OUR SUSTAINABLE FUTURE

A FRAMEWORK FOR SUSTAINABLE DEVELOPMENT FOR IRELAND

Foreword by An Taoiseach, Enda Kenny, T.D.

Our Sustainable Future is ambitious in both scope and intent. It sets out a medium to long-term framework for advancing sustainable development and the green economy in Ireland.

It is probably unique in the breadth of its scope, not just focusing on the real and present priorities of economic recovery and fiscal stability, but also looking beyond the current economic crisis and forging a vision on how we can transition Ireland to a resource efficient, low-carbon and climate resilient future. That vision seeks to advance sustainable development into the future while recognising past shortcomings. The focus, therefore, is on identifying gaps where further progress is required and setting out a series of pragmatic measures to address those challenges.

Economic growth, social cohesion and environmental sustainability must move forward in a mutually supportive manner. The creation of jobs for our people remains Government's top priority. The OECD and others have identified green growth as an important contributor to sustainable future prosperity.

Our Sustainable Future provides a platform for a joined-up approach to policy-making across all sectors to ensure cohesive, rigorous and soundly-based decision making. Ultimately, sustainable development is about ourselves, the degree to which we manage our resources and value our natural environment as we move forward as an economy and as a society.

This framework charts a way for us collectively – Government, at its various levels, and civil society, in its many components – to meet this challenge.

Enda Kenny, T.D.
Taoiseach

Foreword by the Minister for the Environment, Community and Local Government, Phil Hogan, T.D.

The inaugural *National Sustainable Development Strategy for Ireland* published in 1997 had as its objective to ensure that sustainability considerations were more systematically applied to economic policies and integrated into decision-making processes. In the fifteen years since then, considerable progress has been made in advancing the sustainable development agenda. However, much remains to be done; it is time to refresh our approach, to build on the progress made to date, and to provide a robust framework for responding to the significant challenges we face across a range of economic, social and environmental policy areas.

Our Sustainable Future takes account of developments at international and EU level designed to deliver an effective transition to an innovative, low carbon and resource efficient future. We have opted for a pragmatic approach, drawing from the model followed in the *EU Sustainable Development Strategy*, focusing on identifying key gaps where progress since 1997 has been limited and setting out a range of measures to address the outstanding challenges.

Decoupling environmental degradation and resource consumption from economic and social development is an enduring challenge in Ireland as elsewhere and requires a paradigm shift in our approach to future development. The 'business-as-usual' approach will not suffice; we require a major reorientation of public and private investment, particularly in terms of innovation, research and development in those areas where we need radically new approaches. We need a more developed "green economy" focus, achieving a more mutually supportive interface between environmental protection and economic development, while also ensuring that our approaches are socially sustainable. *Our Sustainable Future* is premised on this and the measures contained within it are designed to position us firmly on the desired path.

Getting there will require the support and engagement of all sectors of society and I see the effective implementation of this framework as a key challenge. I welcome the fact that political oversight will be delivered through the Cabinet Committee on Climate Change and the Green Economy, supported by the High-Level Inter-Departmental Group on Sustainable Development chaired by my Department, which will co-ordinate the work of Departments generally in driving the implementation of measures in their individual sectors.

The active engagement of a wide range of stakeholders in the development of *Our Sustainable Future* has resulted in a robust framework, one which will be fit for purpose in the ambitious and challenging task that lies ahead.

Phil Hogan

Phil Hogan, T.D.
Minister for the Environment, Community and Local Government

CONTENTS

SECTION 1 - INTRODUCTION

SECTION 2 - KEY CHALLENGES FOR SUSTAINABLE DEVELOPMENT

SECTION 3 - IMPLEMENTATION

SECTION 4 - LOOKING TO THE FUTURE

SECTION 5 - MEASURING PROGESS ON SUSTAINABILITY

ANNEXES

“SUSTAINABLE DEVELOPMENT IS ABOUT OURSELVES. IT IS ABOUT INHABITING A PLACE WHERE THERE IS ECONOMIC STABILITY BASED ON A MODEL OF NATIONAL PROGRESS AND DEVELOPMENT THAT RESPECTS THE THREE CORE PILLARS OF SUSTAINABILITY: THE ENVIRONMENT, THE ECONOMIC, AND THE SOCIAL.”

1.

SECTION ONE

INTRODUCTION

1 INTRODUCTION

1.1 Sustainable Development: What Does it Mean?

The most widely used term in attempting to define sustainable development is *'development which meets the needs of the present without compromising the ability of future generations to meet their own needs.'*[1] Sustainable development is a continuous, guided process of economic, environmental and social change aimed at promoting wellbeing of citizens now and in the future. To realise this requires creating a sustainable and resource-efficient economy founded on a fair and just society, which respects the ecological limits and carrying capacity of the natural environment.

1.2 Our Sustainable Future: A Vision for Ireland

Ireland has a well-deserved reputation as a country with a high quality environment in an era of ever intensifying environmental threats. Over the centuries, our natural environment and landscape has provided sustenance to our people, influenced our culture and shaped our identity in a profound way. This ongoing interaction between human activity and the natural environment has evolved in tandem with economic and technological advancement, often with a substantial cost in terms of the human ecological footprint.

Our Sustainable Future sets out the challenges facing us and how we might address them in making sure that quality of life and general wellbeing can be improved and sustained in the decades to come. It also charts progress achieved since sustainable development became the global focus of attention over twenty years ago and the roles played by the United Nations (UN) and the European Union (EU) in which we have been active participants in advancing the environmental and sustainable development agendas here as elsewhere. Ultimately, the challenge is down to us, our success or failure will be a function of the degree to which we value our natural environment and are prepared to protect it.

Sustainable development is about ourselves. It is about inhabiting a place where there is economic stability based on a model of national progress and development that respects the three core pillars of sustainability: the environment, the economic, and the social.

While the vision may seem ambitious, even daunting, it is achievable. We need to accomplish this because we must. Getting there will take leadership from central Government, local government and the State sector generally, as well as the broad range of actors across Irish society who will have a central role in delivering the agenda set out in this Framework document. The challenge is to mobilise this effort as part of a community of citizens working together to protect our natural environment now and into the future, in tandem with the essential economic and social progress on which our national wellbeing is dependent.

[1] From 'Our Common Future (The Brundtland Report)' – **Report of the 1987 World Commission on Environment and Development.**

1.3 Sustainable Development is a Priority for Ireland

In 2012, the economic situation in Ireland is dramatically different to the earlier part of the last decade. Measured against the standard indicators of GDP, GNP, trends for economic development, new housing output, tax revenues, and employment levels dropped sharply. We have also seen rising unemployment, a banking crisis and a collapse in the property market after a sustained, if unsustainable, boom in the property market. A number of factors drove these unsustainable trends, including: rapid growth in employment, large-scale inward migration (annual immigration rose sharply from 52,600 persons in 2000 to peak at 109,500 in 2007), rapid natural population growth, fiscal incentives for the construction sector, rising car ownership and weakness in the strategic approach to spatial planning. At a time of rapidly rising prosperity and development, the existing structures and controls were insufficiently robust to withstand the pressures that inevitably arose.

This legacy leaves Ireland facing huge challenges in the period ahead, challenges that are all the more acute when set against the backdrop of a global economic downturn. The sustainability pressures on the economy continue to be high and while some progress has been made, there is still a distance to travel before Ireland can fully extricate itself from what is the most serious fiscal and economic crisis in the history of the State.

Despite the challenges, much progress has been achieved in embedding the principles of sustainable development across all policy areas in the years since the publication in 1997 of *Sustainable Development: A Strategy for Ireland*, progress which was facilitated and assisted by a prolonged period of economic growth which commenced in the 1990s and continued up to 2007. GDP growth averaged nearly 6% annually, well above the OECD (Organisation for Economic Co-operation and Development) and Euro area rates over the period. This economic context has changed dramatically since 2007. On the one hand this has helped to ease some environmental pressures (e.g. traffic congestion, greenhouse gas emissions (GHG) and waste management pressures). However, the very challenging economic outlook for Ireland also means that there is greater pressure on public resources. Protecting employment and enhancing competitiveness are vital priorities, particularly in the short to medium term, in line with current efforts to achieve economic recovery. There is a need to achieve positive economic, environmental and social outputs while at the same time ensuring equality and appropriate balance between the three pillars of sustainability.

The OECD Environmental Performance Review 2010 recognises that significant progress has been achieved by Ireland since the last review in 2000. Environmental policies have been improved, environmental institutions strengthened (particularly the development of a strong Environmental

Considerable Progress Over Two Decades

- Rapid economic growth and expanded labour force, although followed in more recent years by recession and rising unemployment;
- A rise in life expectancy;
- Successive National Development Plans have transformed provision of public infrastructure, e.g. motorway networks and public transport, water services;
- EU/National legislation introduced in areas such as environmental licensing, waste management, water resource management;
- EPA established.

Protection Agency (EPA)) and significant investments made in environmentally related infrastructure. As a result, Ireland generally has good air and water quality. In addition, energy intensity, or energy use per unit of GDP, is also the lowest among OECD countries.

However, despite this positive progress, the OECD indicates that the current economic crisis represents a challenge for maintaining environmental commitments. It also presents opportunities to reassess and reform those policies that are both economically costly and environmentally damaging. Environmental policy priorities include reducing GHG emissions in a comprehensive and cost-effective way, further enhancing water services infrastructure and waste management, and strengthening nature protection. To meet these challenges, Ireland will need to: strengthen its environmental management efforts, further integrate environmental concerns into economic decisions and reinforce international co-operation on environmental issues.

Ireland's population is projected to increase further which will bring additional challenges and there is still a distance to go before the aim of decoupling economic development from increased consumption of natural resources and environmental impact can truly be accomplished.

An October 2009 report[2] from the National Economic and Social Council (NESC) described Ireland's crisis as five-dimensional - banking, fiscal, economic, social and reputational.

The NESC report stressed that a more integrated approach can be achieved by combining ideas and actions at three levels:

- A vision of the kind of society and economy that Ireland wishes to become in the decades ahead;
- Knowledge and ideas on aspects of economic and social development;
- A practical approach toward policy development, including compromise and problem solving.

Working in that way the report suggested that Ireland needed to fashion an integrated nationally supported response and, to this end, it recommended a number of criteria to be applied - economic/cyclical, developmental, fairness and sustainability. This type of approach aligns well with the objectives of integrating sustainable development principles into policy making across all sectors as outlined in *Our Sustainable Future*.

NESC Recommendations

Economic/cyclical: The measures should, as far as possible, contribute to the revival of economic activity and employment;

Developmental: The measures should, as far as possible, strengthen the foundations of Ireland's economic and social development;

Fairness: It should be possible to explain how the chosen tax, expenditure and other policies are as fair as possible;

Sustainability: The adjustment process must be sustained until Ireland comes through the crisis, must yield a sustainable public finance approach, and should, as far as possible, put Ireland on a path that is sustainable - economically, socially and environmentally.

[2] (NESC October 2009) Next Steps in Addressing Ireland's Five-Part Crisis: **Combining Retrenchment with Reform**

In meeting the challenge, the national recovery agenda is focused on issues such as the transformation of public services, economic growth based on knowledge and innovation, an inclusive, high-employment society, a greener, low-carbon economy and a good quality natural and built environment so that Ireland can once again prosper on a competitive global stage. Lessons must be learnt from our recent experience and Ireland will have to ensure structures and systems are in place that are sufficiently robust to withstand periods of pressure which might threaten to undermine sustainable growth and fiscal stability.

It is widely accepted that economic growth, social cohesion and environmental protection go hand in hand to meet the overarching goal of delivering wellbeing in a pluralistic society that promotes participation, a society in which everyone takes responsibility for the environment. The establishment of a more sustainable pattern of development for Ireland is one of the key challenges of Government and ultimately for society.

As the *Europe 2020 Strategy* notes, Europe too finds itself at a 'moment of transformation'. There is a clear consensus at international, EU and national levels that a return to 'business as usual' is not an option.

The *Review of National Climate Policy* published in November 2011 places future climate policy development in a sustainable development context. While deep GHG reduction targets in the medium to longer term pose a real challenge, the Review notes that early and effective transition to a low-carbon, climate resilient future provides opportunities for Ireland to demonstrate its competitiveness in the emerging green economy in the EU and globally.

Implementation in Ireland of the *Europe 2020 Strategy*, which the EU adopted in 2010 as its successor to the *Lisbon Strategy on Growth and Competitiveness*, should assist in responding to our economic challenges by contributing to the creation of employment and *smart, sustainable and inclusive growth,* driven by an accelerated national effort to ensure that Ireland becomes a low-carbon, competitive, resource-efficient and climate-resilient country.

The *Europe 2020 Strategy* sets five key targets for the EU over the period to 2020:

- Employment
  - 75% of 20-64 year olds to be employed;
- Research and Development (R&D)/Innovation
  - 3% of the EU's GDP to be invested in R&D/Innovation;
- Climate change/energy
  - GHG emissions 20% (or even 30%, if the conditions are right) lower than 1990
  - 20% of energy from renewables
  - 20% increase in energy efficiency
- Education
  - reducing school drop-out rates below 10%
  - at least 40% of 30-34–year-olds completing third-level education
- Poverty / social exclusion
  - at least 20 million fewer people in or at risk of poverty and social exclusion.

It also contains seven new 'flagship initiatives' one of which centres on creating a resource-efficient Europe. This will be one of the key drivers for advancing the sustainable development and green economy agendas in Europe for the years ahead. It will provide a long-term framework for actions in many policy areas and supporting policy agendas for climate change, energy, transport, industry, agriculture, fisheries, biodiversity, leisure and tourism and regional development. These areas also fall under

the remit of the Strategic Environmental Assessment (SEA) Directive. A number of supporting policy documents, including a low-carbon roadmap to 2050[3], a strategy on biodiversity[4] and a roadmap for the resource efficiency initiative have already been published by the European Commission.

Under Europe 2020, the EU has put in place a new coordination cycle in which the first part of each year is designated as a 'European Semester'. It is intended that National Reform Programmes which deal with macroeconomic oversight and structural reforms in the various Member States are addressed as part of the semester simultaneously with the fiscal surveillance in the Stability and Convergence Programmes. Given Ireland's current economic challenges, a strong performance under these EU arrangements will be critical as we continue the process of repositioning our economy in the period ahead.

A Resource-Efficient Europe – Flagship initiative under the Europe 2020 Strategy

A resource-efficient Europe is one of seven flagship initiatives as part of the *Europe 2020 Strategy* aiming to deliver smart, sustainable and inclusive growth. The flagship initiative aims to create a framework for policies to support the shift towards a resource-efficient and low-carbon economy.

The key objectives are to:

- Boost economic performance while reducing resource use;
- Identify and create new opportunities for economic growth and greater innovation and boost the EU's competitiveness;
- Ensure security of supply of essential resources;
- Fight against climate change and limit the environmental impacts of resource use.

This EU process is linked in with a worldwide effort to promote the concept of 'green growth' and the 'green economy'. There is a growing consensus even in wealthier countries that our systems of production and consumption cannot be sustained without posing a huge threat to the environment and to human health. Water scarcity, air and water pollution, climate change, resource depletion and irreversible biodiversity loss are problems that have to be tackled as a matter of priority. The emerging consensus is now focusing around the need to put economies on a more sustainable, green growth path.

The OECD identifies green growth as *'fostering economic growth and development, while ensuring that natural assets continue to provide the resources and environmental services on which our well-being relies. To do this, it must catalyse investment and innovation which will underpin sustained growth and give use to new opportunities.'*

The United Nations Environment Programme's (UNEP) policy document *Towards a Green Economy* defines the 'green economy' as an economy that results in *'improved human well-being and social equity, while significantly reducing environmental risks and ecological scarcities'*. This definition aligns with the goals of sustainable development and the current drive towards the green economy and away from the 'brown economy' model with its emphasis on fossil fuel energy will be critical in delivering sustainability over the longer term; the measures outlined in *Our Sustainable Future* seek to reflect this policy priority.

[3] http://ec.europa.eu/clima/policies/roadmap/index_en.htm
[4] http://ec.europa.eu/environment/nature/biodiversity/comm2006/2020.htm

The OECD strategy *Towards Green Growth* provides a practical framework and recommendations to help Governments to identify the policies that can help achieve the most efficient shift to greener growth. These policies would focus for example on green jobs, green taxes and regulatory approaches, fiscal consolidation and green technologies.

€82 trillion: value of fuel saving between 2020 and 2050 from investment in low-carbon energy systems

22: the factor by which economic output has grown in the 20th century

30 years of extra life expectancy in most parts of the World due to human progress over the last 150 years

1.7 million: the number of avoidable deaths in the world each year from water pollution, primarily among children under 5 years old

25 % of the wealth in low income countries is vested in natural capital

€1.5 - €4.6 trillion: potential commercial opportunities by 2050 related to environmental sustainability in natural resources sectors alone

Source: OECD

Recognising the job-creation potential of the green economy in Ireland, the *Action Plan for Jobs 2012* contains an action to publish and implement a new Plan for the Development of the Green Economy, setting out the opportunities in the sector, the role that Government will play in working with enterprise to support the development of the green economy and the structures that will be put in place to coordinate cross Government action to accelerate growth.

The prospects for Europe's environment are mixed but there are opportunities to make the environment more resilient to future risks and changes. These include unparalleled environmental information resources and technologies, ready-to-deploy resource accounting methods and a renewed commitment to the established principles of precaution and prevention, rectifying damage at source and polluter pays.

Our Sustainable Future acknowledges the progress made, seeks to identify areas where further effort is required and puts forward practical measures aimed at achieving added value in the key sectors. It also sets out proposals for the effective implementation of the *Our Sustainable Future* and a framework for developing new performance indicators which will be critical in measuring progress on sustainable development and identifying outstanding weaknesses across the various sectors. *Our Sustainable Future* will ensure that we improve synergies across this very broad agenda, and identify and tackle policy conflicts and trade-offs as part of a coherent, joined-up approach to policy making on sustainable development.

1.4 Sustainable Development: Integration and Partnerships

The achievement of sustainable development depends on people acting together. Key stakeholders including business, community-based organisations and other civil-society groups must all play their part. In Ireland we have had several decades of partnership arrangements to achieve desired objectives in a range of areas. This has been critical, for example, in formulating and delivering EU, national and regional policies, involving consultation with key stakeholders, including civil society.
Similar-type arrangements have been operating in other areas such as spatial planning, waste management and water quality. These can involve a sophisticated set of structures and interlinkages that sometimes transcend administrative and geographical boundaries.

The EU Water Framework Directive currently being implemented in all Member States demonstrates the type of applied approach to sustainable development that Our Sustainable Future seeks to encourage. The achievement of the sustainable use of water mandated by the Water Framework Directive requires the integrated implementation of a range of EU Directives (see Section 2.6). The existing water governance structures in many Member States are being challenged to deliver a comprehensive joined-up approach to water management. This type of approach is central to the overall objectives of Our Sustainable Future.

The formation of a national consensus on sustainable development involves the bringing together of representatives from the State sector, economic sectors, environmental nongovernmental organisations (NGOs), social/community NGOs and the professional/academic sector. Under new arrangements, from 2012, the sustainable development role previously performed by Comhar Sustainable Development Council (SDC) was integrated into the work of the NESC (and on which an Environment Pillar is now represented) as it develops its analysis of significant national challenges.

1.5 Our Starting Point

The UN Conference on Environment and Development (the Earth Summit) in Rio de Janeiro in 1992 adopted a declaration calling for a comprehensive programme of action throughout the world towards achieving a more sustainable pattern of development for the 21st century and beyond. Despite significant progress since the concept of sustainable development entered international debate, the problems discussed at Rio still endure. Unsustainable trends in relation to climate change and energy use, land use, threats to public health, poverty and social exclusion, and biodiversity loss still persist, while new challenges have emerged. At the Millennium Summit in September 2000, world leaders adopted the UN Millennium Declaration, committing their nations to a new global partnership to reduce extreme poverty and setting out a series of timebound targets, with a deadline of 2015 that have become known as the Millennium Development Goals. At the World Summit on Sustainable Development in Johannesburg in 2002 a further declaration and plan of implementation were agreed which together set the international context for sustainable development.

The UN General Assembly has committed to the organisation of a further UN Conference on Sustainable Development in 2012 to mark the 20th anniversary of the Earth Summit (Rio+20) and has renewed its call for political commitment to sustainable development. The two agreed themes for the Conference are *'green economy in the context of sustainable development and poverty eradication'* and *'institutional framework for sustainable development'*. The Conference will aim to secure renewed political commitment to sustainable development, assess the progress and implementation gaps in meeting already agreed commitments, and address new and emerging challenges.

The Treaty of Lisbon states that one of the EU's objectives is to work for the sustainable development of Europe based, in particular, on a high level of protection and improvement of the quality of the environment. Although the idea of sustainable development was included in the existing treaties, the Treaty of Lisbon reinforces and better defines this objective. Sustainable development is also affirmed as one of the fundamental objectives of the Union in its relations with the wider world.

Figure 1. Current and Projected Population for Ireland (Source: CSO)

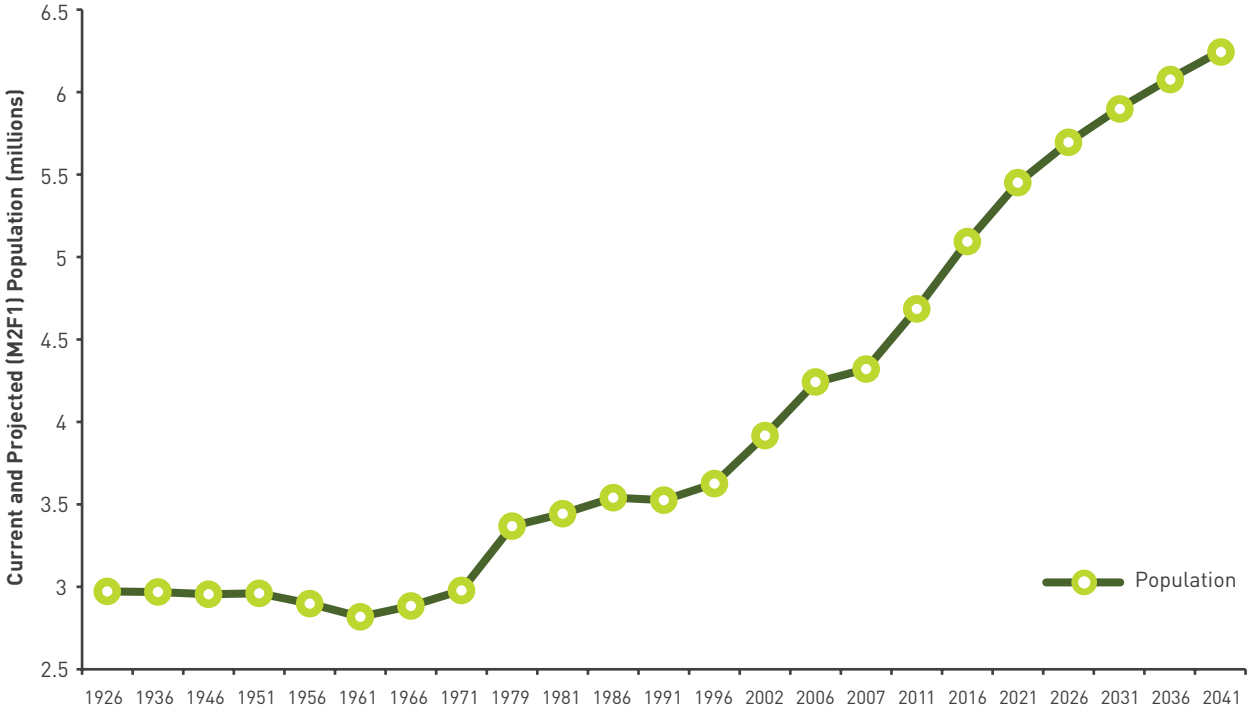
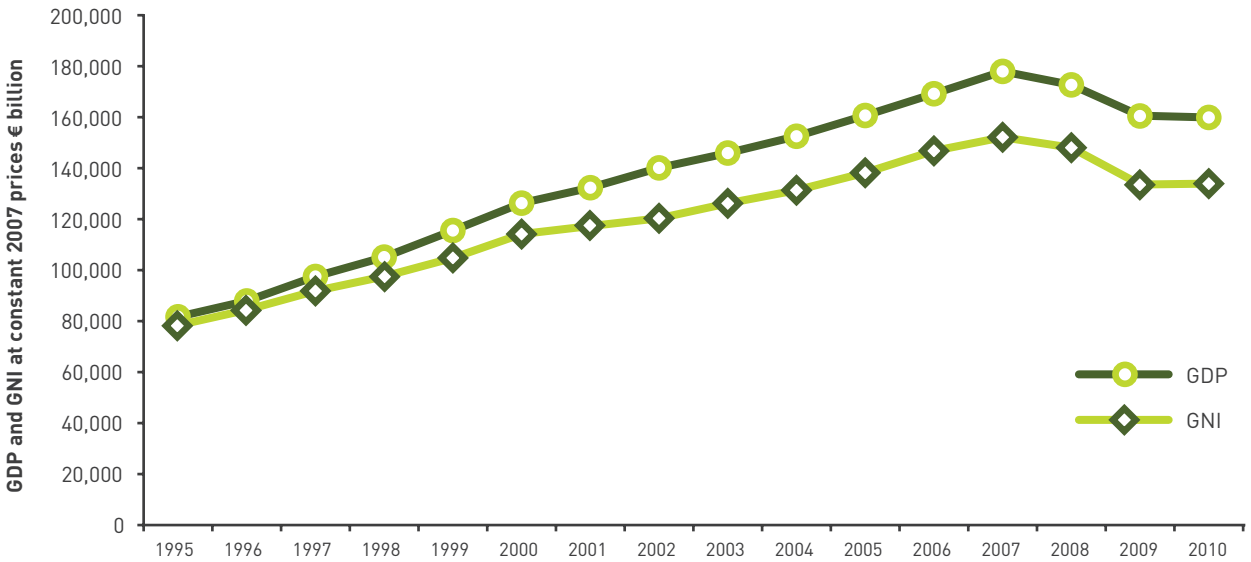


Figure 2. GDP and GNI for Ireland (Source CSO)



The EU adopted its first *Sustainable Development Strategy* in 2001 with revisions in 2006 and 2009. The strategy provides the overarching policy framework for all EU policies and strategies. The 2009 strategy recognises that significant additional efforts are needed in a number of areas, particularly in the effort to address and adapt to climate change, to decrease high energy consumption in the transport sector and to reverse the current loss of biodiversity and natural resources.

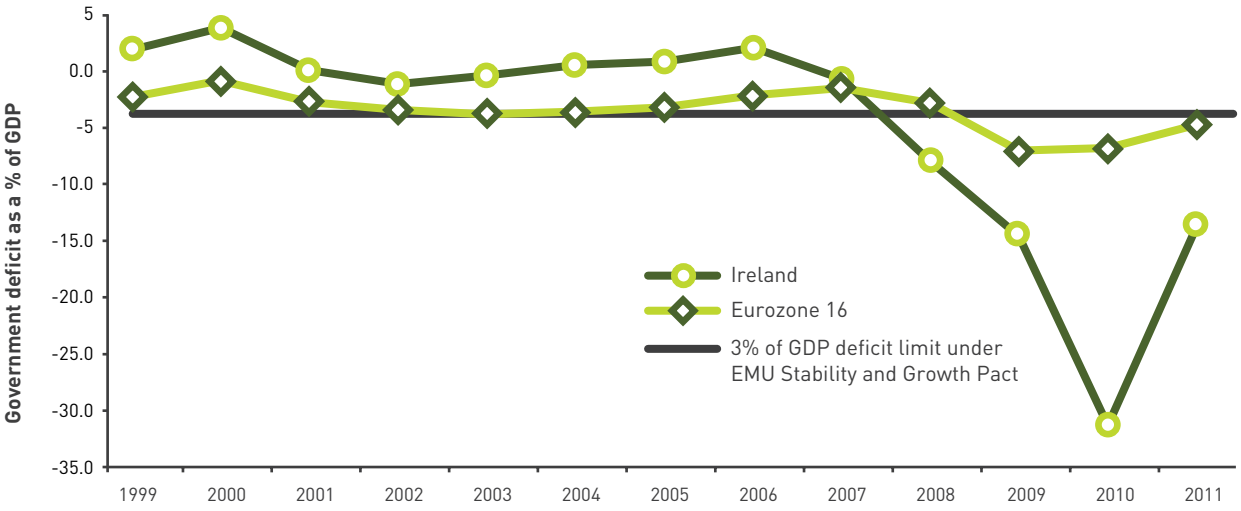
At national level, the publication in 1997 of *Sustainable Development: A Strategy for Ireland* led to significant progress in the development and implementation of policies and action across most sectors. We need to build on this progress and respond to the significant challenges we face across a number of policy areas as well as to issues in relation to governance, implementation mechanisms and measuring and communicating progress. In particular, we need to position ourselves to meet a range of challenging targets, including those on energy, climate and biodiversity, at a time when people's main concern is economic recovery and enhancing employment opportunities. Our sustainable development approach will be designed to meet these challenges in an integrated way; it will be designed to achieve optimum economic, social and environmental outcomes, recognising, as the OECD and others have done, that economic, environmental and social progress go hand in hand. *Our Sustainable Future* will support this objective by identifying the policy gaps, policy conflicts, priorities for action and mechanisms for measuring progress.

Since the 2002 review of Ireland's *National Sustainable Development Strategy*, we have seen a number of significant developments. For example, Ireland's population has continued to steadily increase (Figure 1).

Ireland had a prolonged period of economic growth before the current decline (Figure 2) and since 2008 has experienced a series of General Government deficits (Figure 3[5]).

We have also seen an increase in the standard of living as evidenced by a reduction in people at risk of poverty (Figure 4). However, more recently, consistent poverty has increased - from 4.2% in 2008 to 5.5% in 2009[6].

