting the digital economy generally. It is also central to the promotion of a Knowledge Society and the development of digital skills in schools and the labour force generally.

The Minister is conscious that investment in broadband is largely the preserve of the private sector in the first instance. He welcomes this and would not wish to see the Exchequer displace private sector investment in a case of no market failure. The forthcoming auction of significant and valuable spectrum consequent, inter alia, on the closedown of the analogue broadcasting system will facilitate private sector investment in high speed mobile broadband – a

model that is very suitable for Ireland given the dispersed nature of our population. Nevertheless, the reality is that there will be a gap or market failure in relation to delivery of Next Generation Networks and the Minister considers that the Exchequer should address this via direct investment and has provided accordingly in his recommended capital allocation.

Ocean Energy

Finally, the Ocean Energy Programme will facilitate the maximisation of the economic benefit to Ireland from the progressive utilisation of Ireland's marine energy resource. The ocean energy strategy aims to capitalise on Ireland's natural advantages in the area of marine renewable energy. It consists of a structured and phased strategy of research, test and trial, and development supports, with the objective of connecting by 2020 500MW of ocean energy to the grid and of positioning Ireland among the leaders in the manufacture and use of the products and services that will be associated with the growing utilisation of marine energy in Europe and elsewhere.

The rationale for government expenditure in this area is that by enhancing and developing R&D infrastructure, and providing targeted support for companies in this sector, Ireland can attract the emerging technology companies and multi-national companies developing new business competence capabilities in marine energy, and build an industry cluster in the field of marine energy.

The programme aligns with the Programme for Government in providing a basis for industry investment, job creation and exports of electricity and goods and services. It has particular potential to support regional development, notably on the western seaboard. It also provides a significant economic opportunity for the island of Ireland and for collaborative North-South actions. There are complementarities in the resource potential in the two jurisdictions, and in engineering and other industry capabilities.

The programme will provide critical economic infrastructure to support the development of enterprise opportunities, in particular, through the development of world class centre of excellence in ocean energy at the Hydraulics and Maritime Research Centre in University College Cork, support of SME's through the prototype development fund, and the provision of test and demonstration facilities at Galway Bay and Bellmullet, County Mayo.

Further details on all the proposed capital spend and the benefits arising from it are in the main body of the report.

Scenario 2: Annual Capital Envelope @€110m 2012 to 2016

€m	2011	2012	2013	2014	2015	2016
Energy						
Communications and Broadcasting						
Natural Resources and Inland Fisheries	9.860	9.111	8.491	9.817	7.003	7.003
Other	1.601	1.601	1.601	1.601	1.601	1.601
Total	158.000	110.000	110.000	110.000	110.000	110.000

The implications of reducing the annual allocation to €110m under the scenario modelled are summarised below.

Energy

- *Better Energy* allocation (Retrofit) reduced from [REDACTED] to [REDACTED] with all expenditure ceasing in 2013; effectively a much lower level of activity than envisaged by the Programme for Government and minimal spend on Warmer Homes Scheme
- Ocean Energy Programme allocation reduced from [REDACTED] to [REDACTED]
- Electric Vehicle Programme allocation reduced from [REDACTED] to [REDACTED]

Communications and Broadcasting

- Next Generation Broadband Programme allocation reduced from [REDACTED] to [REDACTED]
- No national rollout of 100mb/s Schools Broadband unless funded at a later date under the Next Generation Broadband Programme
- No MANs Phase 3 Programme unless funded at a later date under the Next Generation Broadband Programme
- No Post Codes Programme
- No Digital Hub Development Agency Capital Programme
- No additional capital allocation to fund TG4 for the provision of high definition television

Natural Resources and Inland Fisheries

- Inland Fisheries Ireland operational capital allocation held at €0.825m per annum giving a cumulative allocation 2012 to 2016 of €4.125m (as against €8.150m which is being sought)
- Loughs Agency operational capital allocation held at €0.458m per annum giving a cumulative allocation 2012 to 2016 of €2.290m (as against €5.659m which is being sought)

Scenario 3: Annual Capital Envelope @€77m 2012 to 2016

€m	2011	2012	2013	2014	2015	2016
Energy						
Communications and Broadcasting						
Natural Resources and Inland Fisheries	9.860	9.111	8.491	9.817	7.003	7.003
Other	1.601	1.601	1.601	1.601	1.601	1.601
Total	158.000	77.000	77.000	77.000	77.000	77.000

The implications of reducing the annual allocation to €77m under the scenario modelled are summarised below.

Energy

- *Better Energy* allocation reduced from [REDACTED] to [REDACTED] with all expenditure ceasing in 2013; effectively minimal spend on Retrofit and no spend on the Warmer Homes Scheme
- No Ocean Energy Programme funded
- Electric Vehicle Programme allocation reduced from [REDACTED] to [REDACTED]

Communications and Broadcasting

- Next Generation Broadband Programme allocation reduced from [REDACTED] to [REDACTED]
- No national rollout of 100mb/s Schools Broadband unless funded at a later date under the Next Generation Broadband Programme
- No MANs Phase 3 Programme unless funded at a later date under the Next Generation Broadband Programme
- [REDACTED]
- No Digital Hub Development Agency Capital Programme
- No Digital Terrestrial Television Programme
- No additional capital allocation to fund TG4 for the provision of high definition television

Natural Resources and Inland Fisheries

- Inland Fisheries Ireland operational capital allocation held at €0.825m per annum giving a cumulative allocation 2012 to 2016 of €4.125m (as against €8.150m which is being sought)
- Loughs Agency operational capital allocation held at €0.458m per annum giving a cumulative allocation 2012 to 2016 of €2.290m (as against €5.659m which is being sought)

ENERGY (€110m in 2011)

The high level goals of the energy programme are:

- To ensure a fully sustainable, secure and competitive energy market underpinned by diverse energy sources, energy efficiency and robust infrastructure.
- To address climate change by meeting our binding obligations in the reduction of energy related greenhouse gas emissions.

The following sets out the components of the Department's proposed overall energy capital investment programme for the period 2012 to 2016. It also models scenarios where the overall annual capital allocation for the Department is at €110m and €77m as requested by the Department of Public Expenditure and Reform.

Better Energy: The National Retrofit Programme

Rationale

The *Better Energy* programme builds upon existing energy efficiency and renewable energy schemes, offering financial incentives to homeowners, public sector bodies and commercial organisations to invest in energy efficiency. The programme also supports energy efficiency retrofits in low-income private houses.

The overarching objective for the *Better Energy* programme is to contribute to the achievement of the national energy saving target set down in the National Energy Efficiency Action Plan. The full list of objectives of *Better Energy* is as follows:

- Achieve significant, measurable and verifiable energy efficiency impacts in pursuance of national energy efficiency targets.
- Develop and showcase innovative delivery models, including the associated contractual and procurement mechanisms based on the principles of energy performance contracting, which in turn will inform other longer term initiatives for activating retrofit investment.
- Support the pursuit of deeper, and more technically/economically challenging, energy efficiency measures.
- Build and develop the supply chain capability, particularly relating to procurement and contracting arrangements between supply chain partners.
- Identify, quantify and prove potential energy saving opportunities and delivery models through exemplar case studies, thereby facilitating widespread replication.

Better Energy is consistent with the Programme for Government, which aims to double funding for energy efficiency until the end of 2013, when there is to be a transition to a national Pay-As-You-Save model.

Due to widely recognised and pervasive market failures (see Complementing Carbon Pricing with Energy Efficiency Policies [IEA, 2010]), cost effective energy efficiency savings remain untapped. The rationale for *Better Energy* is to remove, where possible, these market failures while at the same time incentivising action across the economy. In the process, homeowners benefit from reduced energy bills, businesses benefit from reduced costs and increased competitiveness, while the cost of running the public sector is decreased. Ireland also benefits from a reduction in energy imports leading to increased security of supply.

Efficiency

Inputs and Delivery

€m	2011	2012	2013	2014	2015	2016	Total
Legally Binding Contractual Commitments (as of 30 June 2011)							
		0	0	0	0	0	0
Allocations							
@ 77m	91.405						
@110m	91.405						
Proposed	91.405						

There is a 2011 Exchequer allocation of €91.405m. Legally binding 2012 contractual commitments will arise from 1 July 2011. An estimated additional Exchequer allocation of [REDACTED] will be required in the period 2012 to 2016. The Exchequer allocation in respect of 2014 to 2016 is for the Warmer Home Scheme which targets low income households.

Under plans previously signalled to the Department of Public Expenditure and Reform, and which are consistent with the Programme for Government, it is intended to transition to a non-Exchequer based model by the end of 2013.

The policy behind *Better Energy* is determined by the Department with operational matters assigned to the Sustainable Energy Authority of Ireland, who have outsourced all transactional processing and call centre duties. A government established shared service for the administration of grant schemes, as long as it represented equal or better value for money than the current arrangements, would represent an alternative delivery mechanism which could deliver current expenditure savings.