Figure 3. Government deficit as a percentage of GDP for Ireland and the EU (Source:Eurostat, CSO)

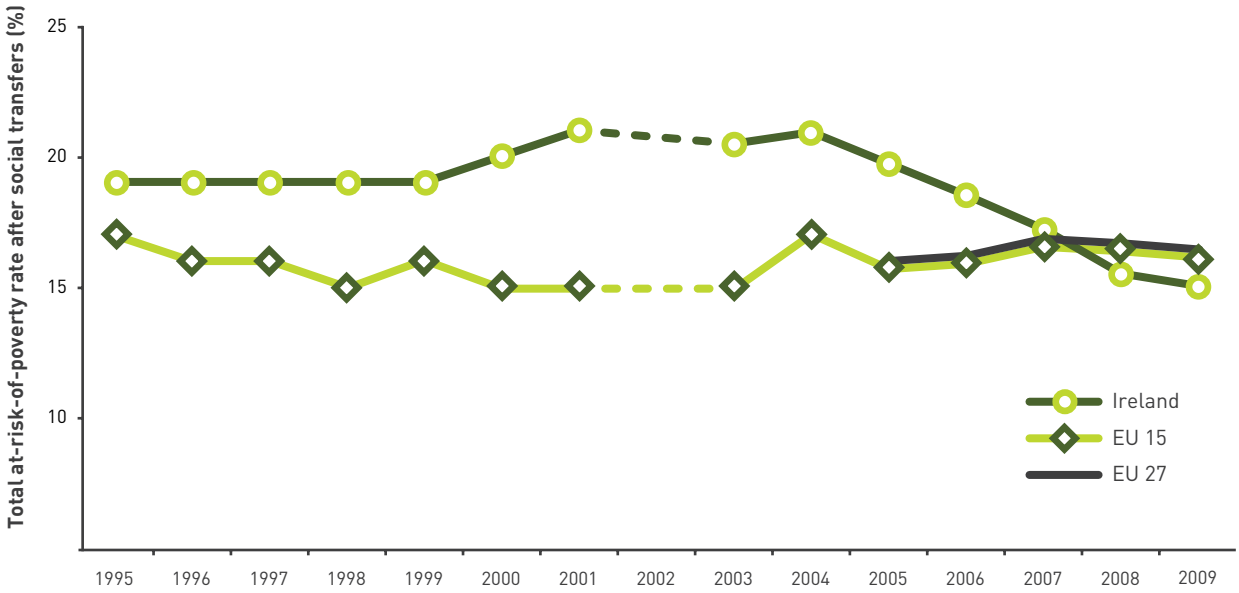


Source: Eurostat, CSO National Accounts

[5] 2010 deficit includes full impact of Đ30.8bn in promissory notes to the Irish Bank Resolution Corporation and the Educational Building Society

[6] CSO. (2009). Survey on Income and Living Conditions. Retrieved from http://www.cso.ie/releasespublications/documents/silc/current/silc.pdf

Figure 4. Total at-risk-of poverty rate for Ireland and the EU (Source: Eurostat)



Source: Eurostat

1.6 Our Commitments and Principles

The Government's commitments on sustainable development arise from national policy objectives and from EU and UN inter-governmental processes. The policy agenda is integrated and cross-cutting across all levels of Government, economy and society. The overarching national policy framework for sustainable development is set out in this document but the detailed policy approaches and relevant commitments will be addressed in policy statements in individual sectors. Current relevant policy statements include the *National Climate Change Strategy*; *Smarter Travel – A Sustainable Transport Future*; *Actions for Biodiversity 2011-2016*: *Ireland's National Biodiversity Plan*; the *National Energy Efficiency Action Plan*; the *National Renewable Energy Action Plan*; the *National Spatial Strategy 2002-2020* (including the 2010 *NSS Update and Outlook*); the *Government Policy on Architecture (2009 – 2015)*; the *Energy White Paper (2007-2020)*; and the *National Action Plan for Social Inclusion (2007-2016)*. An overview of key international and national commitments is set out in Annex 1.

A central plank of Ireland's economic recovery will centre on the development of a green economy that recognises:

- the opportunities for investment and employment creation in emerging sectors such as renewable energy, energy efficiency and waste and water management, and
- that this sustainable approach to economic development complements the core strength of our economy in the use of natural resources in the agriculture, forestry, fisheries, tourism and energy sectors.

Our Sustainable Future can support the achievement of a 'green economy' and 'green growth'. The OECD Strategy *Towards Green Growth* indicates that green growth is needed because risks to development are rising as growth continues to erode natural capital. If left unchecked, this would mean increased water scarcity, worsening resource bottlenecks, greater pollution, climate change, and irreversible biodiversity

loss. If we want to ensure that the improvement in living standards over the past fifty years is maintained, we have to find new ways of production and consumption, and even redefine what we mean by progress and how we measure it.

The following set of principles for sustainable development have been developed for *Our Sustainable Future* and have been adapted from the principles developed by the United Nations, European Commission and Comhar SDC. The principles and related themes take account of the traditional economic, social and environmental pillars of sustainability but recognise that integration is at the heart of sustainable development.

Our Sustainable Future - Principles for Sustainable Development

Themes	Principles
Economy	Promote an innovative, competitive and low-carbon economy with the aim of achieving smart, sustainable and inclusive growth.
Satisfaction of human needs by the efficient use of resources	Prices should reflect the real costs to society of production and consumption activities and polluters should pay for the damage they cause to human health and the environment.
Equity between generations	The needs of current generations should be addressed without compromising the ability of future generations to meet their needs.
	Resources should be used within the capacity for regeneration.
Gender equity	Women have a vital role in environmental management and development and their full participation is therefore essential to advance sustainable development.
Respect for ecological integrity and biodiversity	The abundance of wildlife and extent of habitats should be maintained, improved and restored where necessary, through sustainable management.
Social equity	Social inclusion should be promoted to ensure an improved quality of life for all.[7]
Respect for cultural heritage /diversity	The quality of landscapes, the heritage of the man-made environment and historic and cultural resources should be maintained and improved.
Equity between countries and regions	Promote fundamental rights, by combating all forms of discrimination and contributing to the reduction of poverty.
	Promote coherence between local, regional, national, EU and global actions in order to increase their contribution to sustainable development.

[7] **Social inclusion:** 'The process which ensures that those at risk of poverty and social exclusion gain the opportunities and resources necessary to participate fully in economic, social and cultural life and to enjoy a standard of living and wellbeing that is considered normal in the society in which they live.' (Source: Council of the European Union (2004) Joint Report by the Commission and the Council on Social Inclusion, Office for Official Publications of the EU)

Themes	Principles
Good decisionmaking	Guarantee citizens' rights of access to information and public participation procedures. Ensure access to review mechanisms. Develop adequate consultation with stakeholders, including citizens', businesses and social partners, and participatory channels for all interested parties.

1.7 A Framework for Sustainable Development

While a wide range of initiatives fall within the scope of sustainable development, *Our Sustainable Future* should not be seen as the sum of all relevant actions across Government. This Framework will be most effective by deepening and widening sustainable development through focusing on key challenges, identifying the gaps and committing to the actions that are needed to mainstream and deliver sustainable development.

This Framework takes the year 2020 as the timeframe for its outlook and outcomes. This is partly because 2020 is within the planning horizon of many existing policies such as the *NSS, Food Harvest 2020*, the EPA's *2020 Vision* report on Ireland's future environment, the *Energy White Paper* and *Smarter Travel - a New Transport Policy for Ireland*. It is also partly because the year 2020 is sufficiently close to be directly affected by decisions made today but distant enough so that policy has a real chance to affect outcomes. In addition, it is the target date for major EU policy frameworks, such as the *Climate and Energy Package* which sets a timeframe of 2020 to achieve emissions reductions, renewable energy penetration and energy efficiency targets, and also aligns with the time horizon of the *Europe 2020 Strategy*.

A longer-term outlook is also necessary and in that regard, the renewed *EU Sustainable Development Strategy*[8] aims to elaborate *'a concrete and realistic vision of the EU on its way to sustainable development over the next 50 years'*. As an example, in the context of a transition to a competitive, low-carbon economy, EU climate policy development must address the need for GHG emission reductions of at least 80% by 2050 compared to 1990. Therefore, *Our Sustainable Future* makes reference to the year 2050 in appropriate cases and commits to the development of a longer-term vision for Ireland during the timeframe of this Framework.

The aim of *Our Sustainable Future* is to provide for the integration of sustainable development into key areas of policy, to put in place effective implementation mechanisms and to deliver concrete measures to progress sustainable development.

The objectives of the Framework are to:

- Identify and prioritise policy areas and mechanisms where a sustainable development approach will add value and enable progress towards the strategy aims;
- Highlight and promote existing sustainable practices that, with the correct support, can underpin sustainable development more generally;
- Strengthen policy integration, coherence and co-ordination and bring a long-term perspective to decision-making;

[8] European Commission (2009) Mainstreaming sustainable development into EU policies: 2009 Review of the European Union Strategy for Sustainable Development.

- Set out governance mechanisms which ensure effective participation within Government and across all stakeholders;
- Set out clear measures, responsibilities and timelines in an implementation plan;
- Set out how progress is to be measured and reported on through the use of indicators;
- Incorporate adequate and effective monitoring, learning and improvement into the Framework process.

Our Sustainable Future broadly follows the thematic approach of the *EU Sustainable Development Strategy* and proposes measures to help meet the overall goal of achieving continuous improvement of quality of life for both current and for future generations. The key challenges are categorised into a number of themes:

- Sustainability of public finances and economic resilience;
- Sustainable consumption and production;
- Conservation and management of natural resources;
- Climate change and clean energy;
- Sustainable agriculture;
- Sustainable transport;
- Social inclusion, sustainable communities and spatial planning;
- Public health;
- Education, communication and behaviour change;
- Innovation, R&D;
- Skills and training;
- Global poverty and sustainable development.

1.8 Priorities for Action

The progress across key policy areas and sustainable development themes is detailed in Section 2 along with the many challenges that remain. A review of international experiences[9] in framing sustainable development strategies identifies some common factors which act as barriers to progress. Within Government, these include a lack of effective co-operation between Departments and the different levels of Government. The tendency to prioritise sectoral policies and targets can make Government-wide action on sustainable development challenging to achieve in practice.

Within business, while many companies are progressive, others are less so and commonly there is a lack of an overarching business agenda which integrates sustainable development considerations into economic decisions. Sustained efforts to encourage business representative organisations/ enterprise development agencies to continue to engage businesses on the need to integrate sustainable development considerations are crucial. Individuals and consumers require better information and measures that enable and encourage behavioural change. This is where *Our Sustainable Future* seeks to bring real added value: by recognising the inter-linkages in the main thematic challenges and by mobilising support for action across sectors and society.

Our Sustainable Future contains a range of measures to address the key challenges and priorities which will deliver change and support the delivery of a sustainable development agenda. The global environment is changing rapidly. If Ireland is to harness the opportunities associated with implementing sustainable development policies, ensuring that governance and institutional arrangements act as drivers rather than barriers to progress, is key.

[9] Peer reviews of German and Dutch sustainable development strategies:
German Council on Sustainable Development (2009) Sustainability 'Made in Germany'; and RMNO (2007) A New Sustainable Development Strategy: An opportunity not to be missed. RMNO Series A.10.

The role of Strategic Environmental Assessment in promoting transparent plan and programme making and mainstreaming environmental considerations is also important. These priorities for action cut across many of the key challenges and include:

- An effective framework for transition to an innovative, low-carbon and resource-efficient society;
- Identifying and adopting policies that can help achieve a shift towards greener growth;
- Protecting and restoring our biodiversity and ecosystems so that benefits essential for all sectors of society will be delivered;
- Protecting and enhancing Ireland's green infrastructure which can be defined as a *'network of green spaces that help conserve natural ecosystems and provide benefit to human populations through, for example, water purification, flood control, food production and recreation'*. Such spaces include woodlands, coastlines, flood plains, inland lakes and rivers, hedgerows and city parks;
- Securing health, social well being and gender equity to enable full participation in society and economic development;
- Effective governance arrangements to ensure delivery of sustainable development;
- A partnership approach to implementation of the Framework;
- Developing a set of indicators to measure and report on progress.

“STOCKS OF HUMAN, PHYSICAL, NATURAL AND SOCIAL CAPITAL NEED TO BE CONSERVED AND ENHANCED AS THEY ARE THE ASSETS ON WHICH CURRENT AND FUTURE DEVELOPMENT RELIES. IN CONSIDERING THE SUSTAINABILITY OF THE PUBLIC FINANCES THESE ASSETS SHOULD BE CONSIDERED IN AN INTEGRATED WAY, IF THEY ARE TO PROVIDE A BASIS FOR SUSTAINABLE RECOVERY.”

2.

SECTION TWO

KEY CHALLENGES FOR SUSTAINABLE DEVELOPMENT

2 KEY CHALLENGES FOR SUSTAINABLE DEVELOPMENT

Sustainable development is an overarching objective for Government and must be integrated across all the main policy areas. The key challenges outlined here reflect those in the *EU Sustainable Development Strategy* with the inclusion of additional issues identified in the review of the strategy such as the sustainability of public finances and economic resilience. While there are dedicated policies for many of these areas, new actions are needed in some areas, along with broader engagement and participation, to meet the challenges and to ensure that established policies are implemented fully and effectively.

2.1 Sustainability of public finances and economic resilience

"Achieving economic growth that is environmentally sustainable is another major challenge."

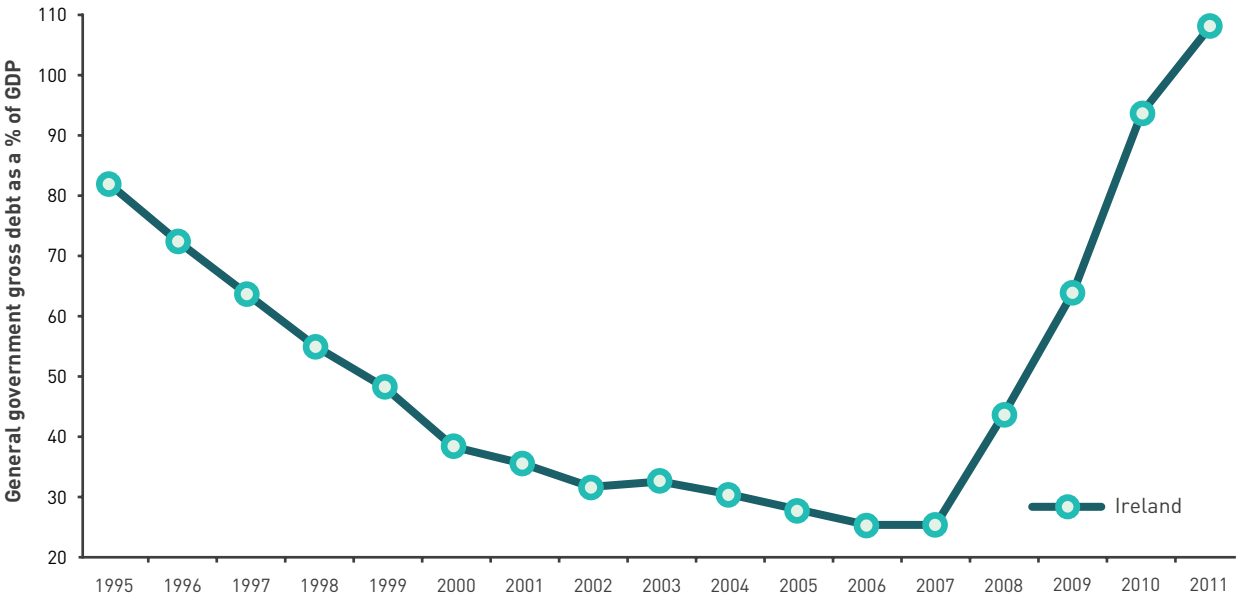


Figure 5. Government debt in Ireland (Source: Eurostat)

Challenges

Sustainability of the public finances relates to the ability of a Government to assume the financial burden of its debt currently and in the future[10] and is, therefore, a key challenge for any Government. The major drivers of public spending include public service pay and pensions, social welfare and public service programme spending and public investment. Large budget deficits are unsustainable and must be addressed by closing the gap between public expenditure and revenue generation. Failure to do so involves increasing, and ultimately unsustainable, levels of debt.

Achieving economic growth that is environmentally sustainable is another major challenge. Conventional economic metrics do not take into account the social and environmental aspects of sustainability. The importance of integrating social and environmental dimensions into measures of sustainable economic performance is now well recognised internationally. Current economic indicators such as GDP were never designed to be comprehensive measures of societal well-being. Therefore, complementary indicators are also needed that are more inclusive of other dimensions of progress.

Developing economic resilience is also an important challenge in the management of our public finances. The world is facing into an uncertain future with peak oil, high energy prices, ecosystem degradation and a changing climate all key concerns. A systematic approach to managing this risk will be needed if we are to maintain our future prosperity and way of life. A stable investment climate to support our competitive position and enable Ireland to continue to be an attractive location for business will be of critical importance.

Commitments and Targets

The *Europe 2020 Strategy* reaffirms collective determination to ensure fiscal sustainability, including by accelerating plans for fiscal consolidation. It supports a shift towards a resource-efficient and low-carbon economy and the European Commission has committed to using a range of financing and economic instruments to achieve this objective. These include:

- To mobilise EU financial instruments (e.g. rural development, structural funds, R&D framework programme, Trans-European Networks, European Investment Bank) as part of a consistent funding strategy that pulls together EU/national and public/private funding;
- To enhance the framework for the use of market-based instruments (e.g. emissions trading, revision of energy taxation, State-aid framework, encouraging wider use of green public procurement (GPP);
- To promote a substantial programme in resource efficiency (supporting Small and Medium Enterprises (SMEs) as well as households) by making use of structural and other funds to leverage new financing through existing highly successful models of innovative investment schemes, thereby promoting changes in consumption and production patterns.

A key challenge will be ensuring coherence and compatibility with principles of sustainable development. *National Reform Programmes*, which EU Member States are required to submit to the EU Commission under the *Europe 2020 Strategy* and other national policy statements across all sectors, should be consistent with the objectives outlined in *Our Sustainable Future*.

Ireland is now adjusting to a difficult recession complicated by banking and fiscal crises which necessitated us having to avail of a programme of support from the EU and International Monetary Fund (IMF). The *Programme for Government 2011* and the *EU/IMF Programme of Financial Support for Ireland* provide the blueprint for a return to fiscal stability and sustainable economic growth. Unsustainable public finances undermine the framework for economic prosperity and so the restoration of sound public finances has to be the cornerstone of economic planning.

[10] European Commission (2009), 'Sustainability Report 2009'.

In 2009, the Commission on Taxation put forward a number of recommendations for adoption by Government, including the introduction of a carbon tax on fossil fuels which was introduced in Budget 2010. All tax reforms should be based on principles of equity and the efficient use of resources and will have regard to the impact on people in or at risk of poverty. Dividends commonly associated with environmental tax reforms include: increased resource productivity and eco-innovation, increased employment, improved health of environments and people, a more efficient tax system and a better sharing of the financial burdens of an ageing population (European Environmental Agency (EEA), 2010).

Gaps

The current process of fiscal adjustment is focused on the need to get the public finances in order, which is vital for the economy and in securing the financial wellbeing of the country. It is important that the requirement to run a sustainable fiscal position takes cognisance of the need to also consider short-term gains against which are longer-term objectives.

There are four types of interdependent capital that drive economic and social progress namely:

- Human or knowledge capital: the skills, knowledge, ingenuity and creativity of people;
- Physical capital: the stock of infrastructure that is used to produce goods and services e.g. machinery, buildings, transport and communications networks;
- Natural or environmental capital: naturally provided assets and the quality of the surrounding environment within which people live and work;
- Social capital: the networks, connections, mutual trust and shared values and behaviours of the population.

Stocks of human, physical, natural and social capital need to be conserved and enhanced as they are the assets on which current and future development relies. In considering the sustainability of the public finances these assets should be considered in an integrated way, if they are to provide a basis for sustainable recovery.

Measures

1. **Integrate Environmental and Social Indicators into Measures of Economic Progress**
   The Government will take account of the environmental and social impact of economic activity and, building on the work of the Central Statistics Office (CSO), develop in consultation with stakeholders, measures of wellbeing to supplement economic growth as a metric for prosperity.

2. **Develop a Framework for Environmental Tax Reform**
   A gradual shift of the tax base away from taxing what we want more of, such as investment and labour, towards taxing what we want less of, such as pollution, would help contribute to the Government's objective of creating a resource-efficient and smart, green economy. The Carbon Tax already in place is an example of the effective use of environmental taxes for revenue-raising purposes. The scope for action on taxation over the short to medium term is limited by the budgetary constraints currently facing Ireland. The longer term aim should be to have a tax system which is sustainable both from the standpoint of raising revenue and supporting national development. The environmental tax reform framework will also need to take into account issues of equity and competitiveness.

3. **User Charges**
Together with the introduction of domestic water charges as outlined in Measure 20, the Government will consider the scope and need for wider use of user charging, where appropriate. There is now a considerable body of academic work and international examples underpinning the introduction of these instruments, and this will assist in choosing the best instruments for achieving the desired objectives.

4. **Shifting the Fiscal Focus towards the Green Economy**
In line with the recommendations of the OECD[11], priority will be afforded, in the context of advancing the green economy agenda in Ireland, to the development and implementation of appropriate fiscal measures. This includes, over the longer term, the rationalisation and phasing out of environmentally or economically harmful subsidies, including on fossil fuels, taking into account the impact of such measures on the most vulnerable groups in society through appropriate social policy instruments.

5. **National Reform Programmes under Europe 2020**
National Reform Programmes implementing Ireland's commitments under the *Europe 2020 Strategy* will take account of the measures in *Our Sustainable Future*. These synergies will also be important in other policy making areas, including those relating to local government.

[11] OECD (2010), OECD Environmental Performance Reviews – IRELAND and http://ec.europa.eu/environment/resource_efficiency/pdf/com2011_571.pdf

2.2 Sustainable Consumption and Production

"Resource efficiency allows us to do more with less, delivering greater value with less input and using resources in a sustainable way .... embracing resource efficiency offers a path to economic growth and the creation of decent jobs."

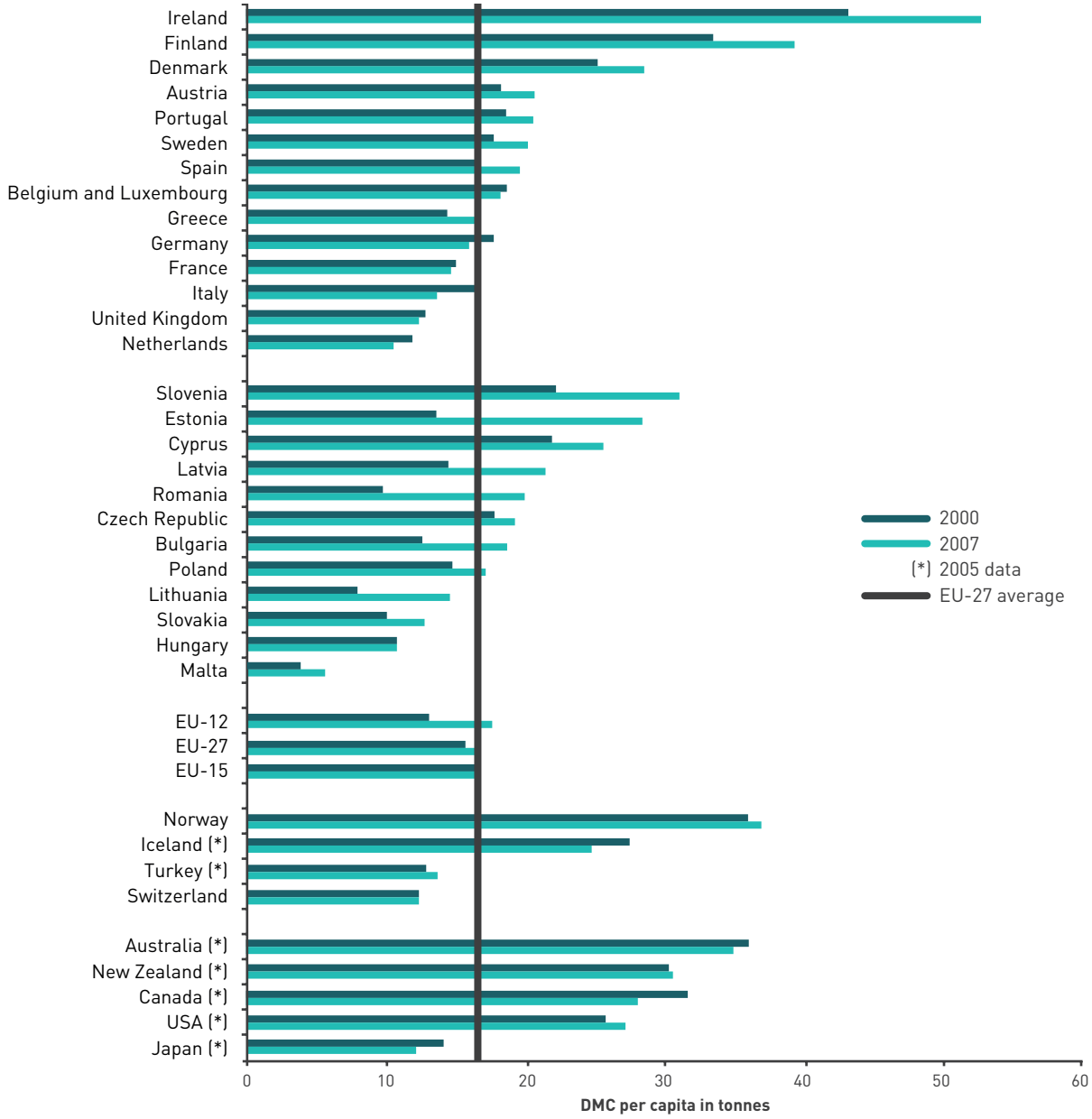


Figure 6. Resource use per person by country, 2000-2007 (Source: EEA, 2010)

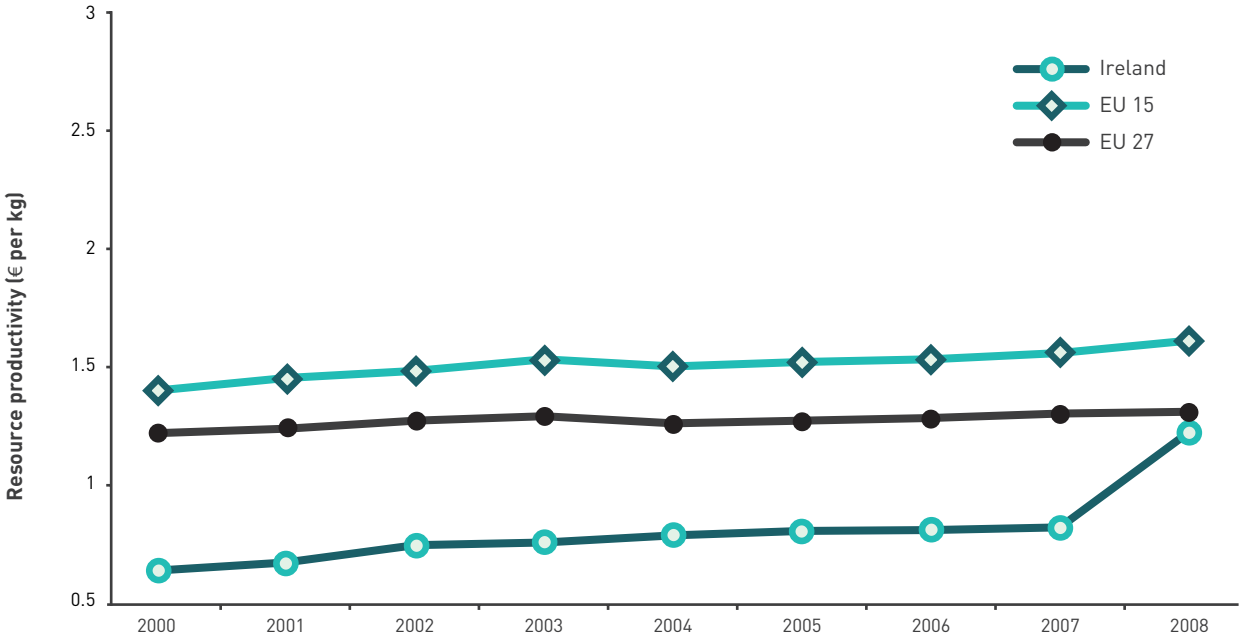


Figure 7. Resource productivity in Ireland and the EU (Source: Eurostat and CSO)

Challenges

Increasing prosperity, in Ireland and across the world, has allowed many people to enjoy the benefits of goods and services which were once available to just a few. While this shared prosperity represents huge progress, it does so at a cost of increasingly less sustainable patterns of consumption and production. The pressures on resources - raw materials, minerals, metals, food, water, soil, biodiversity, air, biomass and ecosystems - continue to increase.

This enduring, negative trend endangers the availability of natural resources and impacts negatively on the quality of our environment and on human health and biodiversity, both within Europe itself and globally. As noted in the 2010 EEA report[12] on the European environment, resource use increased by 34% between 2000 and 2007 in the EU-12 and this is having significant environmental and economic consequences. Of the 8.2 billion tonnes of materials used in the EU27 in 2007, minerals (including metals) accounted for more than half, with fossil fuels and biomass accounting for the bulk of the remainder.

There is a growing interdependence between countries. In Ireland, we rely not only on our own natural resources, but also on those of the rest of the world. To sustain the earth's population at the levels of consumption of the Irish population would take more than three planets' worth of resources[13]. Ireland's Ecological Footprint has continued to grow and in the latest assessment we had the tenth-highest per person footprint in the world.[14] Our over-consumption of resources in the developed world can have negative social, environmental and economic consequences for people living in developing countries.

Continuing resource use at existing levels is not sustainable and will act as a barrier to future economic growth as has been highlighted in the OECD report, *Towards Green Growth*. Conversely, embracing resource efficiency offers a path to economic growth and the creation of decent jobs. The challenge, then, is to manage our resources in a sustainable manner throughout their lifecycle, so as to avoid over-exploitation and to reduce the environmental and social impacts of their use. Essentially we must live, produce and consume within the physical and biological limits of the planet.

[12] EEA (2011) The European Environment, State and Outlook 2010.
[13] Maguire, C. and Curry, R. (2008) Island Limits. A Material Flow Analysis and Ecological Footprint of Ireland. EPA Ireland
[14] The WWF and Global Footprint Network. (2010). Living Planet Report 2010. Retrieved from http://www.footprintnetwork.org/en/index.php/GFN/page/Living_Planet_Report_2010_dv/

Sustainable Consumption and Production: Progress in Ireland

- EU/national legislation on:
  - IPPC licensing;
  - Waste management/environmental protection;
  - Producer responsibility initiatives – Waste Electrical and Electronic Equipment (WEEE), End-of-Life Vehicles (ELVs), packaging;
  - Eco-design;
  - Removal of dangerous chemicals from products e.g. REACH, RoHS Directives, Detergents Regulation;
  - Strategic Environmental Assessment (SEA);
  - Emissions Trading Scheme (ETS);
  - National Waste Prevention Programme;
  - Export/import of chemicals (Rotterdam Regulation) and waste (Transfrontier Shipment of Waste Regulation);
- Introduction of environmental levies on plastic shopping bags and landfilling of waste;
- EU/national R&D Initiatives;
- Provision of recycling infrastructure;
- Public awareness campaigns e.g. Race Against Waste, Power of One;
- New Market Development Programme for Recovered Waste Resources;
- *Green Tenders, An Action Plan on Green Procurement* published 2012;
- Motor Tax now based on carbon emissions;
- Carbon Tax;
- Domestic water metering and conservation measures to be introduced.

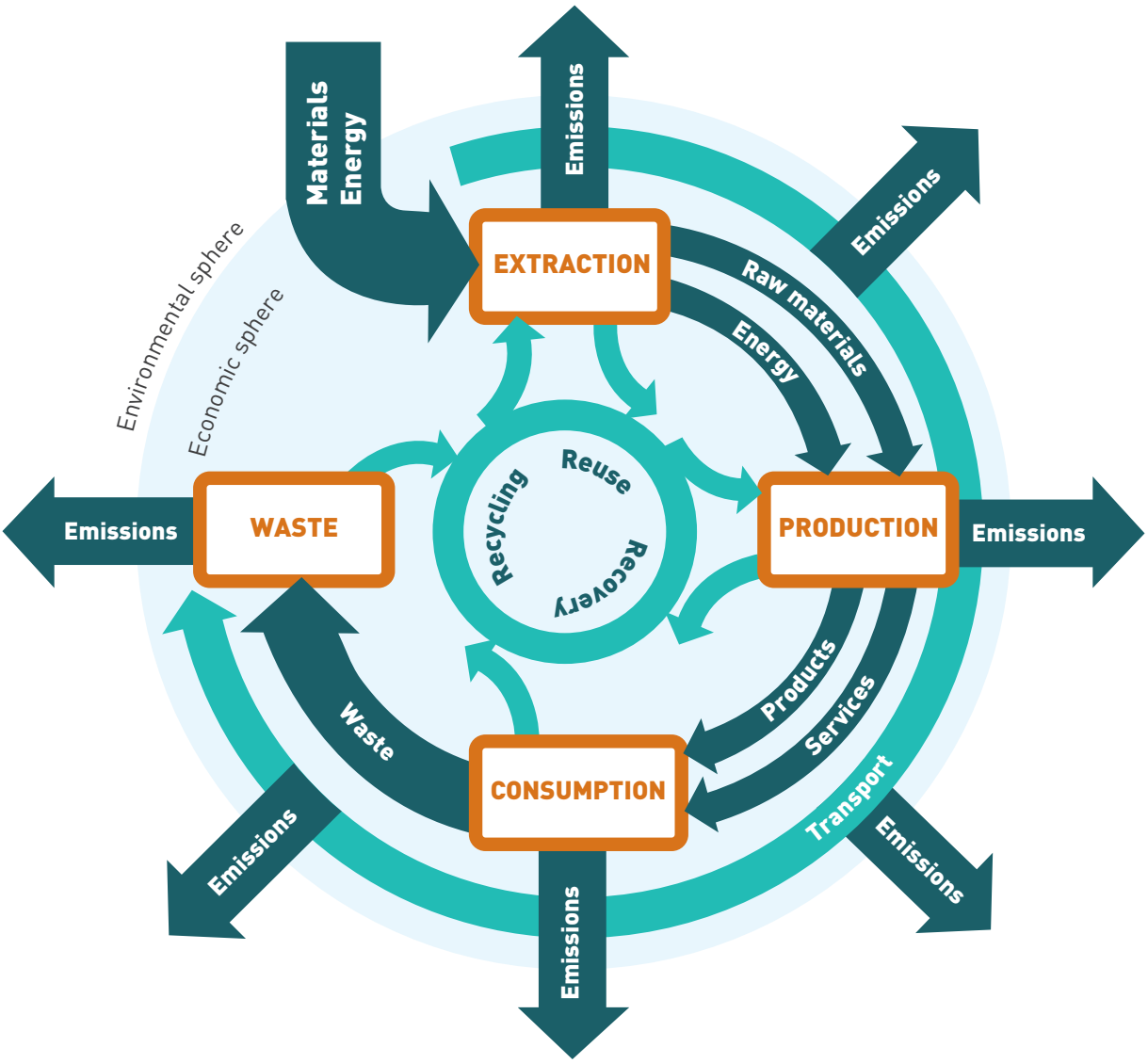
Europe relies heavily on natural resources to fuel its economic development. Traditional production and consumption patterns have led to substantial growth in wealth in Europe. Questions arise as to the sustainability of these patterns into the future. Environmental problems arising from the extraction and processing of many materials and natural resources are shifting from within Europe, to countries to which we are exporting, with the result that the impacts of consumption and resource use are increasing in a global context. Resource efficiency allows us to do more with less, delivering greater value with less input, using resources in a sustainable way based on a lifecycle approach which minimises environmental impacts.

The *Europe 2020 Strategy* and its flagship initiative on *'A Resource Efficient Europe'* called for a roadmap *'to define medium and long term objectives and means needed for achieving them'.* This roadmap[15], published in September 2011, aims to decouple the use of natural resources from economic growth and envisages a range of new policy measures dealing with raw materials, biodiversity and energy efficiency, as well as roadmaps to decarbonise the economy, energy and transport. It also advocates the stepping up of the use of market-based instruments, the phasing out of environmentally harmful subsidies and the 'greening' of tax systems.

The initiative provides a framework for policies to support the shift towards a resource-efficient and low-carbon economy aimed at boosting economic performance while reducing resource use. It also takes into account progress made on the 2005 Thematic Strategy on the Sustainable Use of Natural Resources and the EU *Strategy for Sustainable Development*.

[15] A Resource Efficient Europe – Flagship initiative under the Europe 2020 Strategy, COM (2011) 21

Figure 8. Sustainable Consumption and Production (Source: European Environment Agency)



As the roadmap document notes, resources are often used inefficiently because the information about the true costs to society is not available, with the result that business and consumers cannot adapt their behaviour accordingly. The roadmap calls for greater transparency and the inclusion of the costs of environmental externalities so that prices reflect the true costs of resource use to society and do not give rise to 'perverse incentives'.

It is not possible to assess progress unless you can measure it and the EU is developing a suite of indicators that will monitor and measure progress on resource efficiency – see Section 5. This process will include the development of a headline indicator – 'Resource Productivity' - to measure the roadmap's principal objective of improving economic performance while reducing pressure on natural resources.

Pressures and Possibilities

Europe relies on natural resources to contribute to its economic development. Most environmental impacts can be attributed to products and services we produce and consume. An EEA analysis of nine EU Member States found that the majority of key environmental pressures caused by total national consumption can be allocated to eating and drinking, housing and infrastructure, and mobility. These contributed approximately two-thirds of the consumption-related material use, greenhouse gas (GHG) emissions and other air polluting emissions. A contributory factor to these negative impacts is that the external costs to society of the environmental and resource degradation are not adequately reflected in the price of goods.

Using natural resources more efficiently will allow Europe to achieve objectives set out in *Europe 2020*. It will:

- be key to making progress to reducing GHG emissions by 80-95% by 2050;
- assist in preserving natural capital and the services that it provides;
- ensure that agriculture and fisheries sectors remain strong and sustainable;
- make Europe more resilient to future increases in global energy and commodity prices;
- contribute to the security of supply of food, energy and raw materials;
- contribute to food security and nutrition in the developing world; and
- improve quality of life and well being for citizens.

Overall, Ireland's resource productivity has shown some improvement, particularly since 2007 (Figure 7). A key message from the EEA in its report, *The European Environment – State and Outlook 2010* is that environmental regulation and eco-innovation have increased resource efficiency. This has occurred through a decoupling of resource use relative to GDP, but absolute decoupling i.e. where growth does not outpace improvements in efficiency, remains a challenge.

The World Summit on Sustainable Development in Johannesburg in 2002 set the goal that by 2020 chemicals should be produced and used in ways that minimise significant adverse impacts on human health and the environment. While there has been much progress made at EU level in recent years through the implementation of various actions identified in the 6th Environmental Action Programme, not least the EU REACH (Registration, Evaluation, Authorisation and Restriction of Chemicals) Regulation, significant challenges remain, both at EU and international level, to achieve the Johannesburg goal.

There have been various initiatives at global level to address concerns related to chemicals. The policy framework to foster the sound management of chemicals, SAICM (Strategic Approach to International Chemicals Management), was adopted in 2006 and currently negotiations are in progress to develop a global, legally binding agreement on mercury. The entry into force and ongoing addition of new chemicals to the Rotterdam Convention (on the Prior Informed Consent Procedure for Certain Hazardous Chemicals and Pesticides in International Trade) and the Stockholm Convention (on Persistent Organic Pollutants), as well as the Basel Convention (on the Control of Transboundary Movements of Hazardous Wastes and their Disposal) have strengthened international efforts to protect human health and the environment from hazardous substances.

Concerns have been raised in more recent years, both at EU and international level, on the potential for adverse impacts on human health and the environment arising from the release of chemicals into the environment from consumer products, such as electrical and electronic equipment, both in their use phase and their management at end of life. Likewise, the potential risks related to endocrine disrupters, pharmaceutical and personal care products and the combined effects of exposure to mixtures of chemicals are emerging policy areas. Technological advances in areas such as nanotechnology, which can offer potential societal and economic benefits also have potential health and environmental risks due to the unique features of manufactured nanomaterials that are as yet not fully understood. While existing EU regulatory mechanisms provide a good framework for the risk management of intentionally produced chemical substances, there is work ongoing both at EU and international levels to ensure the sound management of these substances throughout their lifecycle.

Commitments and Targets

The Marrakech Process, led by the UN Environment Programme (UNEP) and the UN Department of Economic and Social Affairs (DESA), aims to support the development of a *10-Year Framework of Programmes (10YFP)* on sustainable consumption and production by 2013. This framework proposes to strengthen international cooperation and increase exchange of information and best practices to facilitate the implementation of national and regional programmes to promote sustainable consumption and production.

At European level, sustainable consumption and production is promoted in the context of the *Europe 2020 Strategy*, which includes flagship initiatives on resource efficiency and industrial policy. As mentioned earlier in this Section, the EU Resource Efficiency Roadmap aims to decouple the use of natural resources from economic growth. Overall, the *Europe 2020 Strategy* aims to boost EU competitiveness, generate new business opportunities, drive innovation and create green and sustainable employment. The policy framework is further elaborated in the Commission's *Sustainable Consumption and Production and Sustainable Industrial Policy Action Plan* (2008). There is also a range of legislation focused on improving products[16] and policies aimed at smarter consumption notably through greener public procurement.

At national level a number of Government policies and programmes are in place to support good practice as well as specific initiatives by other key stakeholders. Some Sustainable Consumption and Production (SCP) initiatives in Ireland to date include:

- the NWPP run by the EPA; the scope of the NWPP has been expanded to include wider resource use, including water, energy and the use of natural resources generally. Projects include those focused at householders (Green Homes), industry (Hospitality Programme, Green Business) and local authorities. The NWPP operates as part of a national family of programmes designed to promote a more sustainable society and economy, some examples of which are presented in Figure 9.

- *Green Tenders, An Action Plan on Green Public Procurement* has been developed aimed at boosting the uptake of GPP which is an important tool in advancing the green economy agenda. It highlights the many best-practice examples of GPP already taking place that could easily be emulated by buyers across the public sector and by their supply chain. The Action Plan proposes eight areas of procurement as particularly suitable for GPP in the first instance – these are construction; energy; food and catering services; transport; ICT; cleaning products and services; paper; and uniforms and other textiles.

[16] Including the Ecodesign (EuP) Directive (2009/125/EU), Energy Labelling Directive (2010/30/EU), Energy Star Regulation, Ecolabel Regulation.

- The Market Development Programme for Waste Resources (rx3), which has been in place since 2008, aims to:
  - promote stable demand for recovered waste materials;
  - support the achievement of economies of scale in the production of products made from recycled materials; and
  - support more recycling/reprocessing infrastructure in Ireland to reduce reliance on overseas markets.

- Supports for business and institutions in the development and implementation of Green Business strategies are available from the four principal agencies active in this area: the Sustainable Energy Authority of Ireland (SEAI), the EPA, Enterprise Ireland (EI) and IDA Ireland. In July 2011 a guide entitled *'Developing a Green Enterprise*[17] was published setting out the range of supports available in Ireland for developing resource-efficient practices.

Resource Efficiency: Green Hospitality Programme

Under Ireland's *National Waste Prevention Programme* (NWWP), the Environmental Protection Agency (EPA) has been operating a *Green Hospitality Programme* which has been developed to act as an umbrella brand for hospitality-related prevention initiatives including the Green Hospitality Award (GHA), Green Caterers, Green Restaurants and Green Festivals etc. The *Green Hospitality Programme* provides a step-by-step approach to environmental management within the hospitality and catering sectors in Ireland. The programme seeks to build on the success of existing and previous initiatives aiming to promote resource efficiency and the sustainable use of all natural resources. The programme is starting to produce outputs which could be used to examine the potential to develop key performance indicators for the different sectors and to look at possible resource efficiency indicators.

Formal resource efficiency audits, resource consumption benchmarks, workshops, training, award- level criteria and guidance are provided to each participating hotel or caterer to enable them to develop their own prevention programme to prepare for the different levels of award. These start at an entry Bronze (Eco-label) Award leading stepwise up to Silver, Gold and Platinum levels – the latter being equivalent or better than the EU Flower level of environmental performance.

The awards are based on independent inspections and gala award ceremonies are held regionally and nationally for successful businesses. Accredited auditors from Certification Europe in turn oversee the overall awards process. A similar programme has recently commenced in the health-care sector.

The programme now has 221 members with 124 award-holders, including 2 at Platinum and 21 at Gold level. Some of the largest and most prestigious hotels in Ireland are now members along with some progressive large catering organisations.

A survey of 160 members in 2010 showed annual recurring cash savings made of **€5.6 million**, waste reduction of **6,400** tonnes, water reduction of **352,000 m3** and energy reduction of **38,748,000 kWh**.

Overall, the programme has achieved savings for its members of €13 million in the three years in which it has been operating.

Further information can be obtained from www.greenhospitality.ie.

[17] http://www.epa.ie/downloads/pubs/other/corporate/name,31083,en.html

Figure 9. Resource Efficiency (Source: EPA)

Ireland has made considerable progress in developing waste policy, legislation and infrastructure over the course of the last two decades. Framework legislation at EU and national level, the introduction of producer responsibility initiatives, the development of regional waste management planning and the roll-out of modern infrastructure have helped transform national performance in this sector. From a low base of 9% in 1998 the national recycling rate had reached 42% by 2010. The *Programme for Government 2011* commits to developing a national waste policy that will adhere to the EU waste hierarchy and favours a coherent approach to waste management that minimises waste going to landfill, and that maximises the resources that can be recovered from it. Work has commenced on the development of a new policy document to be concluded in mid 2012. The policy will be informed by a number of principles, with a particular emphasis on consistency with the cornerstones of national and European policy, including the waste hierarchy, the principle that the polluter pays, sustainable materials management and the urgent imperative to reduce GHG emissions. Waste reduction will be prioritised through comprehensive review of producer responsibility schemes. A Regulatory Impact Assessment of the proposal to introduce competitive tendering for local waste collection services where the private sector and local authorities can bid to provide services in an entire local authority area for a set time frame is also being undertaken.

Ireland, as a member of the EU, will continue to engage proactively with the various international chemical regimes to ensure that hazardous substances that have been identified as being of global concern can be addressed rapidly through agreed processes. Ireland has ratified the Rotterdam, Stockholm and Basel Conventions and will continue to implement its obligations under these agreements and their associated EU regulations and likewise will address requirements arising from any future international agreement on mercury. At an EU level, we will continue to work under REACH and other relevant regimes to ensure the safe and sustainable management of chemicals.

Better at Recycling but...

Ireland's national performance in waste management recycling has improved significantly over the past two decades. The national recycling rate has risen from **9%** in **1998** to the 2010 level of **42%**, while packaging recycling over the same period has risen from just under **15%** to **74%**. Our WEEE recovery rates at **more than 8kg per person** are running at more than double the statutory target set in EU legislation.

Yet, there is a significant challenge in developing reprocessing of recovered waste resources in Ireland with the bulk of recovered material going overseas. In 2009, 69% of recovered waste, mainly metals, paper, cardboard and glass, went abroad for export. This high level of exports means that opportunities for added value from reprocessing in Ireland are being lost. An all-island study, *The Irish Recycled Plastic Waste Arisings Study*, published in 2011 highlights the scale of the challenge:

'In 2009 60-70% of plastic waste collected for recycling was exported and approximately 30% of plastic waste was reprocessed on the island of Ireland. However there is significant reprocessing capacity on the island where it is possible for greater quantities of plastic waste to be reprocessed. The study identified that many plastic reprocessors and manufacturers import plastic waste and recyclate for their operations. This shows that there is demand for plastic waste to create higher value products.'

A tonne of waste plastic bottles may be worth €200 but, when the bottles undergo further processing, recyclate such as flaked or pelletised plastic from plastic drinks bottles is worth €820 to €1,070 per tonne, while a finished recycled product, such as new plastic bottles, is worth approximately €2,350 per tonne.

The recycling sector is labour intensive and with expanding waste recovery rates, offers opportunities for sustainable jobs if increased reprocessing rates can be achieved in Ireland.

Gaps

A range of policies, including *Our Sustainable Future*, refer to the importance of decoupling economic growth from consumption of environmental resources. However, there are no targets relating to resource efficiency at European or national level[18] though these will be explored in the context of the European Commission's *Roadmap to a Resource Efficient Europe.*

A number of areas have been identified in the resource efficiency roadmap as priorities for further policymaking on sustainable consumption and production, including:

- Strengthening the requirements on GPP for products with significant environmental impacts;
- Establishing a common methodological approach to enable Member States and the private sector to assess, display and benchmark the environmental performance of products, services and companies based on a comprehensive assessment of environmental impacts over the lifecycle;
- Addressing the environmental footprint of products, including through setting requirements under the Eco-design Directive, to boost the material resource efficiency of products and through expanding the scope of the Eco-design Directive to non-energy related products;
- Supporting the networking and exchange of best practice between agencies running schemes on resource efficiency for SMEs.

[18] The European Commission in its resource efficiency roadmap proposes to engage with stakeholders to develop potential targets by 2013.

At a national level there is a need to move beyond cleaner production and waste prevention policy. We need to ensure the effective implementation in Ireland of initiatives at EU level under the *Roadmap to a Resource Efficient Europe*, in a manner that effectively supports the transition that is required in energy, industrial, agricultural and transport systems and in consumer behaviour. This transition will also boost green innovation across the economy through wider adoption of existing technological and behavioural innovations and through faster development of greener ways of delivering the goods, services and infrastructure that our citizens demand. Faster diffusion of existing technological and behavioural innovations is equally essential to improving resource efficiency.

Internationally, lifecycle thinking is an important element to a growing number of instruments intended to enhance sustainable consumption and production. Among these instruments is eco-design, eco-labels, including carbon footprinting, environmental management and lifecycle-based indicators for monitoring sustainable consumption and production. Analysis on this basis can enable producers and consumers to be better informed and it may encourage them to take into account the longer-term environmental, social and economic impacts associated with the supply, use and end-of-life phase of goods and services.

However, it must be recognised that lifecycle costs are difficult to quantify in a transparent, objective and scientifically robust way. In Ireland, the Government's code on cost-benefit analysis and capital appraisals obliges public bodies to take into account the economically useful life of the asset (product, infrastructure, vehicle etc), thereby including the purchase price and all associated costs, operating costs and end-of-life (disposal) costs.

Measures

6. **Completion of Policy on Waste Management**
A new Waste Management Policy will be finalised by mid 2012, adhering to the waste hierarchy and moving Ireland away from an overdependence on landfill, where a range of alternative treatments will have a role to play

7. **Resource Efficiency**
In line with the development of the EU *Roadmap to a Resource Efficient Europe* under *Europe 2020,* the Government will work to ensure the effective implementation of this initiative in Ireland.

8. **Green Tenders, An Action Plan on Green Public Procurement**
Green Tenders, An Action Plan on Green Public Procurement will be fully implemented to act as a driver in developing the green economy in Ireland.

9. **Resource Efficiency Programmes for Business**
The relevant agencies (e.g. IDA Ireland, EI, SEAI and the EPA) should continue to work to offer an integrated suite of resource efficiency programmes for business.

2.3 Conservation and Management of Natural Resources

"Economic prosperity depends on maintaining and enhancing our assets, including natural capital. The value of Irish biodiversity and ecosystem services has been estimated at over €2.6 billion per year."

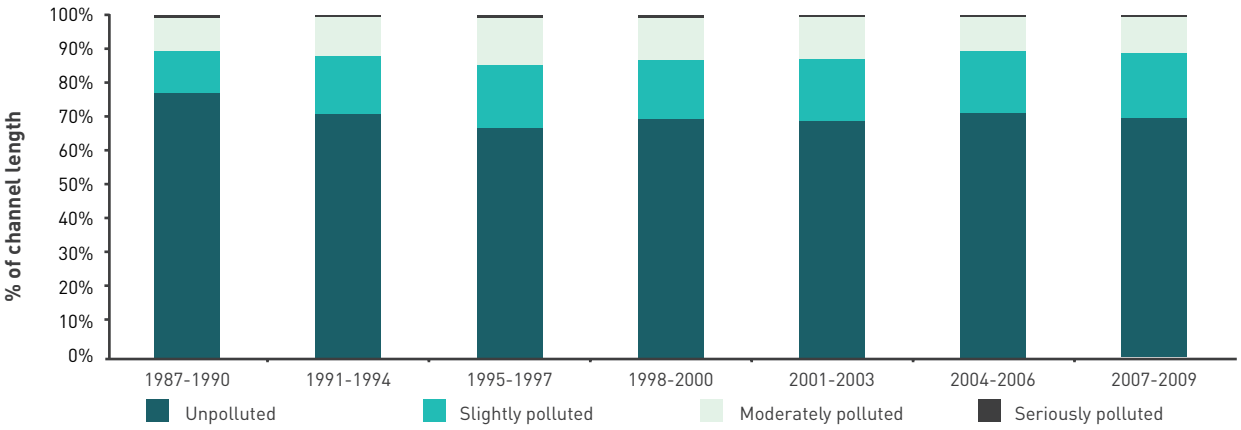


Figure 10. River water quality in Ireland (Source: EPA)

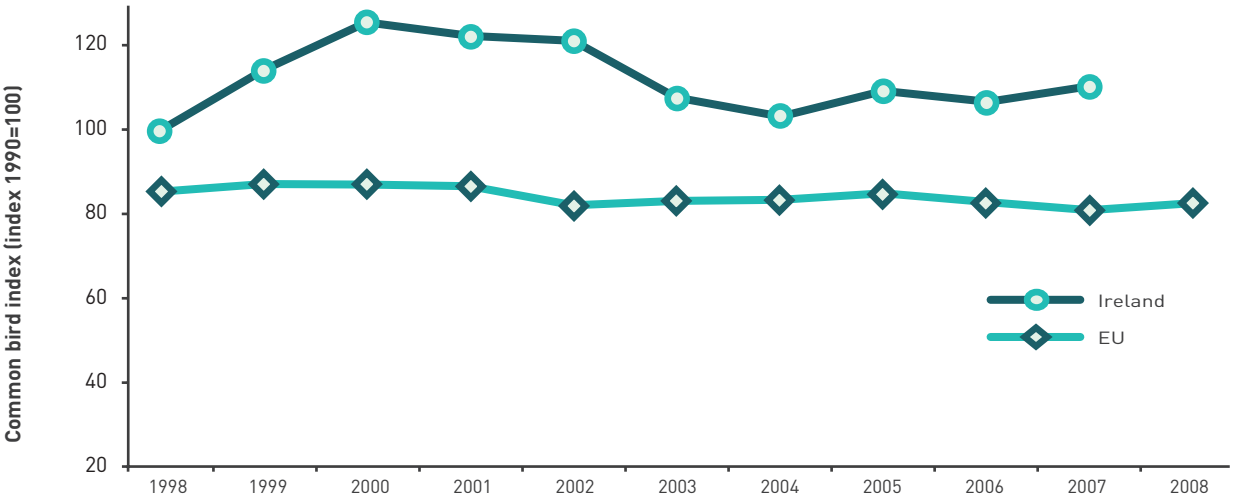


Figure 11. Common Bird Index in Ireland and the EU (Source: Eurostat)

Challenges

Biodiversity, ecosystems and natural resources are our natural capital. It is widely recognised that economic prosperity depends on maintaining and enhancing our assets, including natural capital. Our land, water and forests provide us with food, clean water, building materials and other essentials so for those reasons alone we should strive to protect what we have by ensuring sustainable use.

Biodiversity plays a significant role in underpinning vital economic sectors. For example, according to the UN Food and Agriculture Organisation, 40% of the world's economy is based directly and indirectly on the use of biological resources. The value of Irish biodiversity and ecosystem services has been estimated at over €2.6 billion per year (2008). This provides compelling evidence in support of the case for the protection of ecosystems, habitats and species.

Ireland, along with the other EU Member States and the EU itself is among the 193 countries who are parties to the Convention on Biological Diversity. The Convention covers all ecosystems, species and genetic resources and recognises that they must be used for the benefit of humanity, but insists that this should be done in a way and at a rate that does not lead to the long-term decline of biological diversity. Substantial investment is needed to conserve biological diversity but the Convention argues that conservation will bring significant environmental, economic and social benefits in return.

Ecosystems provide a variety of services to us for free which bring many benefits to society and the economy. There are four main categories:

- Provisioning services (production of food and water etc);
- Regulating services (e.g. the control of climate and disease);
- Supporting services (e.g. nutrient cycling and crop pollination); and
- Cultural services (such as recreational/tourism benefits).

The UN Millennium Ecosystem Assessment focused on the link between ecosystems and human wellbeing and concluded that approximately 60% of the earth's ecosystem services examined are being degraded or used in an unsustainable way.

The Economics of Ecosystems and Biodiversity (TEEB) Initiative, a global study, demonstrates the value of ecosystems and biodiversity to the economy, to society and individuals. It underlines the urgent need for action, as well as the benefits and opportunities that will arise as a result of taking such action. The study shows that the cost of sustaining biodiversity and ecosystem services is lower than the cost of allowing biodiversity and ecosystem services to decline. In an Irish study, an estimate of the value of selected ecosystem services for Ireland was calculated at €2.6 billion per annum and this is a conservative value as some important services were not included.[19]

One of the key messages from the EEA in its report *The European Environment – State and Outlook 2010* was that widespread alteration of landscapes, degradation of ecosystems and loss of natural capital mean that the EU would not meet its target of halting biodiversity loss by 2010. To improve the situation we must prioritise biodiversity and ecosystems in policymaking at all levels, particularly addressing agriculture, fisheries, regional development, cohesion and spatial planning.

In Ireland, as elsewhere, economic sectors such as agriculture, forestry, tourism, fisheries and aquaculture are reliant on the effective conservation and management of natural resources. A recent study has also drawn attention to the importance of water to the business sector and warns of the potential climate impacts that could affect its supply.[20] Ireland's economic and social development is dependent on a healthy natural environment; therefore, resources must only be used at a rate which allows them to be replenished and must be preserved to ensure their long-term use and viability.

As many ecosystem services are public goods, public policies have an important role to play in their protection and development. A key challenge is to recognise and integrate the value of natural capital into policy making. Green infrastructure, which is the network of green spaces which enable ecosystems to provide services, should be viewed as critical infrastructure for Ireland in the same way as our transport and energy infrastructure. This means we need to proactively develop green infrastructure and ecological connectivity, which will have the dual function of enhancing biodiversity and ecosystem goods and

[19] Bullock, C., Kretch, C. & Candon, E. (2008). The Economic and Social Aspects of Biodiversity Benefits and Costs of Biodiversity in Ireland. Retrieved from (http://www.npws.ie/en/media/NPWS/Publications/Biodiversity/Media,6432,en.pdf)
[20] Forfás (2010). Adaptation to Climate Change: Issues for Business.

services and improving resilience and adaptation to climate change. Because the green infrastructure approach emphasises management and not just protection, it has particular potential to assist in meeting the requirements of a range of European Directives including the Habitats Directive (92/43/EEC), Birds Directive (2009/147/EC), Water Framework Directive (2000/60/EC), Strategic Environmental Assessment Directive (2001/42/EC) and Floods Directive (2007/60/EC) through integrated cost-effective actions. Ireland has committed to develop an integrated national terrestrial and marine habitat map by 2015, which could be used in incorporating ecosystems into the planning system; relevant public organisations have recently begun this work.

Commitments and Targets

In 2002 the parties to the Convention on Biological Diversity, including Ireland and the EU, committed themselves to achieve, by 2010, a significant reduction of the current rate of biodiversity loss at global, national and regional levels. However, despite some action, that target was not reached, and this lead to new attempts globally to reinvigorate progress, resulting in the parties agreeing new objectives in Nagoya, Japan, in October 2010 in a strategic plan for the period 2011 to 2020. The Convention Mission now is to take *'effective and urgent action to halt the loss of biodiversity to ensure that, by 2020, ecosystems are resilient and continue to provide essential services, thereby securing the planet's variety of life and contributing to human well-being and poverty eradication'.*

Ireland, as part of the EU, has also committed to a new vision for biodiversity and a target to halt the loss of biodiversity and the degradation of ecosystem services in the EU by 2020, and to restore them in so far as feasible, while stepping up the contribution to averting global biodiversity loss. There is also a long-term vision that by 2050, European Union biodiversity and the ecosystem services it provides are protected, valued and appropriately restored. In June 2011, the EU produced *The Biodiversity Strategy to 2020* which is aimed at meeting these objectives, delivery of which will be particularly challenging for Ireland.

The most important elements in the EU actions on biodiversity loss are the nature directives. The Birds Directive and the Habitats Directive require Member States to conserve valuable or threatened habitats and species, in particular by establishing the Natura 2000 network of sites. This network of protected areas forms the core of biodiversity conservation and while substantial progress has been made in designating sites, further effort is needed to maintain and enhance the conservation status of protected sites. Ireland's latest report on the implementation of the Habitats Directive showed that many of our most important habitats and species are in poor conservation status. Full implementation of the Nature Directives, along with others such as the Water Framework Directive and Marine Strategy Framework Directive, would contribute enormously to biodiversity conservation in Ireland.

A key plank of the response to this challenge is found in *Actions for Biodiversity 2011-2016: Ireland's National Biodiversity Plan* which was published in November 2011. This plan contains 102 actions under 7 strategic objectives, covering a broad range of key players and sectors for the protection of biodiversity and ecosystem services, both within protected areas and throughout the wider countryside. The plan will be reviewed and amended, if required, in 2013.

Specific actions at raising awareness and mainstreaming biodiversity concerns are of particular importance in order to encourage buy-in from the various sectors. The plan also commits to legislative measures to further support action to tackle biodiversity loss, including a consolidated Wildlife Act and the introduction of a statutory Biodiversity Duty for public bodies.

Actions for Biodiversity recognises that the Natura 2000 network of sites is the cornerstone of biodiversity policy, safeguarding our areas of high ecological value and demonstrating, in a very practical way, our commitment to the conservation of endangered habitats and species. Ireland now aims to finalise designation of the network by 2014 and is also committed to updating and implementing plans for species under threat in order to strengthen their protection.

Ireland also recently put in place more robust protection mechanisms to safeguard these sites through the updated and strengthened Birds and Natural Habitats Regulations which provide for more effective and comprehensive protection of habitats and species. These provide clarity to citizens and to public authorities regarding their responsibilities to protect our wildlife and ecological assets. The full implementation and enforcement of these regulations is a key action under the plan.

Closer collaboration with Northern Ireland is also important as biodiversity does not recognise man-made boundaries; we share the same biogeographic space with many species moving between the two territories. As a result, there is already substantial North/South dialogue and co-operation on biodiversity issues, through for example, the Invasive Species Ireland project, the production of Red Lists and Species Action Plans, surveys of particular species, and the cross border management planning at Slieve Beagh.

Under the Water Framework Directive, River Basin Management Plans for each of the 7 river basin districts in the State have now been adopted. The plans set out the current status of our waters, the objectives to be achieved by 2015 and the programme of measures to be implemented in order to achieve those objectives.