Outputs

A full cost benefit analysis in respect of the Home Energy Savings Scheme has been undertaken and previously forwarded to the Department of Public Expenditure and Reform. Specific targets for 2011 include:

Energy savings: 500GWh or €400m
Homes retrofitted: 40,000
Low-income homes retrofitted: 20,000
Renewable technologies installed: 2,400
Carbon savings: 130 ktCO₂

Effectiveness

In the short-term, each of the beneficiaries of *Better Energy* will benefit in terms of reduced energy costs. The level of their investment dictates the extent to which each benefits. In addition, measures supported under the programme have proven employment impacts. The Sustainable Energy Authority of Ireland estimates that Exchequer expenditure in this area will support 5,800 direct and indirect jobs in 2011.

Impact

The long-term impacts of *Better Energy* are considerable. Every home, business or public sector body that benefits from State support will realise ongoing energy savings that greatly exceed the cost of installation. On a national level, *Better Energy* is considered essential if Ireland is to bridge the EU mandated 25% energy savings gap to target in 2020. *Better Energy* is scalable and can deliver increased employment activity in a sector that has suffered severely from the economic downturn. Furthermore, investment in energy efficiency is considered to be closely aligned with national and international goals aimed at evolving the construction sector into a green-tech sector. This is imperative if Ireland is to meet its climate change and energy efficiency targets.

Continued Relevance

Continued Exchequer expenditure on *Better Energy* is justified for a number of reasons. Firstly, Ireland has committed to a number of binding climate change and energy efficiency targets which will not be met in a cost-effective manner unless *Better Energy* continues to be funded by the Exchequer, at least to 2013. Secondly, *Better Energy* is providing a considerable economic benefit to the economy. For every €1 spent by the State, a further €2 is spent by the private sector in the area of the economy that is worst affected by the economic downturn. Thirdly, beneficiaries of the programme realise financial savings long after the State's initial investment. Recent research suggests that such savings are typically spent in the local economy on services. Thus a net export (energy costs) becomes investment in the local economy.

Ocean Energy

Rationale

The objective is the maximisation of the economic benefit to Ireland from the progressive utilisation of Ireland's marine energy resource. The ocean energy strategy aims to capitalise on Ireland's natural advantages in the area of marine renewable energy. It consists of a structured and phased strategy of research and development supports, with the objective of connecting 500MW of ocean energy to the grid by 2020 and of positioning Ireland to be among the leaders in the manufacture and use of the products and services that will be associated with the growing utilisation of marine energy in Europe and elsewhere.

The rationale for government expenditure in this area is that by enhancing and developing R&D infrastructure, and providing targeted support for companies in this sector, Ireland can attract the emerging technology companies and multi-national companies developing new business competence capabilities in marine energy, and build an industry cluster in the field of marine energy.

The programme aligns with the Programme for Government in providing a basis for industry investment, job creation and exports of electricity and goods and services. It has particular potential to support regional development, notably on the western seaboard. It also provides a significant economic opportunity for the island of Ireland and for collaborative North-South actions. There are complementarities in the resource potential in the two jurisdictions, and in engineering and other industry capabilities.

The programme will provide critical economic infrastructure to support the development of enterprise opportunities, in particular, through the development of world class centre of excellence in ocean energy at the Hydraulics and Maritime Research Centre in University College Cork, support of SME's through the prototype development fund, and the provision of test and demonstration facilities at Galway Bay and Bellmullet, County Mayo.

Efficiency

Inputs and Delivery

€m	2011	2012	2013	2014	2015	2016	Total
Legally Binding Contractual Commitments							
		0	0	0	0	0	0
Allocations							
@ 77m	6.000						
@110m	6.000						
Proposed	6.000						

The 2011 Exchequer allocation for the programme is €6m. There are no legally binding contractual commitments. [REDACTED] will be required in the period 2012 to 2016.

A current expenditure requirement of at least [REDACTED] per annum has been identified in relation to proposed new capital investment, [REDACTED] for the operating costs of the demonstration facility in Mayo and [REDACTED] for the Galway test facility. Additional current funding may also be required for Hydraulics and Maritime Research Centre in University College Cork.

The programme is co-funded at a rate of 50% by the EU through the European Regional Development Fund under the Regional Operational Programmes 2007 – 2013. Additional funding opportunities are emerging and being pursued under other programmes including the Strategic Energy Technology (SET) Plan, the European Research Area (ERA-NET), Intelligent Energy Europe and the New Entrants Reserve (NER). Discussions are ongoing with the EU Commission on co-ordinated EU support for marine energy infrastructure.