Towards Integration: Water Framework Directive (WFD)

The Water Framework Directive which was transposed into Irish law in December 2003, and an analogous Marine Strategy Framework Directive, form the twin pillars of water management in Ireland and in other Member States. The Water Framework Directive marks a significant evolution in the overall approach to water management in the EU. Early European water legislation began, in a 'first wave', with water quality standards established for designated bathing waters, designated shellfish waters and waters used for drinking water abstraction. Emission controls were also laid down at this time for urban waste water discharges and the control of diffuse agricultural pollution was regulated under the Nitrates Directive. This system has since evolved towards an integrated river basin management approach which is now at the core of water management under the Water Framework Directive. The directive introduced two key changes to the way the water environment is managed across the EU. Firstly, it sets new environmental objectives that must be delivered for all waters through broad ecological goals, designed to protect and, where necessary, restore the structure and function of aquatic ecosystems themselves and thereby safeguard the sustainable use of the water resource. Secondly, it introduced a river basin management planning system to provide a framework to ensure the integrated management of all waters (groundwater, rivers, canals, lakes and estuaries) as well as the protection of ecosystems and wetlands.

A key objective of the directive is that the biological and chemical status of all water bodies will be 'good' or 'high' by 2015. River Basin Districts (RBDs) – there are 8 in the island of Ireland, including three international RBDs – have a 6 year planning cycle. Plans for all RBDs are now in place in Ireland, setting out the pressures impacting on water bodies and the responding measures to be put in place. This process can cover a whole range of elements such as mapping protected areas, scientific research (water characterisation, baseline research, monitoring), extensive stakeholder

consultation (with public authorities, industry, business and consumers) and coordination between various competent authorities.

The river basin approach also envisages the development of cross-links with other policies in order to achieve the objectives of the Directive. National legislation and broader policy objectives e.g. regional and county development plans, investment priorities in urban waste water treatment, sectoral objectives and policy instruments such as the Common Agriculture Policy, Strategic Environmental Assessment, Nitrates Regulations, etc will need to align with and support the environmental objectives contained in River Basin Management Plans. This type of integrated planning approach will be instrumental in embedding sustainable development principles in water resource management in the period ahead and will be further developed as the directive is implemented.

Island of Ireland's 8 River Basin Districts (RBDs).
(Includes 3 International RBDs)

- North Eastern
- Neagh Bann
- Eastern
- South Eastern
- South Western
- Shannon
- Western
- North Western

The Government intends to take a national approach to water, to significantly improve the quality of service, increase the cost-efficiency associated with water provision and conserve our national resource. The Government will establish Irish Water, a State company that will take over the water investment and maintenance programmes of the 34 county and city councils with the key aim of supervising and accelerating the pace of delivery of planned investments needed to upgrade the State's water and sewerage networks. Irish water will be regulated by the EPA from an environmental perspective and by the Commission for Energy Regulation from an economic perspective.

In line with the *Programme for Government 2011*, a programme of water metering will be commenced and will involve the installation of over one million meters in households connected to public water supplies. This will be followed by the introduction of water charges based on usage above a free allowance. The installation of water meters represents a long-term investment in how we, as a society, manage and fund our water resources. Metered water charges provide households with an incentive to use water resources more efficiently and to reduce their consumption. International evidence has shown that the installation of water meters can be expected to result in a decrease in consumption of at least 10%. Reducing the consumption will lead to reduced levels of abstractions as well as significant savings in the operational cost of treating and storing the water.

There have been significant and sustained improvements in our water quality in recent years and this has been achieved through a combination of improvements in service delivery and targeted capital investment. The regulatory framework is being augmented by the new registration and inspection system for domestic waste water treatment systems as provided for in the Water Services (Amendment) Act 2012.

Ireland has signed and ratified the Council of Europe's European Landscape Convention (ELC), which came into effect on 1 March 2004. It obliges Ireland to implement certain types of policy changes and objectives concerning the management and protection of the landscape. It also requires 'landscape' to be legally defined. This was given effect through the Planning and Development (Amendment) Act 2010 which also requires the inclusion of a mandatory objective in local authority development plans and in regional planning guidelines to develop landscape policies.

Arising from our ELC commitments, a draft National Landscape Strategy (NLS) is currently in preparation by the Department of Arts, Heritage and the Gaeltacht. The draft NLS suggests principles and mechanisms for the development of policies, tools and methods at local and national level, involving local authorities, state organisations and civil society, for protecting and enhancing the landscape, positively managing landscape change, and providing the context within which the design of appropriate development can take place.

The key objectives to achieve a consistent national approach will be predicated on;

1. A 'forward plan' led approach;
2. Active management; and
3. Best practice in protection and conservation principles.

The NLS framework aims to anticipate and avoid conflict between present and emerging land uses. It will do this through the land-use planning process, which has traditionally been used to manage change and achieve a sustainable balance between conflicting demands.

The potential environmental impact of exploration and exploitation of unconventional hydrocarbons (including shale gas) is an emerging issue in Ireland as elsewhere. A comprehensive legislative framework on environmental protection and access to hydrocarbon resources is in place and applies to all hydrocarbons (conventional and unconventional) from planning to the aftercare of sites following exploitation. The Environmental Impact Assessment (EIA) Directive plays a central role in the assessment of such proposals as it ensures that the environmental implications of projects are taken into account in the permitting process, before final decisions are made, and it involves the public in the decision-making process. Activity in this area will also be informed by ongoing and planned research.

Gaps

The mainstreaming of environmental issues in policy making is of key importance to meeting objectives in this area. Environmental concerns must be further integrated across Government actions and the wider society with awareness increased and participation encouraged as much as possible.

At a national level, parts of the information and evidence base are not sufficient for policy development and measurement of environmental outcomes. A key gap is the absence of a national ecosystem assessment and the mapping of Ireland's natural resources (also known as natural capital) as these would make a substantial contribution to the evidence base for policy development and decision-making.

While the new *National Biodiversity Plan* includes measures to do so for biodiversity, there are no dedicated systems for measuring, monitoring and reporting on our broader natural capital. Our national accounting systems and indicators should reflect the value of nature and monitor how natural assets depreciate or grow in value. In that context, satellite accounting, which accounts for the use of natural resources compiled alongside normal financial accounting, is proposed.

An integrated approach has not been taken to natural resource policy to date and this will be necessary to meet the targets to halt biodiversity loss and degradation of ecosystem services. The OECD Environmental Performance Review 2010 recommended that Ireland should strengthen its environmental management efforts and further integrate environmental concerns into economic decisions and reinforce international cooperation on environmental issues[21].

This will require integrating biodiversity considerations and measures to enhance ecosystem goods and services across policy areas. It will also require the development of new approaches and tools for practical implementation of such integrated approaches. Further development and implementation of a green infrastructure approach will contribute to making progress on the OECD recommendations, which included improved integration of biodiversity into sectoral policies and protection and enhancement of biodiversity outside protected areas through the creation of green corridors.

It will also be vital to ensure that current measures and incentives do not inadvertently contribute to biodiversity loss and degradation of ecosystems as well as to develop positive incentives to assist in the conservation of natural resources.

There is a need for an integrated marine and coastal management process which would take account of other measures in the marine area such as the EU Marine Strategy Framework Directive, the main purpose of which is to protect and preserve the marine environment, prevent its deterioration and, where practicable, restore marine ecosystems in areas where they have been adversely affected.

This integrated marine and coastal management process would also take cognisance of the Common Fisheries Policy, a key component of which is the conservation, management and sustainable exploitation of marine biological resources.

Measures

10. **Implementation of Actions for Biodiversity 2011–2016: Ireland's National Biodiversity Plan**
The Government will implement *Actions for Biodiversity 2011-2016: Ireland's National Biodiversity Plan* which will co-ordinate measures to underpin progress towards meeting national, EU and global 2020 biodiversity targets. The Government will also support the integration of biodiversity concerns with climate change, economic and spatial planning policy. This will be taken forward through the governance arrangements outlined in Section 3.

11. **Development of a National Terrestrial and Marine Habitat Map**
A National Terrestrial and Marine Habitat Map will be developed by 2016. This will be an important tool underpinning decisions on policies and actions to protect biodiversity and a stepping-stone to future, long-term measures, such as the development of ecosystem services mapping and a national ecosystem assessment.

[21] OECD (2010) OECD Environmental Performance Reviews: Ireland.

12. **Development of an Integrated Approach to Green Infrastructure**
The Government will continue to develop an integrated approach to green infrastructure planning to improve the quality of our natural environment and support biodiversity at the national, regional and local level. This will be carried out in partnership with key stakeholders and will include raising awareness of the associated benefits.

13. **Effectively Communicating the Economic Rationale for Conservation of Natural Resources**
The Government will develop and communicate the economic rationale for investment in protection and enhancement of natural capital. This will strengthen the mainstreaming of biodiversity considerations across policy areas.

14. **Development of Indicators and Accounting Systems (satellite accounts) for Natural Capital**
The Government will develop and strengthen indicators and accounting systems for natural capital building on the environmental and material flow accounts produced by the Central Statistics Office.

15. **Development of a National Landscape Strategy**
A National Landscape Strategy, which has a major role in mapping out the path to sustainable management of our built and natural resources, will be adopted implementing Ireland's obligations under the European Landscape Convention.

16. **Development of an Integrated Approach to Marine and Coastal Planning**
The Government will develop an integrated marine and coastal planning process in order to maximise the potential for Ireland's coastline in sustainable fishing, aquaculture, ocean energy and tourism.

17. **Implementation of the EU Marine Strategy Framework Directive**
The Government will implement measures under the Marine Strategy Framework Directive to protect and preserve Ireland's marine environment including the completion of an initial assessment of marine waters in 2012.

18. **Conservation and Management of Marine Biological Resources**
The Government will comply with all measures relevant to Ireland as directed under the Common Fisheries Policy to deliver the conservation, management and long-term sustainable exploitation of marine biological resources.

19. **Implementation of the EU Water Framework Directive**
Under the River Basin Management Plans, measures will be implemented to deliver the objectives of the EU Water Framework Directive to protect and improve water quality.

20. **Introduction of Domestic Water Metering and Charges**
The Government will introduce domestic water charges following a programme of water metering (see also Measure 3).

21. **Establishment of Irish Water**
The Government will establish Irish Water, a State company that will take over the water investment and maintenance programmes of the 34 county and city councils with the key aim of supervising and accelerating the pace of delivery of planned investments needed to upgrade the State's water and sewerage networks.

2.4 Climate Change and Clean Energy

"...the transition to a low-carbon economy ... will require a range of responses across sectors."

Challenges

Climate change is one of the great challenges facing mankind. Global climate change trends are well documented in the assessment reports of the Intergovernmental Panel on Climate Change (IPCC) and the potential negative effects of climate change are widely acknowledged. In response to the scientific advice from the IPCC, the European Council has concluded that greenhouse gas (GHG) emissions from developed countries as a whole must be reduced by 80-95% by 2050, compared to 1990 levels in order to reduce the risk of dangerous and potentially catastrophic climate change materialising[22]. Ireland actively supports EU ambition and leadership on climate policy, both in relation to framing the internal European agenda, and in terms of the position of influence which the EU seeks to bring to the wider international process under the UN Framework Convention on Climate Change (UNFCCC). Ireland will also continue to work with other EU Member States to develop intergovernmental policy responses within the UNFCCC to address climate change adaptation in order to build resilience to climate and environmental shocks and slow-onset events.

Climate change presents sustainability pressures not only from an environmental perspective, but also for our economy and society. Changes to mean temperatures, precipitation levels and greater frequency of more extreme weather events can all have adverse impacts on sustainable development. Additional to the threat of climate change is the challenge of peak oil, providing a secure and clean energy supply and being more efficient in our energy use. The policy challenge which these present and competing policy priorities need to be proportionately reconciled, with a view to balancing environmental sustainability and competitiveness. A balance also has to be struck between the need to provide the right policy and regulatory environment in support of these objectives and at the same time ensuring that Ireland remains an attractive place to do business. Looking ahead, the transition to a low-carbon economy in line with EU and International policy development will require a range of responses across sectors. .

Commitments and Targets

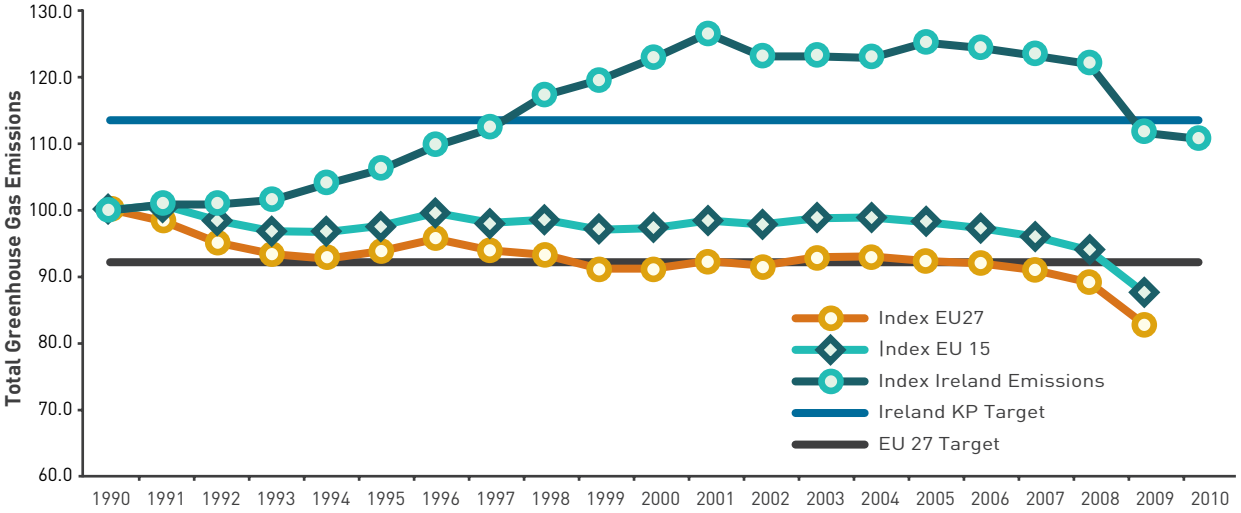


Figure 12. Total greenhouse gas emissions and Kyoto target in Ireland and the EU (Source: derived from EEA, UNFCCC and EPA data)

[22] http://www.ipcc.ch/publications_and_data/ar4/wg3/en/contents.html

Ireland's commitment for the purposes of the Kyoto Protocol is to limit average GHG emissions to 13% above 1990[23] levels over the period 2008-2012 (Figure 12[24] shows progress to 2010). Carbon sequestered by approved forest sinks amounted to 2.32 $MtCO_2eq$ or 4.5% of gross emissions in 2009.[25]

Beyond 2012, the '20/20/20' commitments agreed under the 2009 *EU Climate and Energy Package* set three new targets each to be achieved by 2020:

- a minimum 20% reduction in GHG emissions based on 1990 levels;
- 20% of final energy consumption to be produced by renewable energy resources; and
- a 20% reduction in primary energy use compared with projected levels to be achieved by improving energy efficiency.

Within the EU, the GHG mitigation agenda is addressed through two related but distinct policy responses – one in respect of installations which fall within the scope of the EU Emissions Trading Scheme (EU-ETS) (mainly power generation and large industry) and the second covering other significant sources of emissions across the economy (mainly transport, agriculture, forestry, residential, waste and industrial/commercial activity not captured by the EU-ETS). Under the 2009 EU Climate and Energy package, Ireland faces a significant mitigation challenge, particularly in relation to those areas of the economy not covered by the EU-ETS. In summary, in these areas, Ireland is required to progress down an annual emissions-reduction trajectory from 2013, reaching a point in 2020 where emissions are equivalent to 20% below their level in 2005.

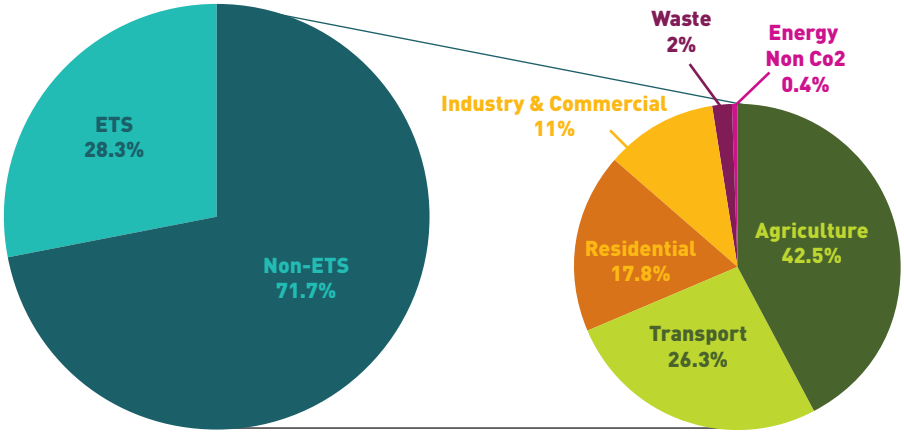


Figure 13. Greenhouse gas emissions profile in 2010 showing the breakdown between emissions covered by the EU-ETS and the other areas of the economy where mandatory mitigation requirements apply (Source: EPA)

Figure 13 illustrates the sectoral contribution (excluding forestry) to Ireland's GHG emissions, broken down into EU-ETS and non EU-ETS; it highlights the degree to which agriculture and transport emissions dominate the non EU-ETS side of the national profile.

A Review of National Climate Policy, undertaken against the background of existing and anticipated national greenhouse gas mitigation targets for the period to 2020, was published in November 2011. The review provided the context for a policy development process that includes public consultation and an independent analysis by the NESC Secretariat, and will culminate in the adoption by Government of a national climate policy for the period to 2020 and beyond, underpinned by appropriate legislation.

[23] The 13% increase is relative to 1990 for all gases except HFCs, PFCs and Sulphur Hexafluoride where a base year of 1995 was adopted in line with Art 3.8 of Kyoto Protocol.
[24] The latest figures from the EPA (2012) show a current 'distance to target' for the Kyoto Protocol period of 4.1 to 5.1 Mtonnes CO_2e.
[25] EPA (2010) Ireland's Greenhouse Emissions in 2009

In parallel with the mitigation agenda, work on adapting to the unavoidable impacts of climate change is also underway. Adaptation to the effects of climate change requires action to manage risks and adjust socio-economic activity to reduce vulnerability. An integrated approach involving all stakeholders on all institutional levels is essential. While the Government can and will provide leadership, effective, adaptive action must be underpinned by adequate and appropriate measures at sectoral, local and regional levels. Much work has already been done in recent years, by the EPA and others, to provide the evidence base necessary to inform development of the national agenda. A National Adaptation Framework, to be published in 2012, will provide the policy context for a strategic national adaptation response to climate change.

Forests are likely to be vulnerable to sudden shifts in climate patterns but can also contribute to emissions reductions through carbon sequestration, substituting fossil fuels with wood fuel and substituting carbon intensive materials with wood. A key objective of current forest research is to examine the vulnerability of forests to climate change and to formulate effective mitigation and adaptation policies. The CLI-MIT research programme[26] has provided stakeholders with the required tools and knowledge for formulating and achieving effective mitigation and adaptation policies.

In addition to actions to address climate change challenges domestically, Ireland through its ratification of the UNFCCC is committed to playing its role in reaching global solutions to the climate challenge. As part of this commitment and subject to the terms of the 2010 Cancun Agreements, Ireland will be expected to make a contribution to longer-term funding to address the needs of developing countries.

Under the Renewable Energy Directive (2009/28/EC), Ireland agreed to a target for renewable energy to constitute 16% of final energy consumption by 2020.[27] As part of meeting the overall target, the Government intends to achieve 40% renewable electricity, 12% renewable heat and 10% renewable transport. The Government is also committed to identifying and implementing energy efficiency measures that produce a 20% saving relative to 2001-2005 by year 2020. The Government published a *National Renewable Energy Action Plan (NREAP)* in 2010 and a *First Progress Report on the NREAP* in 2012. A second iteration of the *National Energy Efficiency Action Plan (NEEP)* will be published later in 2012. A draft *Offshore Renewable Energy Development Plan (OREDP)* has also been published and is aimed at describing the policy context for the development of the offshore marine renewable energy sector as well as setting out the long term vision for the sector. A strategic environmental assessment (SEA) and natura impact assessment have been carried out on the draft OREDP and a public consultation held as part of the process leading to a finalised OREDP expected later in 2012. The *Energy White Paper*, which also contains a range of relevant goals and the actions for meeting them, is being kept under review.

The *Programme for Government 2011* commits to a three-year retrofit programme, launched in May 2011 as Better Energy, which will be the main vehicle to bridge the gap of approximately 8,000GWh identified under the National Energy Efficiency Action Plan in the achievement of our national 20% energy savings target between now and 2020.

The Affordable Energy Strategy sets out a vision for affordable energy in Ireland, which envisages *'the achievement of a standard of living whereby households are able to afford all of their energy needs and where individuals and families live in a warm and comfortable home that enhances the quality of their lives and supports good physical and mental health'.* This strategy will build upon the many measures already in place to protect households at risk from the effects of energy poverty.

[26] http://www.climit.no/

[27] The latest figures available for 2008 show Ireland currently at 4.5%.

The European Commission recently published the *Energy Efficiency Plan (EEP) 2011* which outlines a number of key objectives intended to drive strategic change in energy efficiency policy throughout Member States, and to bring the EU closer to the 2020 target of 20% energy efficiency through national energy efficiency targets and programmes[28].

Gaps

The development of policies and measures to achieve the GHG reduction targets to which Ireland is committed and to support the longer term transition to a low-carbon economy is an area for priority attention. The role of legislation in supporting this process must also be considered. Attention also needs to be focused on the adaptation side of the climate challenge so that Ireland, through a more structured and planned approach, is better prepared to deal with the impacts of climate change. In addition, it will be crucially important to ensure that the objectives of our ambitious energy policy agenda, particularly in terms of renewables and energy efficiency, are fully realised.

Measures

22. **National Climate Policy**
The *National Climate Policy Review* provided the background to the development of future climate policy in support of achieving existing and anticipated national greenhouse gas mitigation targets for the period to 2020 as well as preparing for the transition to a competitive and sustainable low-carbon economy. The policy development process will be taken forward over the course of 2012/2013 in line with the Roadmap published by the Minister for the Environment, Community and Local Government in January 2012 based on a three-pronged approach:

- an independent analysis to be carried out by the Secretariat of the National Economic and Social Council (NESC), which will also develop a basis for a long-term vision for a low-carbon future;
- broad consultation, including a public consultation and input from the Joint Oireachtas Committee on Environment, Transport, Culture and the Gaeltacht; and
- sectoral mitigation progress to be pursued through the Cabinet Committee on Climate Change and the Green Economy.

23. **National Climate Change Adaptation Framework and National Adaptive Capacity Assessment**
The Government, through the EPA, will continue to support research to provide information and knowledge on climate change impacts and adaptation requirements in Ireland. The main findings of a National Adaptive Capacity Assessment, published in March 2012 will inform the development of a national Climate Change Adaptation Framework in 2012. A key aspect of the Framework will be to mobilise adaptation measures across different sectors and levels of governance to reduce Ireland's vulnerability to the impacts of climate change.

24. **Ensure that Critical Infrastructure is Climate Resilient**
As infrastructure plays a key role in the effective functioning of a society and economy and has long life-spans, efforts should be made in the context of sectoral adaptation measures to ensure that such critical infrastructure, whether in public or private ownership, is climate resilient.

[28] It should be noted that the EU Energy Efficiency target is expressed as a deviation from business as usual whereas the Irish target is expressed relative to average consumption in the years 2001-2005.

25. Climate Legislation
The development of climate legislation will be taken forward in the context of the Roadmap published by the Minister for the Environment, Community and Local Government in January 2012.

26. Emissions Trading
Ireland will continue to play an active role in the EU Emissions Trading regime for greenhouse gas emissions.

27. Develop a Communication and Research Plan
There is a need to educate society about the implications of meeting the required greenhouse gas emissions reductions and the role all individuals have to play. A societal change will have to occur and people should be helped to understand the different impacts of their lifestyle choices. Ireland has already funded a public awareness campaign. A Communication Plan focused on key stakeholders and outlining the scale of the societal and lifestyle changes that must take place, opportunities for achieving these, the costs of inaction and the benefits and opportunities of transition, will be developed. This will be linked to the development of Resource Efficiency policies and strategies and the encouragement of behavioural change (see also Measures 7, 32 and 48).

28. Review of Irish Energy Policy
Ireland's energy policy was subject to peer review by the International Energy Agency in 2011. The outcome from this review process, from a sustainable development perspective, will be given full consideration.

29. Implementation of National Energy Action Plans
Comprehensive National Energy Efficiency and Renewable Energy Action Plans and Affordable Energy Strategy are now in place and the draft Offshore Renewable Energy Action Plan will be finalised in 2012. As part of the delivery of *Our Sustainable Future*, the Government will maintain its commitment to the implementation of these plans on a cross-Departmental and agency basis with a view to achieving the targets which have been set.

30. Bioenergy Strategy
The Department of Communications, Energy and Natural Resources, in conjunction with stakeholders, including the Department of Agriculture, Food and the Marine is developing a Bioenergy Strategy to set out how to optimise the development of a sustainable bioenergy sector that can contribute to the meeting of Ireland's renewable energy requirements in transport, electricity and heating.

2.5 Sustainable Agriculture

"Many economic sectors, including agriculture, forestry, fisheries and aquaculture, are reliant on the effective conservation and management of natural resources to ensure their long-term use and survival."

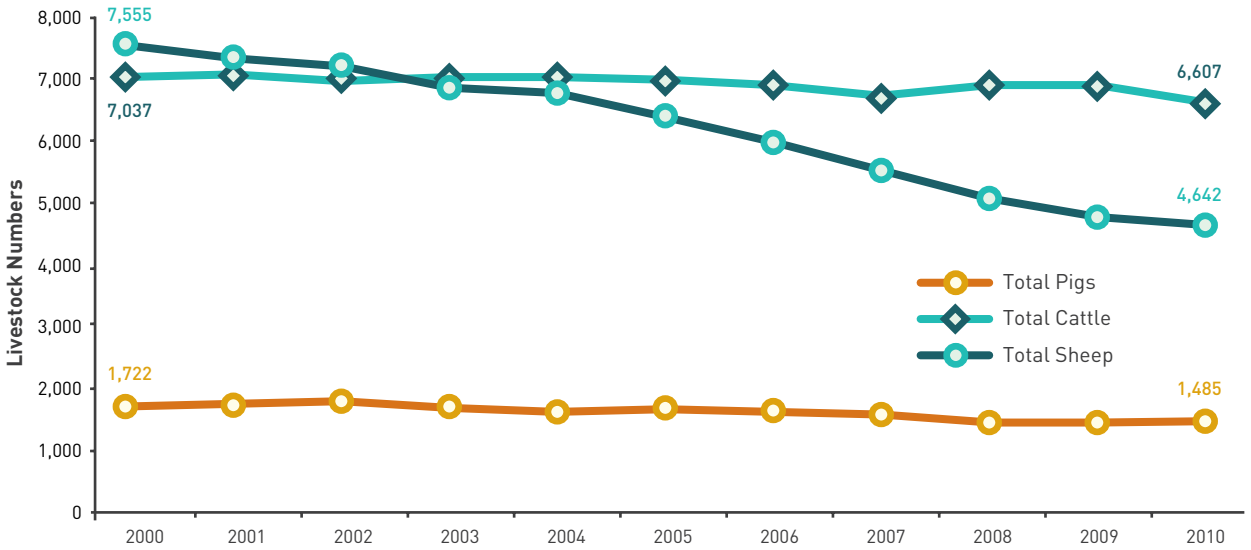


Figure 14. Livestock numbers (Source: CSO)

Substantial progress has been made in Ireland to integrate environmental considerations into agricultural, fisheries and forestry policies and activities. Under the influence of the Common Agricultural Policy (CAP), changes in the incomes of farmers, the advent of new technologies and practices leading to enhanced productivity have resulted in the development of an efficient and increasingly sophisticated agricultural industry in Ireland. Further improvements in environmental sustainability are key elements of the delivery of *Food Harvest 2020* - an industry vision for the Irish agri-food sector.

Challenges

Progress has been made under various modifications to the CAP system, for example, through the Rural Environment Protection Scheme (REPS) or through the implementation of EU and national legislation to combat water pollution and biodiversity loss; however, negative environmental impacts are still evident and form a significant challenge in the period ahead. Many economic sectors, including agriculture, forestry, fisheries and aquaculture, are reliant on the effective conservation and management of natural resources to ensure their long-term use and survival. Under the *Climate and Energy Package* Ireland faces a significant greenhouse gas (GHG) mitigation challenge, particularly in relation to emissions from those areas not covered by the EU Emissions Trading Schemes (ETS), including agriculture. Further development of existing climate change policies and measures will be required to achieve domestic compliance. At the international level, Ireland will continue to press for a new work programme on climate change and agriculture, under the UNFCCC, which recognises the potential for adaptation and mitigation in the agriculture sector while promoting food security, increasing productivity and efficiency, and sustainably managing natural resources. Climate change issues are elaborated further in Section 2.4 of this Framework, while issues pertaining to agriculture in the context of water management and biodiversity loss are dealt with in Section 2.3.

Historically, Ireland has high per capita emissions of GHGs. A significant factor contributing to this is the extent to which agriculture plays a prominent role in the economy. There are 12.7 million head of livestock in Ireland with the majority of food produced exported to other Member States. Thus, the food demands and requirements from countries with lower agricultural capacity are a significant driver and contributing influence to the overall levels of agricultural emissions in Ireland. In relation to emission levels, the *Evaluation of the livestock sector's contribution to EU greenhouse gas emissions (2010)* by the European Commission Joint Research Centre demonstrates that based on a lifecycle analysis approach, Ireland is among the most emission-efficient food producers.

Notwithstanding this, the Department of Agriculture, Food and the Marine in conjunction with Teagasc, has also carried out a very detailed analysis of the potential for, and costs of, emissions reductions in the agriculture sector. The analysis indicates that the sector can reduce emissions cost-effectively by about 4% compared to business as usual. A number of measures have been identified and are being implemented through advisory services, including Teagasc. These measures will reduce emissions over and above the normal efficiency gains in the sector. In general, improving production efficiency per unit of food produced will be the most important contribution from the sector to meeting climate change ambitions.

The CAP is due to be reformed by 2013. This latest review which is based around an EU Communication on *The CAP towards 2020*[29], aims to build on earlier changes made to modernise the programme and make it more market oriented. The *Europe 2020 Strategy* places the current round of reform in a broader context through its approach to tackling existing and emerging challenges in the economic, environmental and social areas. The EU Communication sets three objectives:

1. Viable food production;
2. Sustainable management of natural resources and climate action; and
3. Balanced territorial development.

The reform of the CAP is also premised on the need to ensure security of food supply and maintain income support to farmers. A strong agricultural sector is a vital element in transitioning Ireland's economy to a competitive and resource-efficient future.

The sustainable management of our natural resources is essential to the continued benefits of these resources for our citizens for the longer term. A reformed CAP must play a key role in promoting sustainable food production, while rewarding farmers for the goods that they produce. Family farms which can play a key role in maintaining Ireland's rural landscape, constitute a significant advantage in maintaining biodiversity.

The reform of the Common Fisheries Policy (CFP) is also expected to be completed in 2013. The new CFP will focus on the broader maritime picture as advocated by the Integrated Maritime Policy (IMP) and its environmental pillar, the Marine Strategy Framework Directive. Ecological sustainability is therefore a basic premise for the economic and social future of European fisheries, and the development of the wider seafood sector.

With relatively lower temperature increases projected for Ireland and continued access to water resources, the Irish food sector is likely to be in a strong position relative to many other countries. *Food Harvest 2020* states that Ireland must build on the strengths of its 'green' image and maintain its commitment to sound agricultural practices. Ireland needs to maximise the food production strengths that are intrinsic to the Irish agri-food and fisheries industry, particularly our grass-based production system and high-quality marine environment. It will also be possible to achieve growth through the

[29] European Commission (2010) The CAP towards 2020: Meeting the Food, Natural Resources and Territorial Challenges of the Future, COM (2010)672 final.

application of green economy principles that include a better alignment with the preferences of environmentally conscious consumers, maximising renewable resources to reduce waste and input costs, and to embrace audited, sustainable food production systems.

Ireland has invested in advisory services to ensure knowledge transfer and dissemination of information from researchers to farmers. The maintenance of an enhanced programme of knowledge transfer that builds upon existing programmes is an essential way of ensuring that research outputs reach the farming community and result in changes in agricultural practice that minimise the environmental impact of agriculture, promote food security and contribute to sustainable development.

Commitments and Targets

The framework set out in the EU's *Multi-annual Financial Framework 2014-2020* envisages the CAP maintaining its two-pillar approach. The European Commission proposes that up to 30% of the available funding for Pillar 1 will go to new 'greening' measures in relation to climate and environment. Ireland will press for the retention of a strong properly financed and 'greener' CAP based on the goals of competitiveness and sustainable development and on the need to ensure that such greening is simple to apply both for farmers and for administration purposes.

As the main policy driver for fisheries, seafood processing and aquaculture, Ireland will be looking to the new Common Fisheries Policy (CFP) to come into force in 2013 for the delivery of a framework at EU level. The CFP will provide a critical support for the long-term sustainable future of Ireland's seafood sector and for ensuring that it can retain access to and grow the resource base on which the industry is dependent.

The further development of Ireland's forests has the potential to contribute to achieving economic objectives in a sustainable manner, while simultaneously contributing to environmental protection and enhancement, climate change mitigation through carbon sequestration, and the provision of public goods and services. There is scope to increase the contribution of forestry to the economy in areas ranging from forest planting and management, timber harvesting and transport, public recreation and amenity, through to the processing and marketing of forest products. Wood biomass will have a significant role to play in the achievement of the EU target of 20% renewable energy from final energy consumption by 2020 and the commitment to increase energy efficiency by 20% until 2020.

Accordingly, the application of sustainable forest management principles must continue to improve the health of the forest environment and, equally important, must support the development of a more innovative, value-added, competitive, market-focused wood-processing sector providing sustainable solutions to a diverse portfolio of users. A national forest policy review was concluded in March 2012 and implementation of the report and accompanying recommendations are under consideration by the Minister for Agriculture, Food and the Marine.

Gaps

Efforts need to be focused on further improving sustainability and reducing reliance on fossil fuel energy sources. This will bring opportunities for the agri-sector if combined with labelling schemes and indicators, such as carbon and water footprints and efforts to reduce embodied GHG emissions in Irish produce. One of the first steps in improving the sustainability of our food will be to reduce the amount of food wasted at the consumption end of the food chain. The issue of food waste has been receiving increasing attention and policies that aim to reduce food waste will contribute to meeting targets for the diversion of biodegradable waste from landfill under the Landfill Directive (1993/31/EC).

Measures

31. **Continued Support for Sustainable Agricultural and Forestry Development in Ireland**
The Government will:

- actively pursue the implementation of environmental policies as they relate to those envisaged under *Food Harvest 2020* by: promoting sustainable pasture-based farming and soil management contributing to sustainable energy requirements; contributing to the protection of biodiversity and ensuring environmentally sustainable production practices for seafood and aquaculture;
- focus on and support for farmers to remain in farming and to increase productivity;
- focus on maintaining the maximum number of active farmers in rural areas engaged in food production by ensuring that the necessary ingredients for the development and maintenance of sustainable communities are in place;
- continue to invest in the afforestation programme to support the sustainable development of the forestry and forest products sectors;
- implement recommendations arising from the national forest policy review;
- identify measures to reduce food waste, including associated consumer awareness measures.

32. **Research and Knowledge Transfer**
The Government will identify research measures to ensure a focused approach in the agricultural sector nationally that:

- ensures high quality environmental research relating to climate change and water quality is undertaken;
- has a greater emphasis on public/private partnerships in carrying out required research;
- ensures research bodies in food production will have a role to play in developing agri-food business opportunities and focusing measures to reduce GHG emissions from agriculture;
- ensures outputs of research are successfully adopted at farm level.

2.6 Sustainable Transport

"Sustainable transport is central to national efforts to combat climate change, air pollution and other negative environmental and social impacts."

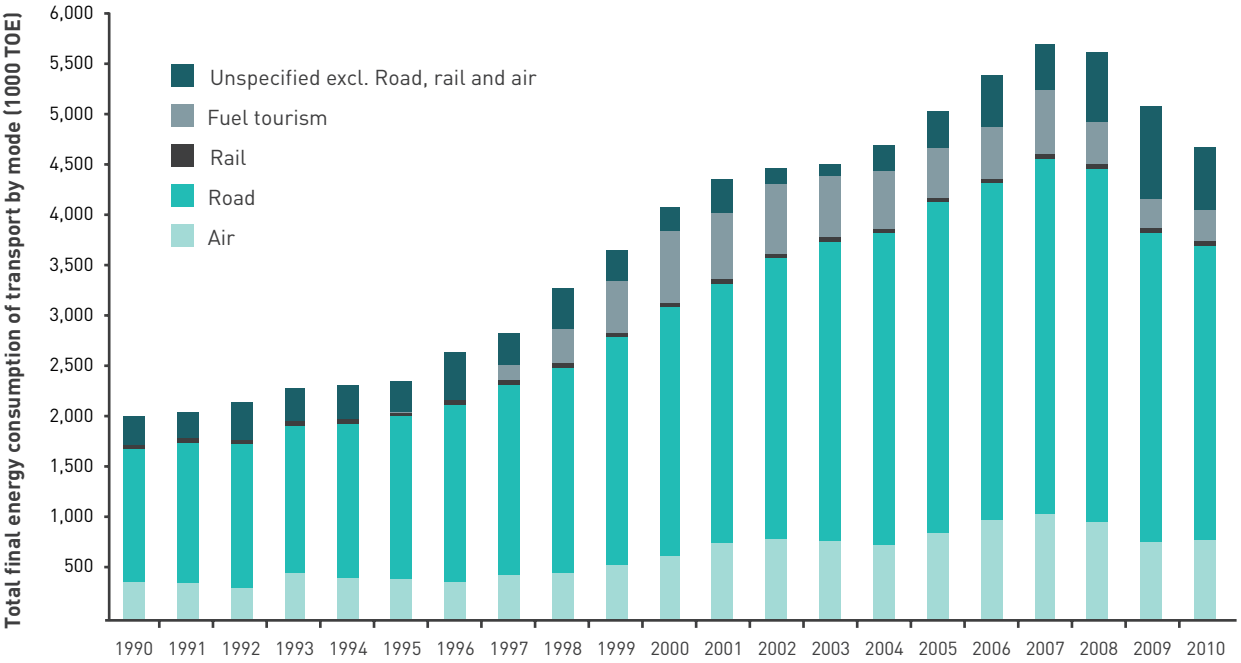


Figure 15. Total energy consumption of transport in Ireland (Source: SEAI, DCENR)

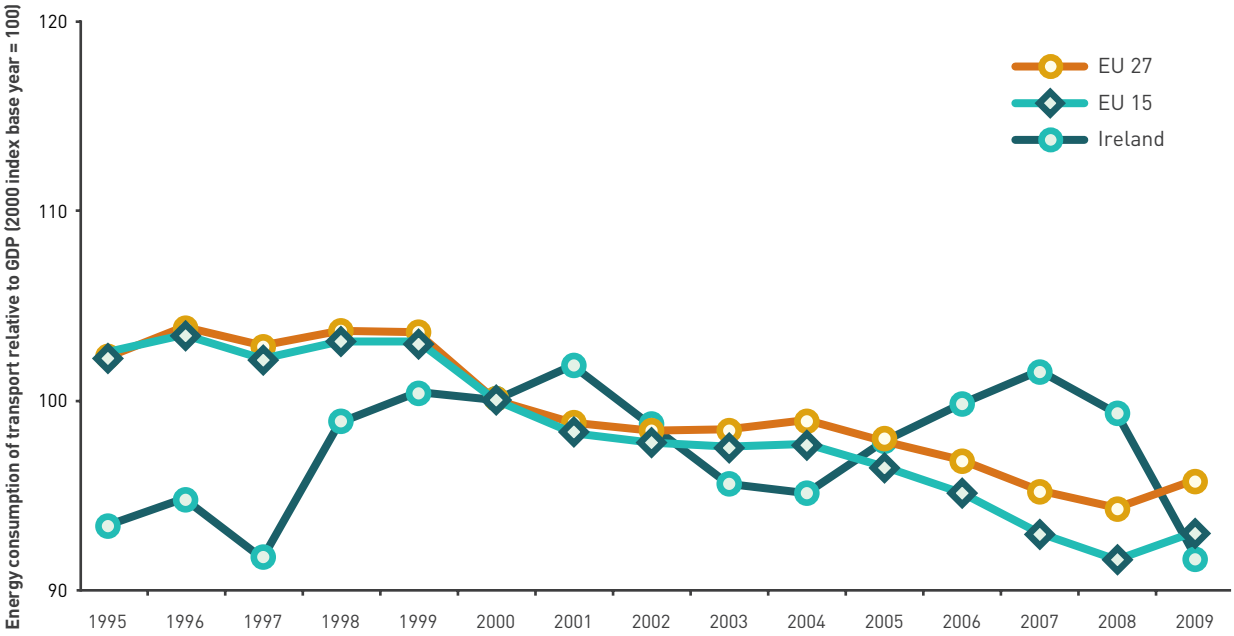


Figure 16. Transport energy consumption relative to GDP for Ireland and the EU (Source: Eurostat)

Challenges

Transport, which is a key element of a sustainable development framework, should be closely aligned to land-use planning and the need to create more sustainable communities. Sustainable transport is central to national efforts to combat climate change, air pollution and other negative environmental and social impacts.

EU White Paper on Transport 2011

The European Commission adopted a roadmap[30] of 40 concrete initiatives for the next decade to build a competitive transport system that will increase mobility, remove major barriers in key areas and support growth and employment. At the same time, the proposals are designed to dramatically reduce Europe's dependence on imported oil and cut carbon emissions in transport by 60% by 2050.

Key goals for 2050 include:

- No more conventionally-fuelled cars in cities;
- 40% use of sustainable low-carbon fuels in aviation; at least 40% cut in shipping emissions;
- A 50% shift of medium-distance intercity passenger and freight journeys from road to rail and waterborne transport.

Transport trends in Ireland, in particular from the mid 1990s onwards, have not been sustainable. The main pollution problems associated with transport in Ireland are – greenhouse gases (GHGs) and air pollutants which are detrimental to health and the environment such as fine particulate matter (PM 2.5) and nitrogen oxides (NOx) – and increasing congestion on roads that lengthens journey times, adversely impacts on family and community life and adds to pollution and costs at many levels including affecting our national competitiveness. Safety also remains a key issue despite the significantly reduced numbers of road deaths.

A strong growth in energy use in transport over the past decade has been tempered by small reductions in recent years. While other sectors may have shown some decoupling of energy use from economic growth, until very recently transport has maintained a close relationship as illustrated in Figure 16. It remains to be seen whether this is a temporary reaction to the exceptional financial circumstances of recent years or a longer-term trend. A key characteristic that distinguishes energy use in transport is the almost total dependence on oil as a fuel and on import dependency, over 99% in both cases.

The transport sector is the third-largest contributor to greenhouse gas (GHG) emissions in Ireland, at 19.1% of the national total. Carbon dioxide (CO_2) emissions from transport have been on a growth trajectory over the period 1990 to 2007, with the road freight sector accounting for over 23% of transport CO_2 emissions in 2007 while the private car contributed over 37% of the total share.[31] The years 2008 to 2010 saw reductions in transport emissions, mainly due to the economic downturn, with freight activity in particular being much reduced over the period. Specific policy measures taken to address demand and encourage energy-efficient vehicle purchasing patterns have also had some effect with greenhouse gas (GHG) emissions for the transport sector falling to 11.76 Mt in 2010 from a peak of 14.29Mt in 2007.

Notwithstanding changed economic circumstances and the success of certain measures in reducing emissions from and energy consumption of the vehicle fleet, transport and travel trends remain unsustainable. From 1996 to 2006, road freight vehicle kilometres increased by 115% to 2.5 billion km per year; while there has since been a reduction of over 40% to 1.4 billion km in 2010[32], the vast majority

[30] European Commission (2011). Roadmap to a Single European Transport Area - Towards a competitive and resource efficient transport system, COM(2011) 144 final of 28.3.2011.
[31] SEAI (2009), Energy in Transport.
[32] CSO (2011) Road Freight Transport Survey 2010

of this reduction is due to the downturn in the construction industry, with lesser reductions in vehicle kilometres in other sectors of the economy. The amount of total freight traffic being carried by rail has declined to a share of only 0.6%. The number of private cars per 1,000 adults has also increased by 71% over the period 1990-2010[33] though these levels still remain below the EU15 and UK averages. Without intervention, congestion will get worse, economic competitiveness will suffer, quality of life will deteriorate and emissions from the transport sector will resume a growth pattern.

The EU National Emissions Ceilings (NEC) Directive (2001/81/EC) requires Member States to ensure that emissions for certain atmospheric pollutants, including oxides of nitrogen (NOx), do not exceed agreed threshold levels from 2010. As stated above, transport, particularly road transport, is a major source of NOx although the implementation of the full suite of measures envisaged to deliver compliance with the NEC Directive has reduced emissions from road transport by 17% between 1999 and 2009 and has made road transport more NOx efficient. However, Ireland, along with many other Member States, will be challenged to reduce emissions below its NOx emission ceiling from 2010 which is set in absolute terms. The challenge arises principally because previous vehicle abatement technologies did not deliver anticipated 'real world' NOx emission reductions. In addition, improvements made to emission inventories over the lifetime of the NEC Directive have tended to revise national emission estimates upwards away from the absolute emission ceiling. The NEC Directive, in its current format, does not contain any provisions to take account of changes to technical or other assumptions which were relied on in agreeing the ceilings, although it is envisaged that future ceilings will contain such provisions.

Commitments and Targets

At a European level, the Renewable Energy Directive (2009/28/EC) mandates each Member State to ensure 10% of transport energy by 2020 comes from renewable sources. Also, in the non-ETS sectors, it is clear that transport will have a pivotal role in meeting Ireland's 20% emissions reduction target. According to the EPA, the projections for total non-ETS emissions for Ireland in 2020 are forecast to be 14% higher than in 2005, under a 'with measures' scenario[34], and transport will account for 36% of those emissions, demonstrating the scale of the challenge ahead.

The *EU Climate and Energy Package* also resulted in binding targets being set to ensure that emissions from the new car fleet are reduced to an average of 120g CO_2/km[35] by 2012 and 95g CO_2/km by 2020. In addition, the Fuel Quality Directive (2009/30/EC) places an obligation on suppliers to reduce GHGs from the entire fuel production chain by 6% by 2020.[36]

The national policy approach on sustainable travel is set out in *'Smarter Travel - a Sustainable Transport Future'*, the *National Cycle Policy Framework* and the *Road Safety Strategy*. These policies are aimed at reversing current unsustainable transport and travel patterns, reducing the health and environmental impacts of recent trends and improving quality of life. Key goals relate to improving quality of life and accessibility to transport for all, improving economic competitiveness through maximising the efficiency of the transport system and alleviating congestion and infrastructural bottlenecks; minimising the negative impacts of transport on the local and global environments; encouraging modal shift by private car and improving security of energy supply by reducing dependency on imported fossil fuels. The policy is based on a whole-of-Government approach, demanding actions from a wide range of Departments, agencies and local authorities.

[33] SEAI (2011) Energy in Ireland 1990-2010
[34] EPA (2010), Ireland's Greenhouse Gas Emission Projections 2010-2020.
[35] This is with fuel measures included.
[36] A review in 2012 will consider increasing the ambition level to 10% GHG reduction by 2020 through the inclusion of international projects, carbon capture and storage as well as electricity for cars.

Action is being taken on delivering ambitious goals for 2020, which include:

- Improving the planning system so that future population and employment growth will have to predominantly take place in sustainable compact urban areas or rural areas which discourage dispersed development and long commuting;
- Reducing car travel, and particularly work related commuting by car by encouraging modal shift to walking, cycling, and public transport, where possible;
- Transport will make a meaningful contribution to Ireland's commitment in relation to climate change and real reductions on current levels of emissions will be achieved.

Additional Government targets in relation to sustainable transport include those for electric vehicles to constitute 10% of the Irish transport fleet by 2020 and for an obligation on fuel suppliers in Ireland to include an average of 4% biofuels in their annual fuel sales from July 2010. The biofuel obligation will incrementally increase on a sustainable basis to 2020, to meet the sector's renewable energy target of 10% in 2020.

Gaps

The *Smarter Travel* and *National Cycle Policy Framework* policies set out a vision of where we want to be by 2020 in relation to sustainable transport in Ireland. Some of the key actions have already been delivered, including the introduction of a carbon tax, work on integrated transport modelling and continued investment in sustainable travel infrastructure, with particular emphasis on the active travel modes (e.g. cycling).

The alignment and integration of spatial planning with transport policy has a key role in ensuring the delivery of sustainable transport in the longer term. *Smarter Travel*, supported by the provisions of the Planning and Development (Amendment) Act 2010, attempts to address this by putting forward a number of proposals for how to better align spatial planning and transport. The achievement of sustainable transport will require careful and strict co-ordination between land-use planning and transport infrastructure investment.

Also, the newly created National Transport Authority (NTA) has a key function in ensuring the effective integration of transport and land-use planning through the Regional Planning Guidelines (RPGs), Development Plans and Local Area Plans. The NTA has prepared a draft Transport Strategy for the Greater Dublin Area (GDA) which seeks to establish the GDA transport networks, services and supporting transport policies that support the RPG for the region.

A key principle of the draft strategy is consolidation of development into existing urban areas, increasing the density of development and promoting a mix of land uses within areas which brings people closer to their needs. Since it will always be necessary to provide transport solutions for longer trips, the draft strategy also advocates high-density developments adjacent to high-quality transport nodes. Reviews of the strategy will continue to be linked with the RPGs ensuring a coherent approach to land-use and transport planning for the region.

Given the current strained public finances, investment in sustainable travel has inevitably been less than was originally envisaged on the publication of the *Smarter Travel* policy. However, the Government has still prioritised investment in this area, and over the period 2012-2016, total funding of €1.428 billion will be invested in sustainable travel.

Within the reduced resources, funding has been prioritised to ensure maintenance of existing investment and to advance a small number of important projects which can add value to the existing network. Larger public transport projects proposed for the GDA are being postponed for consideration in advance of the next capital programme, which will be drawn up in 2015 and will cover the period from 2016 onwards. These deferred projects remain key elements of the overall integrated transport strategy for the GDA and will be progressed when fiscal and market conditions improve.

Significant improvements can still be delivered to the existing public transport network, focusing on ongoing funding to maintain existing infrastructure safely, removing bottlenecks and pinch points, providing better passenger information and providing for limited and targeted improvements. The use of Intelligent Transport Systems can provide significant benefit in the integration and operation of public transport, as demonstrated through the completion and operation of the Integrated Ticketing Project in the GDA, further expansion of Real Time Passenger Information (RTPI) and the introduction of a National Journey Planner.

Other *Smarter Travel* initiatives, including cycle lanes and cycle ways, pedestrianisation projects, signage/information provision and traffic calming, are being advanced across the country together with the extension of bike-sharing schemes to some of the regional cities. The *Smarter Travel Areas* programme is proceeding in a reduced but structured manner, identifying and supporting key components that can effect maximum modal change. The lessons learned from *Smarter Travel Areas* will provide key policy information on 'what works' in Irish sustainable travel and can be rolled out on a more systematic basis when resources allow.

Through working with colleagues in Europe, we will continue to deliver improvements in vehicle technology and with the use of additional supporting measures such as the carbon tax and vehicle registration tax, and with ongoing targeted investment in sustainable transport, the transport sector will make a significant contribution to achieving Ireland's 2020 GHG emissions target.

Measures

33. **Ensure Continued Implementation of Smarter Travel and the National Cycle Policy Framework**
Smarter Travel and the *National Cycle Policy Framework* put forward a set of overarching and complementary actions for delivering a more sustainable transport system by 2020. These cover areas including: public transport and active travel modes; land-use and planning; use of fiscal measures; and strengthening of institutional arrangements. As a critical element in the delivery of *Our Sustainable Future*, the Government will maintain its commitment and support the continued implementation of sustainable travel measures, to assist in achieving the following goals:

- Reducing distance travelled by private cars and encouraging smarter travel, including focusing population growth in areas of employment, encouraging people to live in close proximity to places of employment and the use of pricing mechanisms or fiscal measures to encourage behaviour change;
- Ensuring that alternatives to the car are more widely available mainly through investment in cycling and walking;

- Improvements to public transport such as real time information and integrated ticketing, as well as some targeted infrastructural improvements;
- Improving the fuel efficiency of motorised transport through improved fleet structure, and energy efficient driving.

34. **Examine Feasibility of Retrofitting Gross Polluter Vehicles with NOx Abatement Technology**
In addition to the measures proposed under *Smarter Travel*, the Government will assess the feasibility and effectiveness of introducing a scheme to retro-fit gross polluter vehicles, e.g. heavy goods vehicles and buses, with NOx abatement technology.

2.7 Social Inclusion, Sustainable Communities and Spatial Planning

"Sustainable communities are places where people want to live and work, are environmentally sustainable and contribute to a high quality of life for residents."

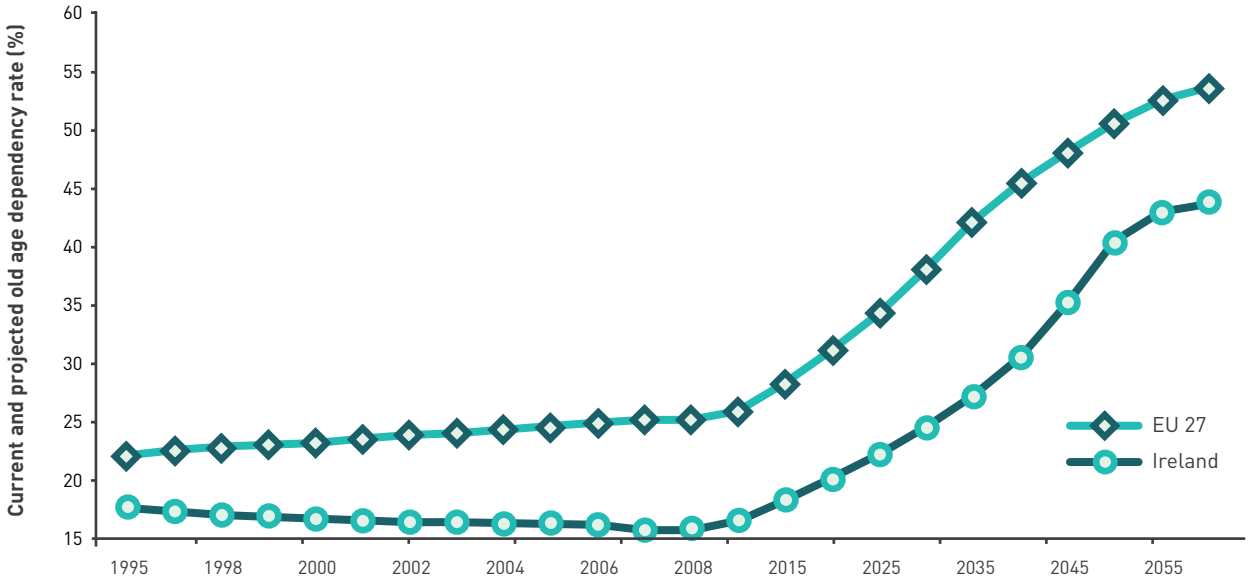


Figure 17. Current and projected old age dependency ratio in Ireland and the EU (Source: Eurostat)

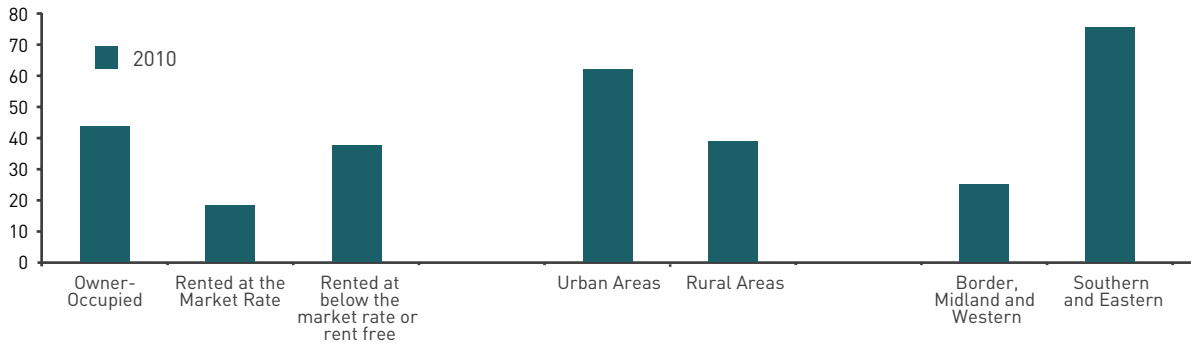


Figure 18. Spatial Distribution of People in Poverty by Housing, Tenure, Location and Region (Source: CSO)

Challenges

Social Inclusion and Sustainable Communities

Poverty and social exclusion are pervasive and affect many communities, particularly those with a high concentration of social housing. An overarching goal of sustainable development is to improve overall quality of life. Developing sustainable communities will be a key mechanism to enhance our social capital and wellbeing. Sustainable communities are places where people want to live and work, are environmentally sustainable and contribute to a high quality of life for residents. They are safe and inclusive, well-planned, built and run, and offer equality of opportunity and good services for all.[37] Achieving this objective is a complex challenge which cuts across many policy areas and requires consideration of the role of spatial planning in delivering sustainable communities and quality in the built environment, alongside measures to improve social inclusion and the environmental sustainability of communities. The role of the historic built environment can be key to providing a desirable place to live and work.

Figure 18 illustrates the spatial distribution of people in poverty using the three categories of housing tenure, location and region, based on the CSO's *Survey on Income and Living Conditions (SILC) 2010*. Looking at housing tenure, those in social housing (i.e. accommodation rented at below the market rate or rent free) account for 38% of those in consistent poverty in 2010, though only comprising 15% of the total population. Those living in owner-occupied dwellings represent 44% of those in consistent poverty, while accounting for 73% of the total population. Individuals living in households in the rented at the market rate sector accounted for 19% of those in consistent poverty, while representing 12% of the total population. Together, the private and public rented sectors have the majority (62%) of those in consistent poverty. Tackling this spatial concentration of poverty is a major challenge for public policy. The breakdown of the urban and the rural figures show a 62% : 38% urban : rural split of people in consistent poverty, broadly in line with the total urban/rural population breakdown. The regional breakdown indicates that three-quarters of people in consistent poverty live in the Southern and Eastern region, again broadly in line with their population share of 73%, with the balance in the Border, Midland and Western Region.

A micro analysis of the spatial aspects of poverty using surrogate deprivation indicators from the Census of Population has been developed by Haase and Pratschke for Pobal and can be located at www.pobal.ie

Developing sustainable communities involves a range of social issues such as improving social inclusion and reducing poverty. Recent large-scale research has demonstrated that many of the most serious health and social problems are worse in more unequal societies. Large income inequalities impact on quality of life and social cohesion for everyone in society.[38] It is essential that the progress made in tackling inequalities and poverty does not regress in the current economic climate. Employment creation and investment in social protection are key strategies in reducing inequalities and eliminating poverty. Efforts to increase labour market participation of women and older workers, as well as groups such as people with disabilities and those migrants that are vulnerable to poverty, as set out in the *National Action Plan for Social Inclusion (2007-2016)*, must continue.

Tackling child poverty is an important challenge. A five-year Children & Young People's Policy Framework will be published in 2012, which will comprehend the continuum from infancy, through early and middle childhood, to adolescence through to early adulthood, and which will be the overarching framework under which policy and services for children and young people will be developed and implemented in the State.

[37] http://www.environ.ie/en/DevelopmentandHousing/Housing/HousingPolicy/
[38] Wilkinson and Pickett (2009) The Spirit Level: Why More Equal Societies Almost Always Do Better, Penguin, London

Communities are at the heart of everything the State does and they must be enabled to identify and address social and economic issues in their own areas. In particular, we must support communities that are vulnerable, disadvantaged or under threat and adhere to the values of local participation. The key principles of the *White Paper on Supporting Community and Voluntary Activity*, the *Report of the Task Force on Active Citizenship* and the *White Paper on Rural Development* provide direction to the work led by the Department of Environment, Community and Local Government in this area. Community development seeks to challenge the underlying causes of disadvantage resulting from the effects of poverty and exclusion. It aims to offer new opportunities for those lacking choice, power and resources, and involves a bottom-up approach with members of a community working collectively in assessing needs, identifying the changes necessary to improve conditions and making these changes happen.

Some of the key challenges facing community development and the community and voluntary sector engaged in this work have been a lack of clarity regarding the elaboration of the policy objectives of community and local development programmes, the problems and issues being tackled and the anticipated outcomes. In addition, there has been a multiplicity of structures delivering local and community development programmes at a local level. There has also been the need to improve methods and mechanisms of communication and information sharing at national and regional levels. The Local Government/Local Development Alignment Steering Group established by the Minister for the Environment, Community & Local Government in 2011 considered these issues and presented a final report to the Minister in March 2012. The group's recommendations, which focus on a more integrated approach to local and community development programmes at both national and local level and the delivery of more efficient and cost effective services for the citizen, are currently under consideration.

Active citizenship involves people playing an active and responsible role together with others in their communities. It may involve being a member of a residents' association or lobby group, volunteering to help out in a local sports club or simply being active and caring about the local neighbourhood and the environment as well as more challenging national and global issues. Active citizens help shape strong, healthy, inclusive societies. This should be nurtured and encouraged because by looking beyond purely private roles and rights as consumers, to active roles and responsibilities as citizens, society as a whole benefits.

The Irish language has a fundamental role to play in defining the unique nature of Irish identity and in epitomising the cultural distinctiveness of Gaeltacht communities. The *20-Year Strategy for the Irish Language 2010-2030* aims to ensure that as many citizens as possible are bilingual in both Irish and English, that the language becomes more visible in Irish society generally; and that the language is maintained as the principal community language in the Gaeltacht.