In terms of non-Exchequer financing, partnerships with industry already exist in respect of the development of the Atlantic Marine Energy Test Site facility in County Mayo, with ESB International providing engineering and technical management services and Tonn Energy providing environmental monitoring and management services. These supports are valued at over [REDACTED]. There is also potential for external funding, possibly through a Public Private Partnership, of the Atlantic Marine Energy Test Site facility.

The programme is primarily delivered by the Sustainable Energy Authority of Ireland. Commercial agencies of the Department also provide inputs. Other significant inputs are provided by the Department of the Environment, Community and Local Government, Department of Agriculture, Marine and Food (the Marine Institute) and the agencies of the Department of Jobs, Enterprise and Innovation.

Outputs

By the end of 2011:

- Completion of consenting for the Atlantic Marine Energy Test Site facility in County Mayo
- Enhancement of Galway Bay Test Site
- Completion of the Cork based Hydraulics and Maritime Research Centre enhancement programme
- Continued support for ocean energy companies through the Prototype Development Fund
- Completion of the required Strategic Environmental Assessment

Effectiveness

The programme will provide a number of short-term results:

- Provision of research facilities at the Hydraulics and Maritime Research Centre and consequent increased support industry and enhanced participation in, and financial benefit from, EU Framework projects
- Provision of the strategic environmental information upon which the national Offshore Renewable Energy Development Plan is based
- Bathymetric and other environmental and modelled data to support the planning and deployment of ocean energy prototypes and demonstration projects
- Grid modelling for the areas in which industry has indicated that wave projects will first be deployed
- Information about the supply chain in the areas of shipping, ports and engineering upon which industry and the various departments of State can base appropriate actions

The programme generates employment in the immediate delivery stage by supporting ocean energy companies, the Hydraulics and Maritime Research Centre and supply chain companies (vessels, surveys and materials). It is estimated that the employment of over 150 people is currently supported through the programme.

Impact

The longer-term outcomes of the programme are:

- Connection of ocean energy to the grid in Ireland by 2020
- Development of marine energy in Ireland
- Maximising the enterprise opportunity of ocean energy
- Enhancing Ireland's competitive position in respect to attracting inward foreign direct investment.

Continued Relevance

The justification for continued expenditure on this programme is the historic transformation taking place in the European energy sector. Large volumes of renewable electricity are required to realise the targets of European countries for carbon-free electricity generation. Ireland has a natural advantage in the opportunity for renewable electricity, having the best wind and wave resource in Europe. The value that Ireland achieves through the exploitation of this resource will directly depend on the implementation of this programme and its various constituent elements.

Electric Vehicles

Rationale

The 2009 Renewable Energy Directive sets a binding target for every member state to achieve 10% of the energy in its transport sector from renewable sources by 2020. To assist in this regard, a target was set of 10% of all vehicles to be powered by electricity by 2020. It is estimated that replacement of 10% of cars, vans and buses in Ireland with currently available models of hybrid and battery electric vehicles could reduce national CO₂ emissions by 0.35 million tonnes annually.

The objective of the programme is to incentivise and support the early deployment of electric and other low emission vehicles (mainly plug-in hybrid electric vehicles) in Ireland in order to provide an early critical mass of such vehicles and infrastructure. This early critical mass is vital to encourage the growth of a stable and robust market for these vehicles with the aid of early and contractually defined relationships with the major players in the vehicle supply chain. The programme aims at reduced energy consumption, greenhouse gas emissions, and trans-boundary air pollution (NO_x and SO₂).

Grants of up to €5,000 per vehicle will be provided to retailers of electric and low emission vehicles (< 75g CO₂ per km) who, in turn, will pass it in its entirety as a discount to the consumer.

Although the programme is not mentioned in the Programme for Government, Ireland is bound by the Renewable Energy Directive to meet an ambitious target of 10% of Renewable Energy in Transport (RES-T) by 2020. Electric vehicles are singled out in the National Renewable Energy Action Plan as an important component of the proposed Irish solution

The programme operates as a pump priming mechanism. It moderates the initial higher purchase price of electric vehicles with a view to sustaining Ireland's early mover advantage in this rapidly developing sector.

Efficiency

Inputs and Delivery

€m	2011	2012	2013	2014	2015	2016	Total
Legally Binding Contractual Commitments							
		0	0	0	0	0	0
Allocations							
@ 77m	5.000						
@110m	5.000						
Proposed	5.000						

The 2011 Exchequer allocation for the programme is €5m. There are no legally binding contractual commitments. [REDACTED] is the recommended

allocation for the period 2012 to 2013. No scope for EU or non-Exchequer funding has been identified.

The policy behind the Electric Vehicle Programme is determined by the Department with operational matters assigned to the Sustainable Energy Authority of Ireland.

Outputs

1,000 electric vehicle grant supported by the end of 2011.

Effectiveness

The short-term result of the programme will be easier access to electric vehicles and plug-in hybrid electric vehicles, with very low or no emissions.

Impact

In the longer-term the programme will result in more electric vehicles in the transport fleet, assist Ireland in meeting its Renewable Energy in Transport (RES-T) targets under the 2009 Renewable Energy Directive, decrease dependence on imported fossil fuels, and bring about greater energy efficiency in transport. Ireland has taken a leadership position in this rapidly developing sector, which provides a series of commercial opportunities around research and development, intellectual property and the manufacturing of infrastructure and control systems. The programme will support sustainable employment in infrastructural development, software and related telematics. There is currently ongoing investment in charging infrastructure through ESB Networks.

Continued Relevance

Electric vehicles are one of the few means of increasing Ireland's penetration of renewable energy technologies. In addition, due to their efficiency benefits electric vehicles also have profound effects on overall energy use and on emissions from transport. The current programme is a component part of a cohesive strategy to place Ireland at the forefront of developments in the area.

Renewable Energy Research, Development and Deployment

Rationale

This programme aims to redress a number of market failures in the deployment of renewable energy technologies. The objective is to accelerate the uptake of renewable energy solutions and new renewable energy technologies. Activity under the programme includes R&D support, market demonstration and barrier studies, as well as policy and technical support on

issues relating to wind energy, the electricity system and national and international collaboration

Under the NewERA plan, the Programme for Government proposes additional investment in “next generation” infrastructures in energy and specifically, the acceleration of the development of Ireland’s forestry and bio energy. It also undertakes to support new developments in energy, particularly geothermal, marine and offshore drilling.

Efficiency

Inputs and Delivery

€m	2011	2012	2013	2014	2015	2016	Total
Legally Binding Contractual Commitments							
		0	0	0	0	0	0
Allocations							
@ 77m	1.500						
@110m	1.500						
Proposed	1.500						

The 2011 Exchequer allocation for the programme is €1.5m. There are no legally binding contractual commitments. [REDACTED] will be required in the period 2012 to 2013. The programme is co-funded at a rate of 50% by the EU through the European Regional Development Fund under the Regional Operational Programmes 2007 – 2013. No scope for non-Exchequer funding has been identified.

The programme is planned, procured and managed by the Sustainable Energy Authority of Ireland. No alternative delivery models that represent better value for money have been identified.

Outputs

Deployment of grant support to R&D projects in strategic priority areas such as renewable energy, smart grid and energy service companies.

Effectiveness

In the short-term the programme will generate small scale employment.

Impact

In the longer-term the programme will displace fossil fuels with biomass and other renewable energy products. This will reduce greenhouse gas emissions and increase energy security. The programme will also have significant employment benefits for Ireland.

Continued Relevance

Continued expenditure on this programme is justified to address market failures in renewable energy arising from lack of knowledge and information asymmetries. The programme supports the use of renewable energy across the electricity, heat and transport sectors through the deployment of early commercial stage technologies.

International Energy Research Centre

Rationale

It is proposed that the International Energy Research Centre will be an entity performing world-class, collaborative research and innovation in integrated sustainable energy system technologies. The centre will tap into existing applied research capabilities and develop new ones, using them to generate commercially exploitable, integrated, sustainable energy systems in conjunction with industry.

Under the NewERA plan, the Programme for Government proposes additional investment in "next generation" infrastructures in energy and specifically, the acceleration of the development of Ireland's forestry and bio energy.

Efficiency

Inputs and Delivery

€m	2011	2012	2013	2014	2015	2016	Total
Legally Binding Contractual Commitments							
		0	0	0	0	0	0
Allocations							
@ 77m	2.500						
@110m	2.500						
Proposed	2.500						

The 2011 Exchequer allocation for the programme is €2.5m. This is being co-funded by a similar amount by the Department of Jobs, Enterprise and Innovation. There are no legally binding contractual commitments. [REDACTED] will be required in the period 2012 to 2013. No scope for EU or non-Exchequer funding has been identified.