The first definitive results of Census 2011 showed that 17% of the usually resident population of Ireland who were present in the State on census night were born outside Ireland. A total of 12% of the population (i.e. 544,357) are non-Irish nationals representing 196 different nationalities. Ireland will remain a multicultural society and a challenge for Government and society is the integration of people of different cultures, ethnicities, languages and religions.

Recent UN global conferences on development, as well as the Fourth World Conference on Women and its outcome document, the *Beijing Platform for Action,* have acknowledged that sustainable development policies that do not involve women and men alike will not succeed in the long run.[39] As consumers and producers, caretakers of their families and educators, women play an important role in promoting sustainable development through their concern for the quality and sustainability of life for present and future generations.[40]

[39] UN (1995) Beijing Platform for Action: Para 251
[40] Ibid. Para 248.

Spatial Planning, Regional Development and Sustainable Communities

Sustainable development, regional development and good planning outcomes are highly interdependent in that (a) good planning and balanced regional development can make a strong contribution to overall national sustainable development and (b) an increased emphasis on sustainability can, in itself, present regional development opportunities.

National and regional development patterns establish themselves over long periods of time as a result of complex interactions between economic, social and geographical factors. Government policies on regional development, spatial planning and sustainable communities, including the *National Spatial Strategy 2002-2020* (NSS), the *Housing Policy Framework,* the Planning and Development (Amendment) Act 2010 and *Regional Planning Guidelines 2010-2022* (RPGs) recognise that, despite progress in recent years, Ireland needs to make further progress in the integration of sustainable development considerations into planning approaches.

Some aspects of the pattern of development that emerged in Ireland over the last decade present major challenges from a sustainable development perspective. While such patterns are the output of the interaction of economic, social and geographical influences going back several decades, efforts are now underway to better steer future development on a more sustainable path learning from the lessons of the past.

For example, a range of factors influenced the evolution of the housing market over the last twenty years. These factors included:

- the rapid growth in employment opportunities in Ireland during the 1990's and major net in-migration, mainly from the new EU Member States in the early 2000's;
- rapid natural population growth;
- escalating house prices combined with imbalanced supply, demand and choice;
- fiscal incentives for the construction sector;
- a flexible non-strategic approach to spatial planning especially at local level;
- rising car ownership; and
- historical underinvestment in plan-led provision of essential physical and social infrastructure, such as public transport, to lead development patterns.

In addition, many of the larger Gateway cities, as identified in the NSS, experienced population growth between 2002 and 2006 that was in many cases lower than the national average, while strong growth took place in the towns, villages and rural areas within commuting distance of the Gateways. This resulted in a more dispersed and less-sustainable settlement pattern, undermining the critical mass of key urban centres from a competitiveness perspective and contributing to increased car dependency.

Ireland's historic pattern of rural one-off housing has tended to continue due to both the strong social attachment to such living patterns and local planning policies that reflected such social choices. Such dispersed development can have adverse impacts on environmental quality because it is more carbon intensive and car dependent than more urban living patterns and because of its dependency on a proliferation of on-site waste water treatment and disposal systems and tendencies to impact on the integrity of habitats in previously undeveloped and natural areas.

Extensive amounts of land had been zoned both prior to and after the introduction of the NSS, reaching a peak of more than 44,000 hectares for residential development in 2009 against a requirement of around 12,000 hectares in 2004 RPGs. Excessive zoning makes integrated urban development difficult to deliver

in practice. Moreover, excessive levels of incentive-driven development took place, especially in some remoter rural areas in the midlands, border and western parts of the country, which in recent years has presented significant difficulties in managing problems with part-completed and vacant housing developments.

Mechanisms to effect change in the patterns above are limited and require careful integration of policy considerations relating to regional development and spatial planning, settlement patterns, the historic built environment, the natural environment and public and private investment in essential infrastructure over a sustained period. Spatial planning is one of the mechanisms, along with others such as wider public policy co-ordination and fiscal policy, to effect change through concerted and co-ordinated action at national, regional and local levels. As indicated in Section 2.6, transport should also be aligned to land-use planning and the need to create sustainable communities.

It is also important to recognise in the current challenging economic and fiscal context that proper planning and sustainable development type outcomes are typically more cost efficient from a public and private investment perspective and have a lower environmental impact. This can also enhance the attractiveness for investment and business activity.

The NSS (published in late 2002) centred on the need to focus future development in a network of nine Gateway cities/large towns and nine medium-sized Hub towns. While the NSS has influenced capital investment planning in areas such as transport, water services, communications infrastructure and housing, as well as the enterprise promotion activities of agencies such as IDA Ireland, it has taken some time to adjust wider planning policies to deal with issues around overzoning and a proliferation of development outside the designated urban locations identified in the strategy.

The Built Environment and Sustainable Communities

There are a number of challenges to the conservation of the built heritage including:

- the contribution of the historic building stock to sustainable development is often not given sufficient recognition and therefore can be seen as a burden rather than a resource;
- an increase in out-of-town development and a lack of incentive for investment in towns and villages has led to the abandonment and disuse of buildings in historic settlements;
- the inappropriate application to older buildings of construction techniques designed for new buildings causing deterioration of fabric, as well as damaging architectural integrity;
- increased requirements for the performance of buildings through building regulations and other legislation can have unintended consequences for the historic building stock.

The *Government Policy on Architecture*[41] provides the appropriate framework for architectural policy up to 2015 and beyond (statutory responsibility for which lies with the Department of Arts, Heritage and the Gaeltacht). The policy places an emphasis on sustainable development, improved standards for urban design and the need to integrate architectural heritage in a more holistic manner as regards development planning. While the policy encourages and supports high quality modern architecture, it also complements wider economic objectives within the Programme for Government as regards opportunities for specific research within the built environment.

The residential sector is a major contributor to national greenhouse gas (GHG) emissions. The EPA forecasts that the sector accounts for 12% of total national emissions over the 2008-2012 period[42]. In Ireland, the total amount of primary energy used by the residential sector increased by 42% between 1990 and 2010[43]. Residential energy is second only to the transport sector in terms of share of energy use.

[41] Department of Environment, Heritage and Local Government (2009) Government Policy on Architecture 2009-2015. Retrieved from: http//www.ahg.gov.ie/en/publications/heritagepublications/architecturalpolicypublications

[42] EPA (2012) Ireland's Greenhouse Gas Emissions Projections 2011-2020. Available on http://www.epa.ie/downloads/pubs/air/airemissions/EPA_GHG_Emission_Projections_2010.pdf

[43] http://www.seai.ie/Publications/Statistics_Publications/Energy_in_Ireland/Energy_in_Ireland_1990_-_2010.html

In order to meet our climate change targets, all housing will need to be designed or retrofitted to cost-optimal standards. The drive towards improved energy efficiency in the residential sector is supported by *Better Energy: the National Upgrade Programme* which aims to upgrade Ireland's building stock to high standards of energy efficiency, thereby reducing fossil fuel use, energy costs and GHG emissions. The programme builds on the SEAI's domestic grant programmes, which have upgraded over 95,000 homes through grant schemes to date, with a further 70,000 low-income homes receiving energy efficiency measures. This programme will contribute towards meeting our target of 20% energy efficiency savings by 2020 by delivering energy efficiency upgrades to 1 million residential, public and commercial buildings by 2020, realising 8,000GWh of energy savings over the lifetime of the programme.

As indicated in Section 2.4, the *Affordable Energy Strategy* sets out a framework for the alleviation of energy poverty in low-income households. The strategy will focus on complementing the existing mitigation infrastructure with new actions and measures designed to improve the living standards of vulnerable households.

Improved energy efficiency in the residential sector is also supported by the Social Housing Retrofit programme which forms part of the programme of *Improvement Works to Existing Local Authority Housing Stock* and is aimed at achieving an improved level of energy performance, reducing emissions and yielding an important fuel poverty dividend for low-income households. The retrofit works aim to increase the Building Energy Rating of the social housing stock to a C1 where practicable and since the introduction of the scheme in 2009, over 2,900 units have been improved.

The need to take account of climate change adaptation within the policy system – particularly through planning measures and spatial policies – is a further key challenge. Early consideration can ensure that risks are minimised at least cost or that measures are cost-effective over the lifetime of the decision/policy. The National Climate Adaptation Framework referred to in section 2.4 will play an important role in progressing the climate adaptation agenda in the years ahead.

Commitments and Targets

Social Inclusion

The Government has agreed a revised headline national poverty target in the *National Reform Programme 2012 Update* under the *Europe 2020 Strategy*, following a review of the original target in the *National Action Plan for Social Inclusion (NAPSI) 2007-2016.* The revised headline poverty target is to reduce the number experiencing consistent poverty to 4% by 2016 (interim target) and to 2% or less by 2020, from the 2010 baseline rate of 6.2%. The Government has also agreed a number of other changes to the national poverty target, notably the adoption of sub-targets for children and jobless/low-work intensity households, and new supporting indicators.

One of the headline targets included as part of the *Europe 2020 Strategy* is to lift 20 million people out of the risk of poverty and exclusion. Ireland's revised contribution to the EU poverty target will be to lift a minimum of 200,000 people out of the risk of poverty or exclusion between 2012 and 2020. A flagship initiative has also been launched under the Strategy to create a *European Platform against Poverty* with the aim of ensuring economic, social and territorial cohesion and recognising the fundamental rights of people experiencing poverty and social exclusion, enabling them to live in dignity and take an active part in society.

The revised target and other changes arise from the review of the national poverty target (the report of the review will be published in 2012). The purpose of the review is to enable the Government to adopt appropriate and achievable national poverty targets to meet Ireland's contribution to *Europe 2020* and the commitments in the *Programme for Government.*

The policy approach to meeting the poverty target is set out in the *NAPSI 2007-2016*. The approach is further developed in the *National Reform Programme 2011* and the *2012 Update*. The *NAPSI* aims to build sustainable communities, improve the lives of people living in disadvantaged areas and building social capital. It includes three high level goals: housing, health and the integration of migrants. It also sets out a range of programmes and innovative measures to support disadvantaged local communities.

A key objective to achieving sustainable communities is to actively pursue socio-economic development directly and in partnership with local government, local development bodies, State agencies and the social partners including the community and voluntary sector. This can be achieved through the new *Local and Community Development Programme (LCDP)* which supersedes two former local and community development programmes that had been implemented through the community and voluntary sector for many years.

The aim of the new programme is to tackle poverty and social exclusion through partnership and constructive engagement between Government and its agencies and people in disadvantaged communities. This is underpinned by four high-level goals:

- To promote awareness, knowledge and uptake of a wide range of statutory, voluntary and community services;
- To increase access to formal and informal educational, recreational and cultural development activities and resources;
- To increase peoples' work readiness and employment prospects;
- To promote engagement with policy, practice and decision-making processes on matters affecting local communities.

The new programme preserves elements of good practice from the former programmes and will enable groups to objectively demonstrate the positive impacts they are securing for local communities through the prioritisation of key frontline services and supports and the minimisation of overhead and ancillary costs. In addition, the recommendations of the Local Government/Local Development Alignment Steering Group, currently under consideration by the Minister for the Environment, Community and Local Government, in relation to greater cross-Government sharing of data and best practice should assist socio-economic development across local government, local development bodies, State agencies and the social partners, including the community and voluntary sector.

The *EU Rural Development Programme (RDP) 2007-2013* supports other sustainable development initiatives with a particular focus on rural communities. Strong rural economies are critical for economic recovery and the support available under the current RDP and future programmes will provide the resources necessary to support this.

The sustainability of rural communities into the future will be supported by a cooperative approach to development involving local partners, local government and central Government. This approach will ensure that programmes of support, including the LCDP and the RDP, are targeted and available to support and maintain vibrant communities in all area types all over Ireland.

With regard to the Gaeltacht, it is a primary objective of the Department of Arts, Heritage and the Gaeltacht to support the implementation of the *20 Year Strategy for the Irish Language 2010-2030* and, within that context, to promote Irish as the main community language in the Gaeltacht.

Migration Nation - Statement on Integration Strategy and Diversity Management outlines an integration policy for legally resident migrants in Ireland including adopting a partnership approach, having a strong link between integration and wider social inclusion measures and strategies and having clear public policy focus which avoids the creation of parallel societies. This integration policy will be continued and developed further.

Spatial Planning

Recent initiatives in relation to regional development and spatial planning have sought to address some of the challenges outlined above and contribute to developing a more strategic approach and better outcomes in relation to sustainable communities. The *NSS Update and Outlook* represents both a re-affirmation of an existing commitment to implementing the NSS and a statement of new priorities and objectives taking on board experience since 2002.

Ireland has been responsive in recognising the factors that have given rise to difficulties in the past not only in relation to spatial planning but also in relation to dealing with unfinished housing development. A comprehensive review of planning legislation and national-regional-local co-ordination culminated in the Planning and Development (Amendment) Act 2010, which introduced a number of new measures including a core strategy system to better ground local planning around agreed national and regional estimates of future development requirements. In addition, to restore confidence in the housing sector and urban development generally, a range of measures on managing and resolving unfinished housing developments are also being implemented.

The Government has also responded to address imbalances in the housing market through the publication in June 2011 of a new housing policy statement. This statement recognises the unsustainable growth in the housing market in recent years, highlighting over-stimulation of the property sector generally and the extensive reliance on incentives to support home-ownership. The Government's vision for the housing sector is therefore based on choice, fairness and equity across tenures and on delivering quality outcomes for the resources invested and it sets, as a high-level objective, to enable all households access good quality housing appropriate to household circumstances and in their particular community of choice.

The NSS, the RPGs and the implementation of the Core Strategy provisions of the 2010 Planning and Development (Amendment) Act 2010 are creating a more effective policy framework designed to support economic renewal and continue the promotion of sustainable national and regional development by ensuring that all levels of the planning system work together in supporting targeted investment on infrastructure under capital programmes and by further modernising land zoning. This will encourage co-ordinated and consolidated development close to necessary social and physical infrastructure.

In particular, the RPGs, prepared and adopted by Regional Authorities, identify a range of measures - some of them collaborative between regions - aimed at activating the potential for sustainable economic development, harnessing green infrastructure such as sources of renewable energy, identifying opportunities for diversification of the rural economy and conservation of unique natural heritage attributes. Implementation of RPGs through the statutory planning functions of local authorities will make a substantial contribution to furthering regional development aims and implementing the NSS.

By the end of 2011, all county and city councils will have fundamentally reviewed their 34 county and city development plans, taking account of the 2010 RPGs, to incorporate their core strategies and reform their approach to future development and zoning. Over 350 local area plans will be examined by the end of 2012 with many of these plans requiring substantial review to address the issues around historical over-zoning. In addition, the *Guidelines for Planning Authorities on Flooding* require the integration of comprehensive flood-risk assessment into the statutory plan-making process.

The review processes above are also implementing relevant provisions of the EU Strategic Environmental Assessment (SEA) and Habitats Directives, and are taking place against the backdrop of much improved national guidance and information on future school and social infrastructure requirements published in recent years. The review processes are also able to take account of and benefit from recent significant investment in key enabling physical infrastructure such as the renewal of the national rail system, major investment in urban public transport, as well as improved roads, water services, housing regeneration and social infrastructure, especially in Gateway and Hub locations.

The approach outlined above will deliver more strategic and plan-led development, refocusing on our established urban and rural centres and moving against the recent sprawl of our city and towns which had been supporting unsustainable commuter driven and car-based development. Moreover, such development patterns are integral to the promotion of more sustainable travel choices and the protection of the integrity of key environmental assets such as Ireland's natural and built heritage and water quality.

Built Heritage

Ireland has made many commitments at national and international levels to the conservation of the built heritage and has signed and ratified the Council of Europe's Granada and Valletta Conventions relating to the protection of the architectural and archaeological heritage respectively. Arising from its commitments under the Granada Convention, a National Inventory of Architectural Heritage was established. Ireland has also ratified the UNESCO World Heritage Convention under which it has pledged to designate and conserve sites of outstanding universal heritage value. In addition, the process of Environmental Impact Assessment requires an assessment of the impacts of proposed development on our cultural heritage.

Gaps

The current evidence base for policy and strategy development particularly in regard to social inclusion, sustainable communities and spatial planning issues needs to be strengthened. In this regard, recent innovations in establishing a National Housing Development Survey and geographical information system (GIS) based tracking and analysis of local authority development plans by the Department of the Environment, Community and Local Government is developing a much stronger basis for measuring whether development patterns fit with agreed national, regional and local policies and legislative requirements.

More widely, decision-making will be improved where it is informed by a more integrated evidence base that accounts for a range of issues including the economy, social cohesion, poverty, biodiversity, environmental sustainability, built heritage, climate change, susceptibility to flooding, water and transport. In this regard, the RPGs, as the key link between the national strategic planning frameworks of the NSS and development planning at the local level under the legislative framework of the Planning and Development (Amendment) Act 2010, provide the basis for developing such a comprehensive evidence base and implementation monitoring framework. The integration of a green infrastructure approach to planning, to allow for the incorporation of the value of biodiversity into business decisions in sectors such

as agriculture and water supply, and into local and central Government decisions, will also help in this regard. Local development strategies are also key to evidence-based policy implementation for social inclusion interventions.

The spatial planning system can only deliver some aspects of sustainable communities and there is a need for a partnership approach to be taken for developing initiatives to improve the environmental sustainability of communities and quality of life for residents. In 2009, the EPA, the then Department of the Environment, Heritage and Local Government and An Taisce jointly hosted a conference on 'Greening Irish Communities'. This explored how to set targets and standards and how public, private, voluntary, social and cultural organisations can work together towards such a common goal. A Greening Irish Communities Network has since been established with an active work programme and representation from a wide variety of stakeholder groups. Further development of this initiative and other community-related programmes such as An Taisce's Green Schools and Green Home programmes will also support the delivery of more sustainable communities, as will the Neighbour Wood Scheme (operated by the Department of Agriculture, Food and the Marine), which provides grants to local authorities, private landowners and community groups to develop local woodland amenities for public use and enjoyment.

The key is to ensure stakeholder involvement in decision-making processes, based on local, bottom-up consultative processes which focus on the most disadvantaged communities, building on their feedback in terms of what works best for their neighbourhoods. In that way, targeted, local responses will be found for those who are most marginalised and for those most distant from the labour market.

Measures

35. **Developing Sustainable Communities**
The Government will work towards:

- Effective implementation of the *National Spatial Strategy* and the Planning and Development (Amendment) Act 2010 which will support balanced regional development, proper planning and sustainable development, including sustainable communities;
- Implementation of Core Strategies in local planning. Zoning on a quantifiable consistent needs based approach (nationally and regionally) and a focus on resolving the difficulties in unfinished housing developments coupled to fiscal and taxation measures to ensure the timely release of development lands required in the future;
- Implementation of national and regional development monitoring systems such as (a) the tracking of local authority development plans through www.myplan.ie, the geographical information system integrating other relevant spatial datasets e.g. the evidence from the national housing development survey; (b) the development of a set of indicators to measure progress in implementing RPGs; and (c) the NSS Gateway and Hub Development Index (GDI) initiative of the Regional Assemblies;
- Implementation of the agreed recommendations of the Local Government/Local Development Alignment Steering Group regarding a more integrated approach to local and community development programmes at national and local level;
- Continued efforts by the National Co-ordination Committee on Unfinished Housing Developments in implementing the Report of the Advisory Group on Unfinished Housing Developments, *Resolving Ireland's Unfinished Housing Developments*;

- Continued support to local authorities and An Bord Pleanála through the periodic publication of planning guidelines on relevant topics;
- Development of an integrated approach to green infrastructure as outlined in Measure 12. The Strategic Environmental Assessment (SEA) and Appropriate Assessment processes under EU SEA and Habitats Directives will assist spatial planning processes to integrate green infrastructure into the policy making and implementation processes. *The Planning System and Flood Risk Management Guidelines* which are aimed at ensuring a more consistent, rigorous and systematic approach to flood risk identification, assessment and management within the planning system will be also implemented;
- Implementation of the *Government Policy on Architecture;*
- Implementation of *20-Year Strategy for the Irish Language 2010-2030;*
- The further development and support of the Greening Irish Communities Network aimed at improving quality of life in communities.

36. **Social Inclusion: Key National Strategies**
The Government will continue to implement the *National Action Plan for Social Inclusion (2007-2016)* to build viable and sustainable communities, to improve the lives of people living in disadvantaged areas and to build social capital. Progress will continue to be made on the three high level goals of housing, health and integration of migrants in order to make a decisive impact on the lives of our communities.

37. **Social inclusion: Housing**
- The Government will invest in the renewal, maintenance and management of social housing estates, including capital investment under traditional cyclical and planned maintenance programmes, as well as under the dedicated funding programme for retrofitting works to the existing local authority stock. A benchmark audit of the social housing stock will be undertaken to determine environmental sustainability and enable monitoring of quality.
- Measures will be introduced to improve housing for vulnerable groups. Systematic procedures for the management and maintenance of Traveller-specific accommodation by local authorities will be supported. Working through the National Traveller Consultative Committee, priority will be given to determining how Travellers can develop self-supporting approaches to meet their own needs. The Senior Alert Scheme will continue to provide enhanced home security. Additional measures will be implemented to address energy conservation and other measures for vulnerable older people. The *Housing Strategy for People with a Disability, 2011-2016* was published in October 2011. An implementation framework will be published in mid 2012.

38. **Social Inclusion: Children and Young People**
A five-year Children and Young Peoples Policy Framework will be published in 2012.

39. **Social Inclusion: Support for Local and Community Engagement**
The Government will continue to support local and community engagement in tackling poverty and social exclusion, including greater alignment between local government and the wider public service to enable more integrated and cost-effective responses to target the needs of urban, peri-urban and rural communities, in particular the most vulnerable.

40. **Social Inclusion: Migrant Integration**
The Government will continue to develop comprehensive, coherent and transparent policies on migrant integration issues.

2.8 Public Health

"Ireland's ageing population, together with adverse trends in obesity, diet, exercise and other risk factors means that the level of chronic health conditions will certainly increase ... A Health and Wellbeing Framework which will address lifestyle issues, including how best to encourage behavioural change in support of healthy living, will be developed."

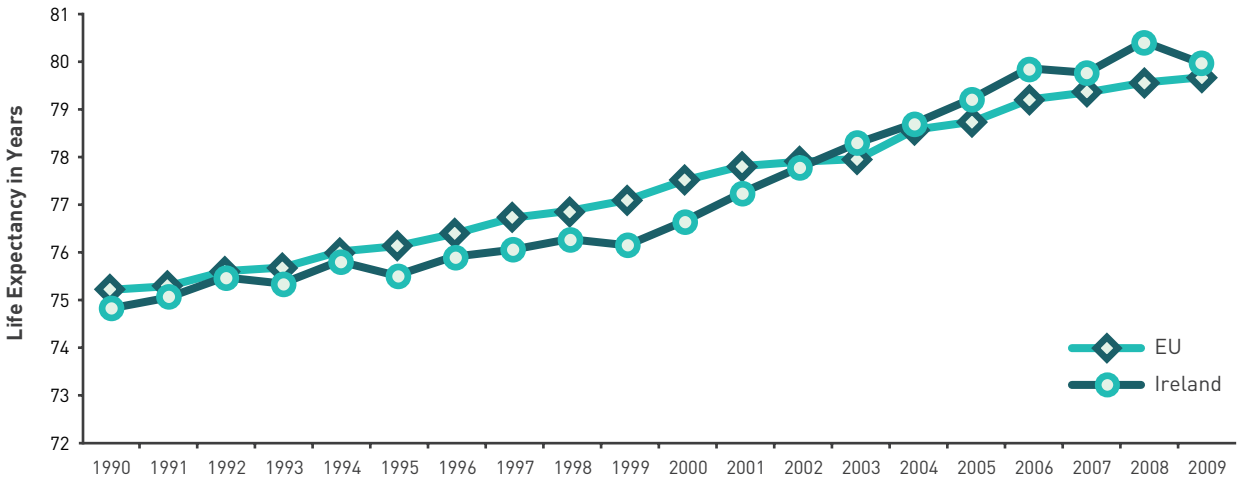


Figure 19. Life Expectancy at Birth for Ireland and EU-27
(Source: European Health For All Database, WHO Regional Office, Copenhagen, Denmark)

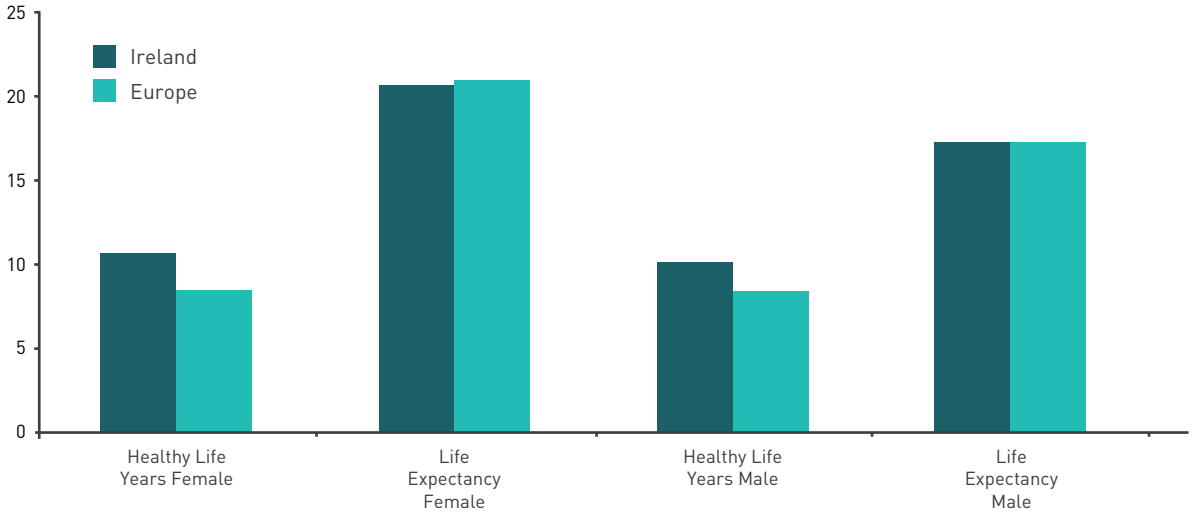


Figure 20. Life Expectancy and Healthy Life Years at Age 65 in 2009 (Source: Eurostat)

Challenges

Public health protection is an essential goal for society in delivering wellbeing and quality of life. Ireland has made significant progress in regard to the health of the population, but some key challenges remain. The rise in life expectancy in Ireland during the past decade has been unmatched by any other country in Europe (Figure 19), with the greatest gains in the older age groups reflecting decreasing mortality rates from major diseases.

In overall population health terms, the past decade presents a clear picture of rapid decreases in mortality rates. Mortality from circulatory system diseases fell by almost 40% between 2000 and 2009 and cancer death rates reduced by 11%.[44] Ireland remains somewhat (5.5%) above the EU mortality rate for cancer and for deaths from smoking-related diseases, many of which will, of course, be cancers. However, survival rates from cancer continue to improve and the gains are leading to a welcome reduction in the gap between survival rates in Ireland and other developed countries.

CSO projections indicate that the key statistic from a health perspective is the number of people over the age of 65, which is projected to increase from over 500,000 now to over 1,300,000 in the next 30 years, with the greatest proportional increases occurring in the 85+ age group.[45]

For many years, the health of Irish people has improved due to improved nutrition, better treatment and prevention from the major diseases. However, Ireland's ageing population, together with adverse trends in obesity, diet, exercise and other risk factors means that the level of chronic health conditions will certainly increase. There is much that can be done because approximately two-thirds of the predicted disease burden is caused by risk factors which can be prevented. The primary healthcare sector will play a central role in the overall care that is needed and will require a focus on prevention, as well as a new model of healthcare for patients with long-term chronic conditions. In Ireland, the main public health challenges, including lifestyle factors contributing to health, are:

- Smoking: Smoking is the leading cause of preventable mortality accounting for 6,000 deaths every year. Smoking levels have plateaued but there is a cause for concern relating to increased smoking prevalence among young women.
- Alcohol: Ireland's rate of alcohol consumption per capita is well above the EU average. Irish children drink from a younger age and are drinking more than ever before. Alcohol is a contributory factor in half of all suicides and accounts for up to 10% of bed days in hospitals. Alcohol-related road accidents cost an estimated €530million in 2007.
- Obesity: In Ireland, more than 60% of adults are overweight or obese and this trend is increasing.
- Physical activity: A little more than half of children exercise at least four times a week and more than one in four adults have little or no physical activity.
- Environmental: While Ireland generally has good air and water quality, in some instances, a variety of respiratory and gastrointestinal illnesses can be associated with poor air and water quality, while exposure to radon gas is a contributory factor in approximately 13% of lung cancer deaths. Continued action to enhance air quality and to limit public exposure to pollution, hazardous chemicals, radon gas and noise are key priorities in reducing the impact of environmental factors on health.
- The recent H1N1 pandemic, the emergence of new conditions such as vCJD and the ongoing outbreaks of traditional infections such as measles in Ireland and polio in Europe all indicate the requirement for good surveillance and response systems.

Many factors influence and determine health, whether at an individual or population level. A range of factors have been identified as social determinants of health for example, social exclusion, education, health services, the built environment and lifestyle choices. People who are less well off or who belong

[44] Public Health Information System (PHIS), Department of Health and Children
[45] Central Statistics Office - Population and Labour Force Projections 2011-41

to socially excluded groups tend to fare badly in relation to these social determinants. For example, they may have lower incomes, poorer education, fewer or more precarious employment opportunities and/or more dangerous working conditions, or they may live in poorer housing or less-healthy environments with access to poorer services or amenities than those who are better off – all of which are linked to poorer health. As an example, data from the recent *All Ireland Traveller Health Study* show a stark picture of health inequality. Traveller life expectancy remains at levels last experienced by the general population 60 years ago. Traveller men and women have life expectancies of 15 years less, and 11 years less, respectively, than the general population[46].

It must be recognised that wider determinants of health are influenced by policies across a range of Government Departments and inter-Departmental, cross-sectoral cooperation is necessary to improve the health of the population and to reduce health inequalities. A healthy environment is inextricably linked to the health of our population which relies for survival on clean air and water and the crops we are able to grow in uncontaminated soil. Amenities such as forest parks provide opportunities for recreation and add to our understanding of the environment thus supporting healthier lifestyles while contributing to our well-being.

Commitments and Targets

A review of public health policy was commenced by the Department of Health in 2011 with the aim of developing a policy framework for public health for the period 2012 to 2020. The review will address the broad determinants of health and health inequalities and will describe the approaches and priority objectives and actions needed to protect and improve health, reduce inequalities and reduce the cost burden of non-communicable diseases on the health system. Ultimately, this public health policy review will lead to a refocusing on the basic principles of health protection, including communicable disease control and environmental health, health promotion and health inequalities.

A Health and Wellbeing Framework which will address lifestyle issues, including how best to encourage behavioural change in support of healthy living, will be developed. The Department of Health will prepare a Health Information Bill which will provide, alongside data protection legislation, a legal framework for the better governance of personal health information. It will also provide the necessary enabling legal framework for a number of initiatives such as health identifiers, data matching and health information resources. An Inter-agency Group with representatives from relevant public authorities has also been set up to develop a National Radon Control Strategy for Ireland.

Gaps

In order to translate high-level policies into measurable achievements, Ireland needs to increase its reach outside the traditional health service areas, across Government, into local government, the voluntary sector and communities themselves. This requires a partnership approach and a commitment to maximising the contribution of existing opportunities. There is also a need to ensure that unintended negative impacts on health do not occur as a result of policies, plans and programmes in areas outside of the health sector.

Efforts to address inequalities in health must look at the way in which the social determinants of health are distributed. There must also be a focus on prevention, especially in terms of smoking, obesity and alcohol consumption.

[46] http://www.dohc.ie/publications/traveller_health_study.html

Measures

41. **Review of Policy Framework for a Sustainable Public Health System**
A review of public health policy will be completed with the aim of developing a policy framework for public health for the period 2012 to 2020. A new Health and Wellbeing Framework will also be developed.

42. **Implement Preventative Interventions**
The Government will implement an evidence-based programme of ill health preventive interventions that are effective across the social gradient as follows:

- Continuing to tackle the harm caused to individuals and society by the misuse of drugs, including alcohol, the Department of Health will prepare the Report of the National Substance Misuse Strategy;
- The Department of Health will complete a policy to reduce tobacco consumption across the population;
- The Department of Health will publish revised healthy eating guidelines;
- The Department of Health will review a requirement for lifestyle surveys and develop proposals to progress these in the adult and childhood populations;
- The Special Action Group on Obesity established by the Department of Health will continue to focus on introducing a range of measures to tackle the issues;
- The National Radon Inter-Agency Group, established by the Department of the Environment, Community and Local Government, will develop a strategy to ensure that exposure to radon gas is addressed in an effective and coordinated way across all relevant public authorities through appropriate interventions;
- Meeting all commitments in terms of water, soil, hazardous chemicals and air quality, including measures outlined in this Framework, within the specified timelines.

43. **Improve Availability of Information on Health Inequalities**
The availability of information on health inequalities and the health of vulnerable and socially excluded groups will be improved. A key deliverable is the establishment of indicators to monitor the effectiveness of existing policies in terms of access to healthcare and health services. The Department of Health will develop further indicators relating to lifestyle including alcohol, tobacco, diet and physical activity.

44. **Health Information Bill**
The Department of Health will prepare legislation for the Health Information Bill, which, alongside data protection legislation will provide a legal framework for the better governance of personal health information.

45. **Disease Modelling**
Building on the work of the National Cancer Registry, national registers of other diseases will be created and developed. The Department of Health will continue to revise the list of notifiable diseases and consolidate infectious disease regulations.

2.9 Education, Communication and Behaviour Change

"Education for sustainable development needs to be embedded at every level of the formal and informal education system."

Challenges

Education for sustainable development plays a crucial role in strengthening the capacity of individuals, communities, businesses and governments to make judgements and decisions that take account of environmental protection. Therefore education for sustainable development needs to be embedded at every level of the formal and informal education system.

Public communication is vital for sustainable development to be better understood and appreciated. Public authorities need to actively engage with citizens and stakeholders in the development and implementation of policy if we are to effect behaviour change and the transition to a more sustainable society and economy. However, raising awareness does not always lead to changes in behaviour and more sustainable outcomes. This is a challenge for policy makers and highlights the need to better understand how public policy can result in more sustainable choices.

Sustainable development cannot be addressed by public authorities alone without the involvement and support of a wide range of stakeholders including individual citizens and civil society organisations. Partnership arrangements with non-governmental organisations and civil society groups have a crucial role in advocating for a more sustainable society.

Commitments and Targets

The *UN Economic Commission for Europe's (UNECE) Strategy on Education for Sustainable Development* requires the preparation of national strategies in this area. In addition, the *EU Sustainable Development Strategy* encourages Member States in their efforts to develop more strategic approaches to sharing knowledge and good practice in a bid to stimulate Education for Sustainable Development.

A number of different Departments and agencies, including local authorities, are already involved in promoting key messages on sustainable development and ongoing implementation of these and other campaigns will be informed by *Our Sustainable Future.*

Gaps

Although a draft *National Strategy on Education for Sustainable Development* was published for consultation in 2007, it has not yet been adopted. The consultation process involved a wide range of stakeholders and the adoption of this strategy would set the policy framework for Education for Sustainable Development.

The Aarhus Convention[47] is designed, inter alia, to give ordinary citizens the right to have a say in decision-making that affects the environment. The principles of the Convention are already incorporated into Irish law and Ireland intends to ratify it as soon as possible.

[47] The Aarhus Convention consists of three pillars: Access to Information, Public Participation in Decision Making and Access to Justice in Environmental Matters (www.unece.org/env/pp)

Measures

46. **Strategy on Education for Sustainable Development**

A *Strategy on Education for Sustainable Development* developed under the direction of the Department of Education and Skills will be published in 2012. This strategy will provide the policy framework for the development of knowledge skills and values to encourage individuals, businesses and organisations to take action in support of a sustainable and just society, care for the environment, and responsible global citizenship. The *Strategy on Education for Sustainable Development* will have four key objectives:

- Embed Education for Sustainable Development (ESD) at every level of the education system;
- Promote public awareness of ESD;
- Promote capacity building in support of ESD;
- Promote high standards of environmental management in education institutions.

Specific actions in the *Strategy on Education for Sustainable Development* will include:

- Integrate ESD into all areas of the curriculum in schools and encourage cross-curricular learning;
- Support national media and awareness campaigns on sustainable development;
- Promote research in third-level institutions and encourage collaborative working and industry links;
- Enhance the work of the Department of Education and Skills' Building Unit to promote low-energy sustainable buildings;
- Engage with providers in a range of different settings, including community-based settings and with community interests.

The University of Limerick, together with other key stakeholders, will continue to provide logistical support for, and participate in, the work of the Regional Centre for Expertise on ESD as a focal point for identifying research needs and best practice on ESD.

47. **Communicating Progress on Sustainable Development**

Progress towards sustainable development will be reported, including through annual reports on the implementation of *Our Sustainable Future* (see Measure 65).

48. **Encouraging Behavioural Change**

Given the importance of encouraging behavioural change in the achievement of sustainable development, the Government will consider the appropriate mix of suitable policies and instruments to address this issue

49. **Aarhus Convention**

Ireland will ratify the Aarhus Convention and incorporate the spirit of the Convention in the development and implementation of sustainable development policy to ensure the necessary buy-in from stakeholders and the general public in the transition to a sustainable economy and society.

2.10 Innovation, Research and Development

"Developing the green economy will require a coordinated approach with Departments and agencies working together to maximise opportunities for sustainable growth. Research has a significant role to play across a range of sectors ..."

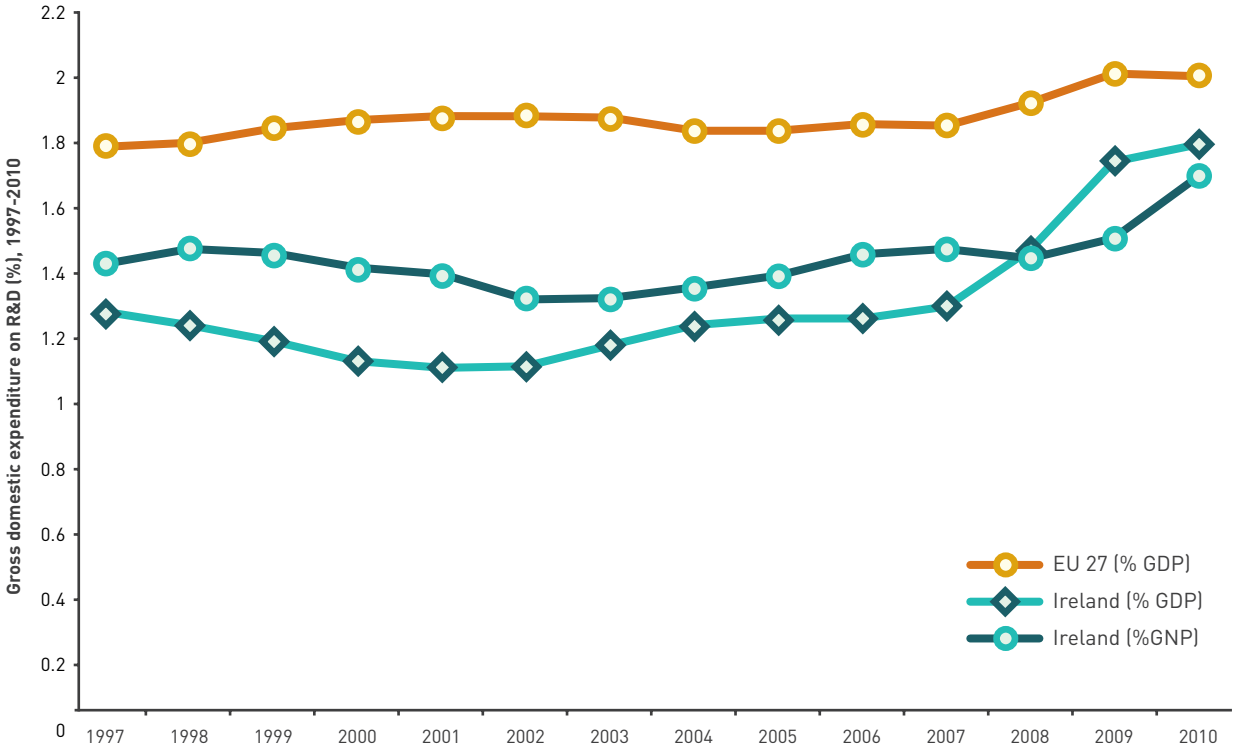


Figure 21. Gross domestic expenditure on research and development in Ireland and the EU (Source: Eurostat, Forfas, CSO)

Challenges

Sustainable development policy depends on many forms of knowledge from different fields of research and disciplines and, crucially, on linking different disciplines. The application of knowledge ranges from providing the evidence base upon which to build policy, to providing insights from research about complex problems to policymakers. As a result, the research agenda can facilitate the meeting of other policy objectives across the sustainable development challenges identified in this Framework.

The EPA's Science, Technology, Research and Innovation for the Environment (STRIVE) programme is an example of an integrated research funding programme that also delivers important public goods. The programme has placed particular emphasis on new and improved technologies for the management of resources and for reducing the environmental impact of human activities as well as essential policy-supporting and 'public good' research. It is through these types of funded research programmes that new solutions and processes can be found, and the evidence base for policy developed, to support and underpin the move towards sustainable development.

Research on sustainable development issues being undertaken in Ireland particularly around climate change and water and resource efficiency should be developed and tailored for business. Enterprise development agencies and business representative bodies could assist in promoting this information.

The green economy[48] can provide opportunities for job creation in start-up and scale-up companies, with increased public demand for 'green' goods and services in both the domestic and international markets. It is an area which could become strategically important for Ireland, given Ireland's 'green' image internationally. Ireland has a number of strengths (such as an efficient and 'green' food-production system, excellent renewable energy and water resources, environmental R&D and ICT strengths) which can realise jobs and growth opportunities both domestically and internationally. Developing the green economy will require a coordinated approach with Departments and agencies working together to maximise opportunities for sustainable growth.

Commitments and Targets

Amongst the areas that the *Europe 2020 Strategy* is focused on is strengthening knowledge and innovation as drivers of our future economic growth, a process that will involve effecting improvements to education, strengthening research and generally promoting innovation and knowledge transfer throughout the EU. One of the headline targets is to raise combined public and private investment levels in research and development (R&D) to 3% of GDP. A Flagship Initiative, 'Innovation Union', has also been launched under the Strategy with a focus on targeting the key challenges facing society such as climate change, energy and resource efficiency, health and demographic change.

Ireland's *National Reform Programme* under the *Europe 2020 Strategy* affirms Ireland's headline target to improve conditions for R&D, with the aim of raising combined public and private investment levels to 2.5% of GNP (approximately equivalent of 2% of GDP). In this context, the *Programme for Government 2011* outlines a significant set of innovation and commercialisation strategies and goals which confirms that this productive investment is seen as one of the key drivers of Ireland's economic recovery. Research has a significant role to play across a range of sectors including developments in the agri-food area, and in supporting policy developments to meet environmental and social objectives. The need for research is recognised in the National Research Prioritisation Steering Group report[49] and implementation of the recommendations in that report is in progress.

Recognising the job creation potential of the green economy, the *Action Plan for Jobs 2012* contains an action to publish and implement a new Plan for the Development of the Green Economy, setting out the opportunities in the sector, the role that Government will play in supporting the development of the green economy, and the structures that will be put in place to coordinate cross-Government action to accelerate growth.

[48] The 'Green Economy' is a term that is used to categorise a range of economic activities which contribute to lower GHG emissions, better resource usage, and respect for the environment.

[49] http://www.forfas.ie/publications/featuredpublications/title,8958,en.php

Measures

50. **Deliver the Right Investment Framework**
To underpin *Our Sustainable Future*, appropriate levels of funding should be made available for research areas which are key to delivering sustainable development, such as in the energy agri-food and environment fields, as set out in the *National Reform Programme*. This includes improving the conditions for R&D, in particular with the aim of raising the combined public and private levels of investment in R&D to 2.5% of GNP (approx. equivalent to 2% of GDP) and maintaining designated environmental, policy-supporting research funding (e.g. the EPA's STRIVE programme and the Department of Agriculture, Food and the Marine's Research Stimulus Fund) to identify solutions to tackle key environmental challenges and promote job creation and investment in the green economy.

51. **Bridge the Gap in Linking R&D to Sustainable Commercialisation and Policy Development**
The Government will put in place measures to bridge the gap in terms of linking R&D and emerging technologies to commercialisation, by ensuring that the majority share of public funding supports R&D in the key areas identified in the *National Research Prioritisation Report.* As also identified in that report, research to support policy development and essential 'public good' research should also continue to be prioritised by Government, as a minority share of overall public R&D funding. Relevant Government Departments, Forfás, Teagasc, EI, Science Foundation Ireland, the EPA and other State agencies have a key role to play to ensure that research supported by public funds has an impact on the marketplace. Collaboration should be fostered between the funding agencies and between the business and research communities in Ireland, to the benefit of the economy as a whole.

52. **Focused Research on Sustainable Development**
Although some Government Departments and agencies already commission much research directly, there may be scope for more explicit alignment between such research and the policy goals of sustainable development and public participation. To support this process, an R&D strategy for sustainable development will be developed by the EPA, which coordinates the work of existing research programmes and funders in the area. Where possible, it will be important to enhance the knowledge-transfer dimension of such research programmes so that research drives changes in practice.

53. **Postgraduate Training**
The further development of programmes in higher education institutions that focus directly on sustainable development or are at least informed by the key sustainable development challenges will be encouraged. The Higher Education Authority, Teagasc and the Irish Research Council already work together to encourage the development and training of postgraduate students and researchers in all areas of science, engineering, technology, humanities and the social sciences. Teagasc works closely with third-level institutes in the training and development of postgraduate students in the sustainable agriculture and food fields, and the EPA provides scholarships to students to support the conduct of postgraduate research (mainly at PhD level) in the environment field. Outputs from the EPA programme are used to inform decisions on environmental issues and also provide a valuable source of scientific information. This cooperation will be enhanced to promote further interdisciplinary research and training in sustainable development themes.

54. **Develop Ireland's Green Economy**
Ireland's green economy will continue to be developed in a co-ordinated way across the relevant Departments and agencies with a strong focus on encouraging the conditions for innovation, investment and competition that will help create new sources of economic growth, consistent with a resilient natural environment. This will help Ireland to make the transition to becoming a low-carbon, resource-efficient and climate-resilient economy. As an initial priority, the Government will publish a new cross-Departmental Plan for the Development of the Green Economy, setting out the opportunities in the sector, the role that Government will play in working to support the development of the green economy, and the structures that will be put in place to co-ordinate cross-Government action to accelerate growth.

2.11 Skills and Training

"Unless Ireland has the right skills and training structures and programmes in place we run the risk of missing out on significant environmental and economic opportunities."

Challenges

The need to move to a low-carbon and resource-efficient economy is well established. One key enabler in this regard is mobilising the skills and training required to take advantage of future employment opportunities in this area.

The role of skills and training is a crucial component in contributing towards sustainable development as it underpins other key policy areas[50]. Unless Ireland has the right skills and training structures and programmes in place we run the risk of missing out on significant environmental and economic opportunities. Skills and training programmes are not just a matter for central Government - there are a wide range of other parties, such as industry, higher and further education institutions, local government as well as civil society organisations, that all have important roles to play.

Commitments and Targets

The *Europe 2020 Strategy* has put forward an agenda for new skills and jobs as one of its seven key flagship initiatives. It aims to modernise labour markets by facilitating labour mobility and the development of new skills with a view to increasing labour participation and productivity rates and better matching labour supply and demand. A number of key actions are put forward for implementation at both an EU and Member State level in order to advance this agenda.

Nationally, the Expert Group on Future Skills Needs published a report in 2010 examining the future skills needs of enterprise within the green economy.[51] A number of recommendations are made in the report to ensure that the workforce needs of those enterprises engaged in the green economy are being met. The *Programme for Government 2011* also commits to undertaking a number of specific strategies for job creation including the potential for green jobs and ensuring the labour market skills are in place to support this sector. The *Government Policy on Architecture 2009-2015* commits to a number of actions relating to the development of skills in areas including sustainable energy construction and architectural conservation, maintenance and repair from continuing professional development for professionals to the training of skilled craftspersons.

[50] This has been recognised in a report by Comhar SDC examining the skills and training needs for a Green New Deal and also by the High-Level Action Group on Green Enterprise.
[51] http://www.skillsireland.ie/publication/egfsnSearch.jsp?ft=/publications/2010/title,7063,en.php

Gaps

It is vital for sustainable development that people with the right skills are available in order to make sustainability-informed decisions, including good design decisions. For example, professionals concerned with buildings, including architects and civil/structural engineers, need a good understanding of building conservation and energy efficiency, and how best to design interventions to get best value for money in improving efficiency[52] Similarly, professionals involved in renewable energy, including electrical engineers and mechanical engineers, need a good technical understanding, and the ability to use it in both designing and operating renewable energy systems.

The public sector will also need a range of skills to support sustainable development objectives including green procurement, carbon accounting and energy management but also in other sectors ranging from public health to social inclusion. A substantial continuing education and training intervention will be required to support this.

Measures

55. **Ensure Education and Training Provision is Aligned with the Skills Requirements of the Green Economy**
Education and training providers will continue to respond to the findings of the Expert Group on Future Skills Needs in relation to the skills requirements associated with the green economy, including putting in place measures to overcome potential key skills gaps identified for the sector. In this context, opportunities for structured graduate placements and internships for third level students will also be considered.

56. **Industry Training Networks for Sustainability**
Industry training networks will be supported where appropriate in order to deliver the required courses and skill sets needed for a resource-efficient and low-carbon economy. The decision to provide resources to a network should be based on the need for training in the industry sector to progress the transition to sustainability in Ireland, and on the capability of the proposed network to deliver on meeting this need.

57. **Public Service Training**
The public service will be encouraged and facilitated to deliver new key skill sets in areas such as green procurement, carbon accounting, carbon management and energy management. How this should be achieved, and which bodies should take the lead in specifying, designing and organising the delivery of appropriate training will be considered by the Government following consultation across the key relevant Departments.

58. **Role of Civil Society Organisations**
Civil society organisations concerned with sustainability and the environment will be encouraged to continue to play an active role in education, training and informing the public on sustainable development issues. Participation will be seen as essential in embedding the transition to a sustainable development model.

[52] Fáilte Ireland published a guideline document recommending improved sustainability content for all tourism and hospitality education and training courses delivered throughout Ireland.

2.12 Global Poverty and Sustainable Development

"Achieving global food and nutrition security is critical in tackling poverty."

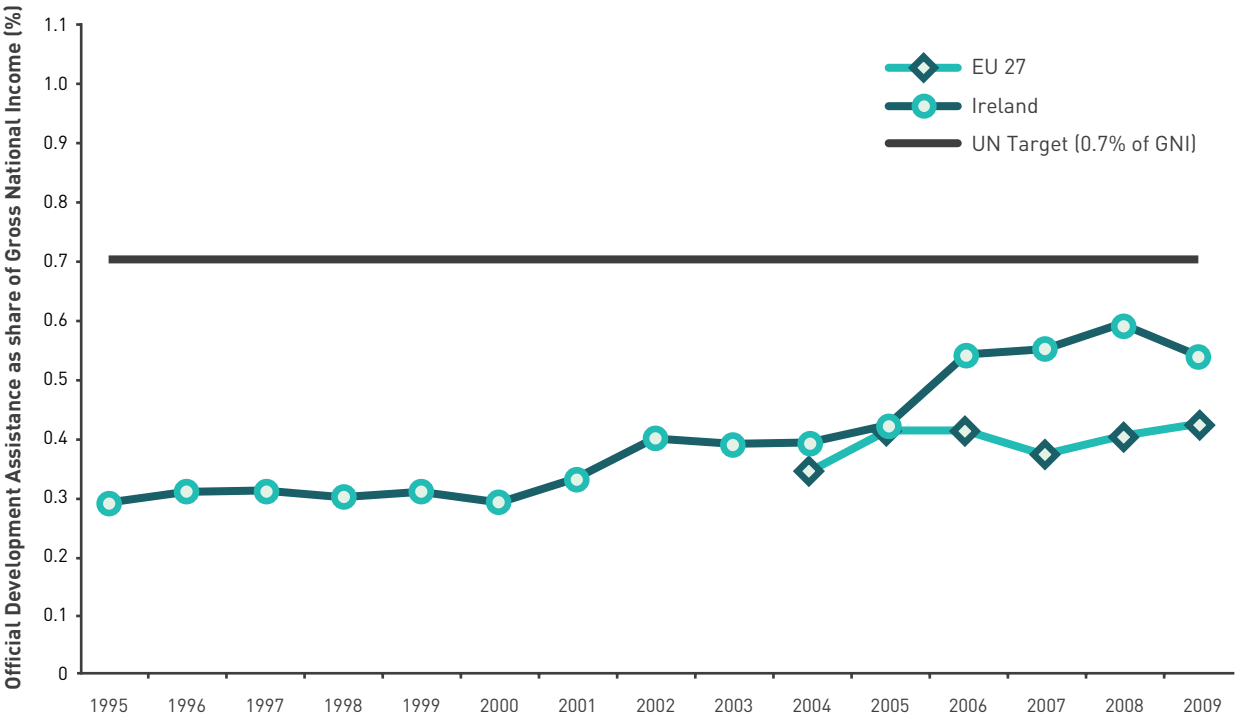


Figure 22. Official development assistance for Ireland and selected EU countries (Source: Eurostat)

Challenges

In an interdependent world, all countries have a role to play in achieving global sustainable development not just as actors in the international community but also through domestic policies. Consumption of resources in developed countries and the continued degradation of ecosystems are contributing to the persistence of poverty in developing countries. There is a need to align policies across sectors with the Millennium Development Goals (MDGs). The eight goals are the world's quantified targets for addressing extreme poverty by 2015. All the members of the UN have committed to these targets on combating hunger, poverty, illness, illiteracy, discrimination against women and the destruction of the environment. The latest progress report showed that there has been mixed progress on the goals, that improvements have been slow and that some gains have been eroded by the climate, food and economic crises.[53]

Climate change reflects and increases social inequality in a series of ways. The first hit and worst affected by climate change are the world's poorest, who are least able to cope. This is especially true for people in developing countries where natural resource dependency is high. It is also significant that these countries have contributed least to climate change.[54] Climate justice must be at the centre of the international response to global poverty and hunger in order to underpin a path to an inclusive, equitable, low-carbon, climate resilient future for vulnerable countries.

[53] UN (2010) Millennium Development Goals Report 2010.

[54] Global Humanitarian Forum (2009) Human Impact Report. Retrieved from www.ghfgeneva.org/Portals/0/pdfs/human_impact_report.pdf

Ireland, as a developed nation that has benefited from high emission growth in recent years, has a responsibility to cut emissions across all sectors in accordance with our European and international commitments and to assist developing countries financially and otherwise. In addition to providing Official Development Assistance (ODA), it is important that funds are used to address the additional development challenge that climate change presents. Ireland should support developing countries' efforts to advance low-carbon and climate resilient development approaches. This is in line with the principle of common but differentiated responsibilities to share the benefits and burdens of climate change equitably.

Ireland participates in a global market economy. Ireland also contributes to meeting its commitments in the international arena through ratification and implementation of Multi-lateral Environment Agreements (MEAs) in areas such as waste and chemicals. The economic globalisation process has been associated with significant environmental, developmental and poverty-related challenges.

Trade is important in lifting underdeveloped countries out of extreme poverty. The World Trade Organisation (WTO) is fundamental in ensuring that consistent and transparent rules apply to global trade. For all of the organisation's 150-plus members, these rules are important in preventing discriminatory and unfair trading practices. A multilateral rules-based system contributes to a global trading environment that supports the special and different stage of development of developing countries, particularly Least Developed Countries (LDCs), and supports the goal of sustainable development.

In order to be able to reap the full benefits of trade, developing countries need to have the freedom to choose trade and economic polices which are appropriate to their level of development. Ireland supports the development of trade in accordance with the WTO rules-based system, to underpin economic and social development in developing countries, particularly in LDCs.

In addition, growing globalised trade merits greater global cooperation in relation to environmental protection and sustainable development. Ireland must continue to recognise the role of trade in assuring the livelihoods and well being of the majority of the world's poorest people and the need for greater environmental protection and sustainable development if the MDGs are to be met.

Achieving global food and nutrition security is also critical in tackling poverty. Food security refers to the availability of food and access to it. The UN defines food security as existing when *'all people, at all times, have physical, social and economic access to sufficient, safe and nutritious food that meets their dietary needs and food preferences for an active and healthy life'*.[55] Ireland is committed to achieving the hunger target of the first MDG of halving by 2015 the proportion of people who suffer from hunger. Ireland recognises that the realisation of all of the other MDGs will be undermined if food, the most basic of all human needs, is not available or easily accessed by all. Combating global hunger and food insecurity is a central pillar of Ireland's foreign policy and its development assistance programme, Irish Aid.

The *International Assessment of Agricultural Knowledge, Science and Technology for Development Report* found that agricultural knowledge, science and technology *'can contribute to radically improving food security and enhancing the social and economic performance of agricultural systems as a basis for sustainable rural and community livelihoods and wider economic development. It can help to rehabilitate degraded land, reduce environmental and health risks associated with food production and consumption and sustainably increase production.*[56]' Ireland has invested in research in many aspects of agriculture including alternative production systems and ways of reducing the GHG intensity of the sector. Knowledge transfer is an important element of food security policy and places Ireland in a position to make a positive contribution in the global fight against hunger.

[55] UN Food and Agriculture Organisation FAO

[56] International Assessment of Agricultural Knowledge, Science and Technology for Development (IAASTD) Report (2008) Executive Summary of the Synthesis Report, p.7.

Commitments and Targets

Responding to the pledge to reduce and then eradicate extreme global poverty, the *Programme for Government 2011* stated: *'We are committed to the 0.7% of GNP target for Overseas Development Aid. We will seek to achieve this by 2015'.* Ireland's ODA has remained at a high level, as illustrated in Figure 22. Achieving the UN target will be difficult in the current economic climate but Ireland remains closer to reaching the target than most EU Member States. Ireland was also recognised by the 2009 OECD review as a champion in making aid more effective. Ireland must continue to lead in its international development efforts and remain committed to reducing poverty through sustainable development.[57] In addition to its importance in tackling poverty and securing the rights of people in developing countries, aid is also increasingly becoming recognised as a long-term investment in a more stable world which would benefit poor and rich alike.[58]

The UN Conference on Sustainable Development 2012 (Rio+20) will aim to secure renewed political commitment to sustainable development, assessing the progress and implementation gaps in meeting already agreed commitments, and addressing new and emerging challenges.

Ireland is a strong supporter of global and regional efforts to improve food and nutrition security including the *UN High Level Task Force on the Global Food Security Crisis* and its prioritised plan of action for addressing the global food crisis, namely the *UN Comprehensive Framework for Action,* the *Scaling up Nutrition (SUN) Framework for Action and Roadmap*, the *Global Agriculture and Food Security Programme*, the *EU-US Roadmap for Cooperation on Food Security,* the *EU Policy Framework to Assist Developing Countries in Addressing Food Security Challenges,* and the African Union's *Comprehensive Africa Agriculture Development Programme.*

The Government's 2006 *White Paper on Irish Aid* identified hunger and food and nutrition insecurity as fundamental elements of the global development challenge, and Irish Aid's overarching objectives are to reduce poverty and vulnerability and to increase opportunity. The Government's Hunger Task Force (HTF) was established in 2007 and its Report, published in 2008, identified three priority areas where Ireland can best contribute to combating global hunger, namely: sustainably increasing smallholder agricultural productivity in Africa with a particular focus on women farmers; targeting undernutrition, particularly in infants, children and mothers; and promoting governance and leadership action on tackling global hunger. The HTF Report provides Ireland with a strong framework to address global hunger and food and nutrition insecurity and significant progress has been made in implementing the Report's recommendations. The Special Envoy for Hunger issued a report[59] in November 2010 commending the strong role that the Irish Government and civil society have played in implementing the HTF recommendations, and in galvanising international action to combat hunger. The Envoy also advised on how to further enhance Ireland's policies and activities to reduce hunger.

Ireland can play a role in contributing to food and nutrition security worldwide. With its well-developed and efficient food production systems, Ireland can be a role model for sustainable food production. Ireland is a world leader in terms of use of inputs to primary food production. Its grass-based production systems contribute to the overall food supply by converting grass, inedible for humans, into nutritious food. Ireland can continue to provide leadership in the development and evolution of agricultural systems that will contribute to long-term food and nutrition security goals.

[57] Government of Ireland (2006) White Paper on Irish Aid
[58] Trócaire (2009) Trócaire Briefing Paper: Meeting Ireland's Aid Commitments. Retrieved from: http://www.trocaire.org/aid-accountability
[59] http://www.hea.ie/files/2010%20Hunger%20Envoy%20Report.pdf

Gaps

Decisions, policies and practices that Ireland and other developed countries engage in can have negative effects on developing countries. There is a need for continued focus on policy coherence for development regarding aid and other policies. The EU Communication on proposed CAP reforms accepts that the measures proposed for the CAP post 2013 should respect the EU's *Policy Coherence for Development* commitments. This means that when the impact assessment of these proposals is undertaken, there is an explicit mandate to explore the impact on developing countries.

In 2007 the Government established an Inter-Departmental Committee on Development (IDCD). The purpose of the Committee is to strengthen coherence in the Government's approach to development and make best use of the expertise and skills available across the public service in Ireland's development aid programme.

The Government has committed to a review of the *White Paper on Irish Aid* (2006). This will analyse the changing national and international context in which the aid programme is being implemented, assess progress in meeting the commitments made in the White Paper, draw on the lessons and experiences to date, and set out the policy direction for the way ahead.

Measures

59. **Official Development Assistance**
Under *Our Sustainable Future,* the Government re-affirms its commitment to the Millennium Development Goals and the outcomes of the 2002 World Summit on Sustainable Development. We have committed to the 0.7% of GNP target for Overseas Development Aid.