The International Energy Research Centre project is overseen by an Inter Departmental Oversight Board comprising of the Department of Communications, Energy and Natural Resources and the Department of Jobs, Enterprise and Innovation. The centre is being developed by the Industrial Development Authority, through a partnership between the Tyndall Institute in University College Cork and industry.

Outputs

Research into:

- The convergence and coexistence of energy information networks
- Local smart grid optimization of factory or continuous flow manufacturing sites
- Local smart energy optimisation of commercial buildings
- Home area network (HAN) energy management system
- Energy storage at a commercial level
- Identification and scoping of the business and technology case for energy storage systems for a defined set of commercial enterprises
- Utilisation of waste heat energy within the commercial sector

Effectiveness

The centre will optimise the efficiency, use and storage of energy to deliver cost reductions for suppliers and consumers of energy. Some small scale employment will be generated in the short-term.

Impact

The longer-term outcome is the development of a research cluster in University College Cork, made up of approximately 20 private sector firms performing high end close to market research on energy technologies. The centre will support economic recovery and sustainable employment by incentivising investment by leading multinational companies in a R&D facility in Ireland. It offers the possibility of leveraging the Tyndall Institute's existing competencies in micro electronics in a developing sector with a very large global market. There is very significant longer-term employment potential.

Continued Relevance

Continued expenditure on the International Energy Research Centre is justified given the significant foreign direct investment and employment potential it generates.

INTERREG IV

Rationale

The high level objective is to develop alternative energy sources to reduce carbon emissions and improve the environment. INTERREG IV offers the opportunity to research two separate technologies in the renewable energy area (algal biofuels and offshore grids).

Under the NewERA plan, the Programme for Government proposes additional investment in “next generation” infrastructures in energy and specifically, the acceleration of the development of Ireland’s forestry and bio energy.

The INTERREG IV Programme meets critical economic infrastructure deficits by supporting strategic cross border co-operation for a more prosperous and sustainable region.

Efficiency

Inputs and Delivery

€m	2011	2012	2013	2014	2015	2016	Total
Legally Binding Contractual Commitments							
		0	0	0	0	0	0
Allocations							
@ 77m	0.500						
@110m	0.500						
Proposed	0.500						

The 2011 Exchequer allocation for the programme is €0.5m. There are no legally binding contractual commitments. █████ will be required in the period 2012 to 2014. The programme is co-funded at a rate of 75% by the EU through the European Regional Development Fund. No scope for non-Exchequer funding has been identified.

The programme is delivered by the Special EU Programmes Body.

Outputs

The development of cross border co-operation between research institutions on renewable energy.

Effectiveness

Some small scale employment will be generated in the short-term.

Impact

The longer-term outcome will be the provision of better information to inform policy-making.

Continued Relevance

Continued expenditure is justified as it fosters cross border co-operation between research institutions in sectors that are critical to our meeting our binding 2020 targets for the penetration of renewable technologies.

Other

1. Combined Heat and Power

The objective of programme is to support the deployment of combined heat and power project in public and commercial buildings in Ireland and to undertake studies in this area.

€m	2011	2012	2013	2014	2015	2016	Total
Legally Binding Contractual Commitments							
		0	0	0	0	0	0
Allocations							
@ 77m	2.347	0	0	0	0	0	0
@110m	2.347	0	0	0	0	0	0
Proposed	2.347	0	0	0	0	0	0

The 2011 Exchequer allocation for the project is €2.347m. There are no legally binding contractual commitments from 2012 onwards. The programme is closed and the 2011 allocation is to make final payments to existing projects.

2. Reheat Deployment Programme

The objective of the programme was to increase the deployment of renewable energy heating technologies in the commercial, industrial and community sectors. Financial assistance was provided for biomass boilers, solar thermal collectors and heat pumps.

€m	2011	2012	2013	2014	2015	2016	Total
Legally Binding Contractual Commitments							
		0	0	0	0	0	0
Allocations							
@ 77m	0.500	0	0	0	0	0	0
@110m	0.500	0	0	0	0	0	0
Proposed	0.500	0	0	0	0	0	0

The 2011 Exchequer allocation for the project is €0.500m. There are no legally binding contractual commitments from 2012 onwards. The programme is closed and the 2011 allocation is to make final payments to existing projects.

3. Microgeneration/Photovoltaics

The objective is to assist those who wish to produce electricity for their own homes, farms and business and facilitate them in selling surplus electricity to the grid.

€m	2011	2012	2013	2014	2015	2016	Total
Legally Binding Contractual Commitments							
		0	0	0	0	0	0
Allocations							
@ 77m	0.400	0	0	0	0	0	0
@110m	0.400	0	0	0	0	0	0
Proposed	0.400	0	0	0	0	0	0

The 2011 Exchequer allocation for the project is €0.400m. There are no legally binding contractual commitments from 2012 onwards. The programme is ending and no allocation is being sought post 2011.

COMMUNICATIONS AND BROADCASTING (€36m in 2011)

The high level goal of the communications programme is to underpin growth, competitiveness and innovation by ensuring that Ireland is to the forefront in availing of the opportunities afforded by the electronic communications and postal sectors. Capital investment programmes and projects aim to address proven instances of market failure.

The high level goal of the broadcasting programme is to promote a vibrant broadcasting sector, which provides engaging, entertaining and informative content for Irish audiences

The following sets out the components of the Department's proposed overall communications capital investment programme for the period 2012 to 2016.

Next Generation Broadband

Rationale

The Programme for Government commits the Government to the roll out of Next Generation Broadband. The NewERA Section on page 13 states:

“A Next Generation Telecoms Network: NewERA will co-invest with the private sector and commercial semi State sector to provide next generation broadband to every home and business in the state. This will be achieved by delivering fibre to the home or kerb for 90% of homes and businesses in Ireland with the remaining 10% provided with high speed mobile or satellite broadband.”

In addition, EU Member States have committed to the rollout of Next Generation Broadband under the Digital Agenda for Europe.

The comments in relation to NewERA at the outset of the document are pertinent in relation to investment in Next Generation Networks. The Programme for Government commitment under this heading in relation to Next Generation Networks will require State funding as co-investors with the market.

The high level objective is to deliver the economic and social benefits that derive from high speed internet access. This will underpin the strategy of securing investment in the ICT sector, and promoting digital skills and a knowledge society. Next Generation Broadband would facilitate the faster development of SMEs in the creative sectors (digital media, gaming, and social network software development). There is a general view that outside of the main urban areas the market is failing to deliver, and will continue to fail to deliver, Next Generation Broadband.

Efficiency

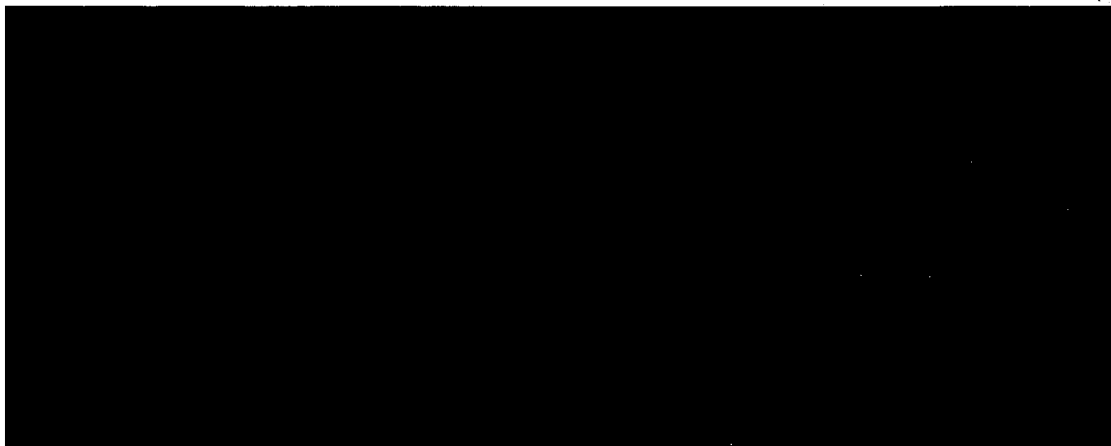
Inputs and Delivery

€m	2011	2012	2013	2014	2015	2016	Total
Legally Binding Contractual Commitments							
		0	0	0	0	0	0
Allocations							
@ 77m	0						
@110m	0						
Proposed	0						

There is no 2011 Exchequer allocation or legally binding contractual commitments for this proposed new programme. The Telecommunications and Internet Federation estimated in April 2010 that the total cost of a programme would be €2.6bn. This estimate is based on the cost of delivering:

- fibre-to-the-home (excluding the cost of the fibre "drop connection" which is estimated to be an average approximately 40 metres per premises)
- fibre-to-the-cabinet (not kerb, which would be more expensive), and
- long term evolution to very rural areas

The estimate also assumes that Next Generation Broadband would be delivered over the networks owned by the private sector (i.e. not a State led company). If the scope of the Programme for Government commitment was redefined so that much of the infrastructure was delivered by industry, an Exchequer provision of [REDACTED] over the period 2012 to 2016 would allow the State to deliver a Next Generation Broadband Programme that would make a significant contribution to the overarching objective.



Outputs

The output is bigger bandwidth or Next Generation Broadband.

Effectiveness

The short to medium term result of the programme would be that Irish homes and businesses in suburban, regional and rural areas would have bigger bandwidth sooner than would be the case if no intervention is made. The programme would generate employment in the immediate delivery phase.

Impact

While there is a body of evidence showing the economic and social benefits of broadband, the benefits of bigger bandwidth are as yet unclear. However, there is a general acceptance that increasing trade is happening online. The ESRI estimate that 70% of our exports in 2025 will be services, most of which will be digitally traded. The programme would support sustainable employment by increasing the opportunities to locally based employers to avail of high speed broadband in order to grow their businesses on a national and international basis, as well as increasing the possibility of attracting foreign investment from employers that are interested in locating outside of the main urban centres.

Continued Relevance

As this is a proposed new Programme, the question of its continued relevance does not arise.

Rural Broadband Scheme

Rationale

The Department estimates that there are potentially 25,000 premises without access to broadband, made up of 12,500 unserved premises identified as part of the National Broadband Scheme mapping exercise which are beyond the reach of existing service providers and a further 12,500 premises which are located in areas that are deemed to be served but which are unable to obtain a service from the existing service providers due to local obstacles or technical issues. Further market intervention is required to enable a broadband service to be delivered to these premises on an individual basis so as to minimise any potential market distortion effects.

Efficiency

Inputs and Delivery

€m	2011	2012	2013	2014	2015	2016	Total
Legally Binding Contractual Commitments							
		0	0	0	0	0	0
Allocations							
@ 77m	0						
@110m	0						
Proposed	0						

There is no 2011 Exchequer allocation for the scheme or legally binding contractual commitments. Based on demand since the launch of the scheme earlier this year, it is estimated that an Exchequer allocation of [REDACTED] will be required in the period 2012 to 2013.

The scheme will receive EU funding under the European Economic Recovery Plan through the European Agricultural Fund for Rural development at the rate of 75% of capital expenditure. No scope for non-Exchequer funding has been identified.

A multi criteria analysis indicated that the best delivery method for the scheme would be the Department procuring and managing a single service provider.

Outputs

The delivery of broadband to unserved premises or premises unable to get a service, that apply under the scheme.

Effectiveness

The short-term result is the availability of broadband services to the eligible premises that apply. Some employment may be generated during the delivery phase.

Impact

The longer-term impact of the scheme will be to enhance the economic competitiveness of rural areas and ensure that a digital divide is not embedded in these areas.

Continued Relevance

Expenditure on this scheme is justified in maintaining Ireland's reputation as an economy committed to 100% broadband availability. Its attractiveness is further enhanced by the 75% EU co-funding rate.

100mb/s Schools Broadband

Rationale

The Programme for Government states that "We will develop Ireland as a 'digital island' and first-mover when it comes to information technology by ensuring more progress on e-Government and moving Government services online, investing in ICT in schools, and investing in information technology in the healthcare sector." It also sets out the approach to 21st Century Schools, committing that "This Government will end the treatment of ICT in education as a stand-alone issue, but will integrate it across education policy. This will begin with merging the National Centre for Technology in Education with the National Council for Curriculum and Assessment. A new plan to develop ICT in teaching, learning and assessment will be developed. This plan will incorporate the integration of ICT policy across other agencies, such as the Professional Development Services for Teachers, the State Examinations Commission, and Project Maths."

The high level objective of the project is to deliver a 100 Mbits business class service to each of the 730 plus post primary schools in the country, supported by a first class infrastructure to ensure the reliability and availability of the connectivity.

An ex ante appraisal of a pilot project covering 78 post primary schools and using multi criteria analysis was completed. This appraisal identified benefits that would arise from the project. A full evaluation of the pilot has yet to be completed.

Efficiency

Inputs and Delivery

€m	2011	2012	2013	2014	2015	2016	Total
Legally Binding Contractual Commitments							
		0	0	0	0	0	0
Allocations							
@ 77m							
@110m							
Proposed							

The 2011 Exchequer allocation for the project is [redacted] [redacted] to complete the pilot and €10m to begin the national rollout). There are no legally