60. **Address Hunger and Food and Nutrition Insecurity in the World's Poorest and Most Vulnerable Households**
Ireland will continue in its efforts to combat global hunger, and food and nutrition insecurity, and to further enhance its hunger-reduction policies and programmes including by:

- Prioritising support for hunger reduction activities in Irish Aid's programme countries;
- Continuing to support initiatives focussed on sustainably boosting the agricultural productivity of poor smallholder and women farmers in sub-Saharan Africa;
- Continuing to support nutrition-specific interventions that combat the irreversible effects of chronic undernutrition in early childhood, and scaling up a nutrition-sensitive approach to food and nutrition security;
- Developing and supporting multi-sectoral national nutrition plans in developing countries, as outlined in the UN–led *SUN Framework for Action and Road Map*, and encouraging the integration of nutrition across all sectors – agriculture, health, water and sanitation, social protection and education – to ensure improved nutrition outcomes;
- Supporting capacity building within local Agriculture Ministries in Irish Aid's programme countries;
- Prioritising support for in-country agricultural research and knowledge and technology transfer focusing on reducing food and nutrition insecurity and improving the resilience of

local food systems, and working to ensure that poor smallholder and women farmers have access to and can benefit from such research, knowledge and technologies to help them to grow nutritious foods for their families;
- Providing leadership through the ongoing development of Ireland's food production systems and improving the resilience of these systems;
- Ireland will work to improve research in the area of global food and nutrition security.

61. **Financing Climate Change Actions in Developing Countries**
Ireland has signed up to the UN Framework Convention on Climate Change (UNFCCC) and is required to help more vulnerable countries with the costs of addressing climate change in accordance with the Cancun Agreements 2010. Ireland is committed to meeting its responsibilities as a Party to the Convention, and will support a global and comprehensive post-2012 agreement that includes, inter alia, the objective of providing sufficient, accessible and predictable financing for climate change adaptation and mitigation actions in developing countries.

62. **Trade**
Ireland will seek to ensure that the EU position in relation to trade is supportive of a rules-based trading system to underpin economic, environmental and social development in developing countries and which recognises the need for special and differential treatment of Least Developed Countries and some developing countries.

63. **Mainstreaming Environment and Sustainable Development**
The Irish Aid Programme will continue to integrate the principles of sustainable development into its activities to promote developmental fairness in light of changing environmental conditions in developing countries. This will be done primarily through the existing *Environment Policy for Sustainable Development and Environment Mainstreaming,*[60] the performance of which will be reviewed and revised if necessary. Ireland will maintain its strong commitment to mainstreaming environmental concerns in ODA, including supporting developing countries to advance low-carbon and climate resilient development plans, including in the agriculture sector.

64. **United Nations Conference on Sustainable Development**
Ireland will participate at EU level to ensure a successful outcome to the United Nations Conference on Sustainable Development to be held in Rio de Janeiro in 2012.

[60] http://www.irishaid.gov.ie/Uploads/Environmental%20Policy.pdf

“*OUR SUSTAINABLE FUTURE* HAS BEEN DEVELOPED AS A WHOLE-OF-GOVERNMENT UNDERTAKING. ITS IMPLEMENTATION WILL REQUIRE... A COHERENT AND CONSISTENT APPROACH ACROSS RELEVANT GOVERNMENT DEPARTMENTS AND SECTORS.”

3.

SECTION THREE

IMPLEMENTATION

3 IMPLEMENTATION

3.1 Governance

Sustainable development requires that individual Government policies are formulated, not in isolation, but with regard to other policies and priorities. While there are good examples of this practice, more needs to be done if transparent and inclusive methods of policy development are to become standard. This is essential to avoid duplication of effort or the adoption of policies that are contradictory. It requires integrated thinking and practice at three levels: across Departments and agencies nationally; across regional and local level bodies; and between national, regional and local levels.

At a European level, the *Europe 2020 Strategy* identifies the need for a strong governance framework with a thematic approach being adopted. This includes the delivery of the five headline targets under the strategy such as those for climate and energy and the implementation of the seven flagship initiatives, including creating a resource-efficient Europe.

The *EU Sustainable Development Strategy* sets out an approach for better policymaking based on the principle that sustainable development should be integrated into policy making at all levels. It advocates the use of tools including *ex-post* assessment of policy impacts and public and stakeholder participation.

The European Environment Agency's (EEA) Report, *The European Environment – State and Outlook 2010* found that implementing environmental policies and strengthening environmental governance will continue to provide benefits. Better implementation of sectoral and environmental policies will help ensure that goals are achieved and provide regulatory stability for businesses. A broader commitment to environmental monitoring and up-to-date reporting of environmental pollutants and wastes, using the best available information and technologies, will make environmental governance more effective. This includes reducing long-term remediation costs through early action.

In Ireland, horizontal integration of the sustainability agenda across Government has been strengthened through mechanisms such as the Cabinet Committee on Climate Change and the Green Economy and at a wider level, the Oireachtas Committee on Environment, Transport, Culture and the Gaeltacht and the establishment of a mechanism for social dialogue with environmental organisations. Under new arrangements that took effect in 2012, the sustainable development role previously performed by Comhar SDC was integrated into the work of the NESC as it develops its analysis of significant national challenges.

In light of emerging environmental priorities at both EU and national level, supported by the measures set out in *Our Sustainable Future,* particular emphasis should also be placed on strengthening vertical levels of governance in regard to sustainable development. This requires better co-ordination and engagement between relevant Government Departments and their agencies at regional and local level. The local government-led County/City Development Boards (CDBs), through their member bodies and working with their relevant parent Government Departments and agencies at national level, have a role to play in this regard, particularly through the implementation of their County/City Strategies for Economic, Social and Cultural Development. CDBs are representative of local government and local development bodies, together with State agencies and social partners operating locally. CDB strategies have a strong social

emphasis and many have identified sustainable development actions for implementation. The Boards will continue to include sustainable development as a focus of their planning and it will be further emphasised as a cross-cutting issue in their next planning round.

The CDBs facilitate interagency engagement and community involvement in improving co-ordination and delivery of public services at local level. However, there is still a need for improved awareness, training and capacity building on sustainable development within local and regional authorities and other relevant public bodies operating locally, as well as in all sectors of society and educational systems (both formal and informal).

Local authority Environmental Awareness Officers can also play an important part in improving linkages between national and local levels by increasing awareness in relation to current legislation, promoting sustainable waste management and litter control, supporting national campaigns and hosting a variety of practical local environmental initiatives.

Local Agenda 21 facilitates sustainable development at community level. It is an approach based on participation which respects the social, cultural, economic and environmental needs of the present and future citizens of a community in all its diversity. Local authorities, CDBs and local Community and Voluntary Fora have an important role to play in advancing Local Agenda 21.

3.2 Framework Implementation, Monitoring and Reporting

Our Sustainable Future has been developed as a whole-of-Government undertaking. Its implementation will require an active, central Government policy driven approach. Integration of sustainable development principles into policies and programmes and the implementation of measures in *Our Sustainable Future*, including the further development of the green economy, require a coherent and consistent approach across relevant Government Departments and sectors.

To this end, political oversight of implementation of *Our Sustainable Future* will be delivered through the Cabinet Committee on Climate Change and the Green Economy and, where necessary, at Government.

Annex 2 sets out a sectoral plan for the delivery of measures in *Our Sustainable Future.* This plan identifies for each measure a lead Department, other Departments and bodies with responsibilities, and a timeline for delivery. Implementation of sectoral measures will be a matter for each lead Department in consultation with relevant public bodies and other stakeholders, including civil society, at regional and local level. This process should be affirmed by each relevant Government Department in their Statements of Strategy. The development of more detailed implementation plans by public bodies in regard to relevant sectoral measures in *Our Sustainable Future* is also encouraged.

At official level, the High Level Inter-Departmental Group for Sustainable Development will drive delivery of *Our Sustainable Future*, including monitoring progress of the implementation of sectoral measures. This Group will be chaired by the Department of the Environment, Community and Local Government and will be representative of relevant Government Departments at a senior level. The Group will submit an annual progress report on the implementation of sectoral measures to the Cabinet Committee on Climate Change and the Green Economy. This report will be co-ordinated by the Department of the Environment, Community and Local Government in its capacity as Secretariat to the High Level Group.

Northern Ireland has recently published its sustainable development strategy *Everyone's Involved* which states *'we intend to work with the relevant sustainable development bodies throughout these islands,*

to build partnerships to promote and develop sustainable development practices into all we do and in the wider private sector.' Similarly, we will work with relevant agencies and bodies in Northern Ireland to identify areas of common interest and opportunities for joint implementation of both strategies, where appropriate. For example, in the area of environmental protection, the effects of pollution are transboundary in nature. Enhanced co-operation between both administrations in areas such as water management, air quality, waste and biodiversity would be clearly beneficial. In this regard, we will seek to build on the very positive experience gained in joint implementation of International River Basin Management Plans under the EU Water Framework Directive.

3.3 Policy Coherence and Impact Assessment

Ex-ante assessment of policy options allows Government to identify the potential effects of decisions before they are taken and the most attractive implementation paths for policy proposals. Integrated impact assessment was introduced by the European Commission in 2002, and from 2005, all major European Commission legislative and policy-defining proposals have been subject to impact assessment. Impact assessments are now compulsory in most EU Member States.

The two main instruments that drive environmental appraisal in Ireland are Environmental Impact Assessment (EIA) and Strategic Environmental Assessment (SEA). EIA assesses the environmental impacts of projects i.e. development proposals. SEA involves assessment of the likely significant environmental effects of plans and programmes prior to their adoption. Poverty Impact Assessments are an important mechanism in assessing the impact of Government policy on groups in poverty or at risk of poverty. Ireland also has a system of Regulatory Impact Analysis (RIA) which involves a detailed assessment of the impacts of regulation as well as consultation with stakeholders and citizens. Its purpose is not to substitute for decision-making but to help inform policy decisions. Guidelines, published in 2012, set out a step by step process to assess the impact on people with a disability of policy proposals for submission to Government, within the broader RIA framework.

The current system of RIA often involves environmental and social issues but the main objective is the evaluation of the costs and benefits for businesses and citizens in complying with proposed regulations. RIA extends beyond a sectoral evaluation but is not a comprehensive Sustainability Assessment (SA). There is therefore potential to develop an SA model that can be integrated with the RIA system. In this regard, Comhar SDC has undertaken some work to develop an SA methodology that ranks the potential positive and negative impacts of policies on a checklist of economic, environmental and social criteria.

3.4 A Partnership Approach to Implementation and Delivery

The role of Government is to set the framework and work with stakeholders and sectoral interests to achieve progress towards sustainable development. This will require a partnership approach to delivery. *Our Sustainable Future* sets out the Government's commitments, but contributions will be needed by others to achieve the Framework aims and actions. Only with the support of wider society and involvement of all stakeholders can this Framework deliver progress on sustainable development.

The local government system is critical to the delivery of a wide range of important services. In order to be sustainable, that system needs to be financially viable and capable of ensuring that resources are used as efficiently as possible. The implementation of the Report of the Local Government Efficiency Review Group will be crucial in that regard. The local government system must be transparent and open to scrutiny and decision-making must take place at the most appropriate level.

The system must also ensure that funding resources are fair, support environmental sustainability and encourage a viable and dynamic local economy. A policy statement on local government reform is in preparation, addressing these and other issues with the aim of making local government more coherent, efficient, effective and ultimately more responsive to its citizens. The policy approach and recommendations in this Framework, in particular the need for coherence/co-ordination between local authorities, will be taken into account, where relevant, in finalising this statement.

Measures

65. **Implementation, Monitoring and Reporting of Our Sustainable Future**

- Political oversight of implementation of *Our Sustainable Future* will be delivered through the Cabinet Committee on Climate Change and the Green Economy and, where necessary, at Government;
- Implementation of sectoral measures as set out in Annex 2 will be the responsibility of the relevant lead Government Department, in consultation with relevant Departments, public bodies and other stakeholders, including civil society. This process should be affirmed by Government Departments in their Statements of Strategy;
- The High Level Inter-Departmental Group for Sustainable Development, chaired by the Department of the Environment, Community and Local Government will drive delivery of *Our Sustainable Future* at official level, including monitoring progress on implementation of sectoral measures and will submit an annual progress report to the Cabinet Committee on Climate Change and the Green Economy.

66. **Training Programmes for Local and Regional Authority Staff, Elected Representatives and Other Relevant Public Bodies**

Sustainable development should be integrated into the training programmes for local and regional authority staff, elected representatives and other relevant public bodies, including in relation to financing and procurement.

67. **Sustainability Assessment**

The synergies between sustainability assessment and RIA will be examined.

68. **Stakeholder Engagement for Sustainable Development**

The Government will continue to support stakeholder dialogue and engagement for sustainable development, including through the CDBs. The NESC will also develop its work in a way that integrates sustainable development issues into its research and analysis of significant national challenges.

“‘BUSINESS AS USUAL’ IS NOT AN OPTION ON A GLOBAL LEVEL AND CRISIS AND SHOCKS ARE INCREASINGLY INHERENT IN THE EXISTING MODEL..”

4.

SECTION FOUR

LOOKING TO THE FUTURE

4 LOOKING TO THE FUTURE

Our Sustainable Future takes the year 2020 as the timeframe for its desired outlook but a longer-term perspective is also necessary. Success in a changing world will require Ireland to develop further as a knowledge and innovation-based society, building on our national strengths: education, flexible workforce, technology, effective governance, a high level of environmental protection and a sustainable approach towards the use of natural resources. Sustainable solutions to national and global challenges over the long term will require mutually supportive short, medium and long-term policies at national, EU and international levels. Many current policies include targets to 2020 though in some areas, climate change being a clear example, a longer time horizon is envisaged. The shorter timeframes to 2020 are important in achieving a stepped approach to desired longer term objectives. Progress towards these will require planning models that are capable of ongoing modification to take account of changing circumstances and evolving scientific research. A 2050 perspective based on a vision for Ireland will provide a practical framework both for guiding and reporting both on long-term broad development trends and for promoting forward-looking reflections on sustainability.

The network of European Sustainable Development and Environment Advisory Councils (EEAC) has highlighted the challenges in policy-making for 'the long way ahead'.[61] This is due to *'the almost impossible set of predictions of how policy, technology, managerial innovation and social outlooks may themselves shift by deliberate human choice. These adjustments may be the result of recovering from early mistakes, or consciously seeking to promote a sustainable future.'*

Notwithstanding these forecasting challenges, however, the evidence is now overwhelming that 'business as usual' is not an option on a global level and that crisis and shocks are increasingly inherent in the existing model. The *Stern Report*[62] demonstrates that the economic costs of effective and timely international action on climate change would be far outweighed by the costs of inaction – potentially up to 20% of global GDP. *'Our actions over the coming few decades could create risks of major disruption to economic and social activity, later in this century and in the next, on a scale similar to those of the great wars and the economic depression of the first half of the 20th century. And it will be difficult or impossible to reverse these changes. Tackling climate change is the pro-growth strategy for the longer term, and it can be done in a way that does not cap the aspirations for growth of rich or poor countries. The earlier effective action is taken, the less costly it will be.'*[63]

Similarly, the European Commission's *Europe 2020 Strategy* defines sustainable growth or 'green growth' as being central to a resource-efficient future for Europe, creating new green jobs, boosting energy efficiency and assuring energy security. The European Commission estimates that to achieve an 80% reduction in emissions in the EU by 2050, investment in clean and energy-efficient technologies needs to be increased by 1.5% of the EU's GDP per year or around €270 billion.[64] Apart from averting the economic dislocation caused by unchecked climate change, such investment would generate economic gains in areas such as air quality, human health and energy security, and commercial opportunities in markets for environmental goods and services. The Commission calculates that fuel-cost reductions alone will amount to a saving of €175-€320 billion on average per year by 2050. In addition, improved air quality and a reduction in air pollution control and health care costs will amount to a further saving of €88 billion a year by 2050.

[61] EEAC (2009) Sustaining Europe for A long Way Ahead – Making Long-term Sustainable Development Policies Work Retrieved from www.eeac-net.org
[62] HM Treasury (2006) Stern Review on the Economics of Climate Change
[63] Executive Summary of the Stern Report – see http://news.bbc.co.uk/2/shared/bsp/hi/pdfs/30_10_06_exec_sum.pdf
[64] European Commission (2011) A Roadmap for moving to a competitive low carbon economy in 2050 – Impact Assessment.

The OECD Report *Towards Green Growth* also highlights the need to look to the future and to find new ways of ensuring that the growth and progress we have come to take for granted are assured in the years to come. Strategies to achieve greener growth are needed as a return to 'business as usual' would be unwise and unsustainable, involving risks that could impose human costs and constraints on economic growth and development. Green growth is an essential component of sustainable development and a way to pursue economic growth and development while preventing environmental degradation, biodiversity loss and unsustainable natural resource use. The report states that *'if we want to make sure that the progress in living standards we have seen in the past fifty years does not grind to a halt, we have to find new ways of producing and consuming things and even redefine what is meant by progress and how it is measured.'*

The *Towards Green Growth* report provides a framework for the development of green growth strategies. A green growth strategy is centred on mutually reinforcing aspects of economic and environmental policy. It takes into account a range of factors including the full value of natural capital as a factor of production and its role in growth; the social issues and equity concerns that can arise as a direct result of greening the economy; and innovation which can help to decouple growth from natural capital depletion.

The UN Environment Programme (UNEP) report *Towards a Green Economy – Pathways to Sustainable Development and Poverty Eradication* extensively discusses the issues which must inform any long-term outlook for Ireland. The report points out that many simultaneous crises have unfolded during the last decade: climate, biodiversity, fuel, food, water and more recently, the global financial system. The key aim for a transition to a green economy is to enable economic growth and investment while increasing environmental quality and inclusiveness. Critical to attaining such an objective is to create the enabling conditions for public and private investments to incorporate broader environmental and social criteria. In addition, the main indicators of economic performance, such as growth in GDP, need to be adjusted to account for pollution, resource depletion, declining ecosystem services and the distributional consequences of natural capital loss to the poor.

The UNEP report also demonstrates how greening the economy is the pro-growth strategy in the longer term: *'The greening of economies has the potential to be a new engine of growth, a net generator of decent jobs, and a vital strategy to eliminate persistent poverty.'* Moving towards a green economy thus has the potential to achieve sustainable development and eradicate poverty on an unprecedented scale. Green investments will enhance new sectors and technologies that will be the main sources of economic development and growth of the future: renewable energy technologies, resource and energy-efficient buildings and equipment, low-carbon public transport systems, infrastructure for fuel-efficient and clean-energy vehicles, and waste management and recycling facilities. Complementary investments are required in human capital, including greening-related knowledge, management and technical skills to ensure a smooth transition to a more sustainable development pathway.

A 2009 Dutch-Swedish foresight study[65] sets out a vision for 2050 that encompasses producing food for a global population of nine billion while minimising biodiversity loss; mitigating climate change while enhancing energy security for the EU; and practical and workable solutions for an EU transport system that is low-carbon. The study outlines parameters that could be helpful in formulating an Irish long-term vision for sustainable development. Accordingly, Ireland's longer-term perspective needs to take account of the linkages between the crucial themes of natural resources, energy and transport. Investments and policy choices made or not made in the next four to five years will still have impacts in 2050. For instance, infrastructure for transport and energy has long lead times in design and construction as well as a long operational life. From a policy perspective we must not lose room to manoeuvre to cope with the unexpected and must avoid getting locked into solutions that are costly and inefficient in the long term.

[65] Netherlands Environmental Assessment Agency & Stockholm Resilience Centre (2009) Getting into the Right Lane for 2050. Retrieved from www.pbl.nl/en

These conclusions are echoed in the European Commission's recently published *Roadmap for Moving to a Competitive Low Carbon Economy in 2050*[66], which states that it is imperative that global emissions are cut by 50% by 2050 compared to 1990. The roadmap sets out the need for a low-carbon 2050 strategy to provide a framework for longer-term action and the stated EU objective of reducing GHG emissions by 80-95% by 2050. It is expected that the power generation sector will almost completely decarbonise by 2050 in a cost-efficient scenario, whilst transport, residential and industrial/commercial emissions in the EU will be less than half of their 1990 levels. In terms of the wider EU agricultural sector however, the analysis in the Roadmap shows that by 2050 this sector can reduce non-CO_2 emissions by between 42% and 49% compared to 1990. The sector has already achieved significant reductions and more reductions are feasible in the next two decades. After 2030, the rate of emission reductions in the agricultural sector could slow down, in part because of increased agricultural production for a growing global population, estimated at around 9 billion by 2050. It is also expected that there will be increased demand for bioenergy, animal feed and timber.

Under the *Review of National Climate Policy*, it is proposed to develop a Low-Carbon Plan to 2050 for Ireland. The Secretariat of the National Economic and Social Council (NESC) has been asked to prepare an independent analysis to inform the development of national policy. The analysis work being undertaken by the NESC is expected to be completed by the end of 2012.

The Commission's recently published *White Paper on Transport* (see Section 2.6) also takes a long-term perspective, envisaging a transition over time from the current oil-based dependency but without losing efficiency or compromising mobility. Transport will have to use less and cleaner energy, better exploit a modern infrastructure and reduce its environmental impacts.

The Convention on Biological Diversity has also adopted a long-term vision for biodiversity that *'By 2050, biodiversity is valued, conserved and restored and wisely used, maintaining ecosystem services, sustaining a healthy planet and delivering benefits essential for all people'.* Similarly the EU have also set out a vision that *'by 2050 EU Biodiversity and the ecosystem services it provides – its natural capital – are protected, valued and appropriately restored for biodiversity's intrinsic value and for their essential contribution to human wellbeing and economic prosperity, and so that catastrophic changes caused by the loss of biodiversity are avoided'.* Current biodiversity plans and strategies are focused on 2020 targets; subsequent policies and decisions will be made in due course aimed at achieving the 2050 vision.

In looking to the future, other areas such as pension reform will be equally as important with a key consideration being to ensure the sustainability of the Irish pensions system over the longer term in light of demographic change and the adequacy of contribution levels and benefits. Demographic projections indicate that, by the middle of the century, there will be less than two people of working age to every person over the age of 65, compared to almost six today. In addition, the number of people over age 65 is expected to have trebled by 2050. One of the implications of these demographic changes is that the task of financing increasing pensions spending will fall to a diminishing share of the population. Furthermore, spending on public pensions (social welfare pensions and public service occupational pensions) is expected to increase from 5.5% of GDP in 2008 to almost 15% in 2050 (this rise is equivalent to over €8 billion in 2009 terms).

In that context the *National Pensions Framework* was published in March 2010 and sets out the long-term plan for future pension reform in Ireland. It encompasses all aspects of pensions, from social welfare to private occupational pensions and public sector pension reform. Its aim is to deliver security, equity, choice and clarity for the individual, the employer and the State. It also aims to increase pension coverage, particularly among low to middle income groups and to ensure that State support for pensions is equitable and sustainable. Planned reforms include increasing State pension age (to 68 in 2028 –

[66] http://ec.europa.eu/clima/policies/roadmap/index_en.htm

legislation for this is now in place); the introduction of a new automatic enrolment pension scheme; strengthening the regulatory regime for defined benefit schemes; and the introduction of new pension arrangements for new entrants to the public service.

Many in the business sector are also taking a longer term perspective. The World Business Council for Sustainable Development has published *Vision 2050, The New Agenda for Business,* which envisages a world well on the way to achieving sustainable development and outlines a pathway of the type of progress needed to achieve that vision. This will require fundamental changes in governance structures, economic frameworks, business and human behaviour. The Report addresses questions such as the following: What does a sustainable world look like? What are the roles business can play in ensuring more rapid progress towards that world? The Council which comprises 29 member companies sees *Vision 2050* as a platform for dialogue rather than a blueprint or prescriptive plan and highlights the gap between the vision described and a business-as-usual approach. The full report is available on the Council's website.[67]

The commitments in this Framework are a first step in setting out a long-term vision for sustainable development in Ireland. Such a vision must be developed in a participatory manner and should identify the main long-term objectives and describe intermediate steps towards their achievement. This vision must be grounded in the Principles for Sustainable Development set out in this Framework and provide a focus for public, private and civil society sectors to implement simultaneous and mutually supportive actions.

[67] http://www.wbcsd.org/vision2050.aspx

“MORE COMPREHENSIVE MEASURES OF SUSTAINABLE DEVELOPMENT IN IRELAND SHOULD BE DEVELOPED TO TAKE ACCOUNT OF IN PARTICULAR, THE ENVIRONMENTAL IMPACT OF ECONOMIC DEVELOPMENT.”

5.

SECTION FIVE

MEASURING PROGRESS ON SUSTAINABILITY

5 MEASURING PROGRESS ON SUSTAINABILITY

Sustainable Development Indicators (SDI) play an important role in policy and decision-making, performance measurement and benchmarking, and communication and raising awareness. Given the breadth of the sustainable development concept, there are a wide range of potential indicators that could be part of an SDI set and it can be difficult to agree on a single indicator set. Any SDI set will have limitations as it is attempting to measure complexity using a limited number of indicators. A common problem with SDI sets is that they try to incorporate indicators to address all aspects of sustainable development and then become too large to be of practical use.

Internationally, the main approach to compiling SDI sets has been to meet the information needs of a National Sustainable Development Strategy, rather than having a clearly defined conceptual framework which outlines a coherent approach to developing indicators. Few countries have provided full and detailed documentation of how they selected their indicators but this has usually involved detailed consideration of issues such as data availability and presentation and communication of the indicators. The SDI set usually then gains acceptance and legitimacy based on wide consultation rather than on the basis of a conceptual framework.

There are a number of key questions for sustainable development that an SDI set should aim to provide information for:

- How well are needs being met?
- What is the status and potential of resources or assets?
- How are these being degraded, maintained or enhanced? What are we leaving for the next generation?
- How efficiently are we using resources? To what extent are we decoupling economic growth from resource use and environmental impact?
- How fairly are resources distributed? How are inequalities being addressed?
- What responses and measures are being taken to address sustainable development challenges?

At an international level the most recent development in the area of SDIs is the publication of a report of the Joint UNECE/OECD/Eurostat Working Group on Statistics for Sustainable Development.[68] The aim of the Working Group was to develop a broad conceptual framework for measuring sustainable development with the concept of capital at its centre, and to identify a small set of indicators that might become the core set for international comparisons.

The Working Group had more than 90 members from 48 countries and international organisations who worked together to develop a framework for measuring sustainable development. This framework was intended as a proposal for consideration by countries interested in finding a conceptually clear and defensible basis for SDIs focused on long term well-being, and has informed the development of indicators for Ireland.

At a European level, Ireland already has to report on a range of SDIs which are managed and reported by Eurostat. The roadmap for the resource efficiency initiative under *Europe 2020* also proposes two levels of indicators:

[68] United Nations Economic Commission for Europe (2009) Measuring Sustainable Development. Prepared in cooperation with the Organisation for Economic Co-operation and Development and the Statistical Office of the European Communities (Eurostat). United Nations, New York and Geneva.

(1) A headline indicator – 'Resource Productivity' - to measure the principal objective of the Roadmap, of improving economic performance while reducing pressure on natural resources;
(2) A series of complementary indicators on key natural resources such as water, land materials and carbon.

It is important to ensure as much synergy with current reporting systems as possible. The development of satellite accounts in the area of environmental sustainability would be most useful if linked to indicator sets.

More comprehensive measures of sustainable development in Ireland should be developed to take account of, in particular, the environmental impact of economic development. This has been partially addressed by the Central Statistics Office (CSO) via its implementation of the National Statistics Board's recommendation[69] that the CSO develops a new annual environmental indicators report. This report, *Environmental Indicators Ireland 2012* was published in March 2012[70] and incorporates data covering nine separate domains such as air, GHGs, water, land use, energy, transport and waste. The report also complements *Measuring Ireland's Progress* (first published in 2003) which is more focused on economic and social indicators.

The further development of an SDI set should also reflect:

- the new EU Regulation on environmental economic accounts which has recently been introduced and which contains three modules on environmental indicators (air emissions, material flow accounts and environmental taxes) with further modules to be added;
- new arrangements for performance budgeting by Government Departments;
- development of indicators by other agencies including the Environmental Protection Agency (EPA), the Sustainable Energy Authority of Ireland (SEAI), the Economic and Social Research Institute (ESRI) and Forfás.

[69] National Statistics Board (2009) Strategy for Statistics 2009 – 2014
[70] http://www.cso.ie/en/media/csoie/releasespublications/documents/environment/2012/eii2012.pdf

Sustainable Development challenges	Indicator Type	Level - the extent to which needs are met	Capital Stocks - status of and changes to resources	Flow - use and influencing of capital stocks	Structural - efficiency and disparities	Response - social and political measures
Climate Change and Clean Energy	Climate					
	Energy					
Sustainable Travel and Transport	Transport					
	Air Quality					
Economic Prosperity	National Finances and Innovation					
	Employment, Skills and Training					
	Education and Science					
Sustainable Consumption and Production	Production					
	Consumption					
	Waste					
Conservation and Management of Natural Resources	Water					
	Forests					
	Biodiversity					
Public Health	Health					
Sustainable Communities	Housing					
	Social Inclusion					
	Demography and Migration					
Global Poverty and Sustainable Development	Development Cooperation					
Land Use and Spatial Planning	Land Use					

Figure 23: Sustainable Development Indicators Conceptual Framework

Comhar Sustainable Development Council (SDC) has undertaken work on SDIs over the last three years in a process that has involved a wide range of stakeholders. This has included the development of a conceptual framework for use in developing an SDI set, which is transparent and provides a rationale and justification for indicator selection (Figure 23). The framework takes a strong sustainability approach and integrates relevant policy areas and the capital approach. Using a policy integration approach ensures that the indicators are associated with relevant Government commitments, relate to principles for sustainable development and connect with the key challenges outlined in *Our Sustainable Future*.
A capital approach provides for the measurement of long-term determinants of sustainable development and ensures that Ireland takes account of its human, physical, environmental and social assets and whether they are being enhanced or degraded. This overall approach ensures that the SDI sets are in line with recommended international best practice while remaining policy relevant and that they can be further developed as policy evolves.

The conceptual framework developed by Comhar SDC can be used to develop a comprehensive SDI set i.e. a national set, within which a set of key headline indicators are identified and a local set. A headline set is a concise set of indicators developed for communication and awareness raising with the general public, educators, students and researchers. The primary aim of a national SDI set is to inform policy and decision-making at a national level and to communicate progress on sustainable development to policy makers and other stakeholders. The local set has a similar aim, but measures progress at a local level.

The conceptual framework (Figure 23) was used by Comhar SDC to develop a headline indicator set.[71] A national set will be further developed by the CSO, in consultation with the Department of Public Expenditure and Reform and relevant Departments and agencies. This national set will take account of various initiatives underway by the CSO as well as previous work by Comhar SDC. A local set will also be developed in consultation with the Local Government Management Services Board and the County/City Managers Association.

The headline indicators developed by Comhar SDC are official statistics or are calculated from official statistics. Adherence to the principles of official statistics ensures that the SDIs provide objective information for decision-making, are scientifically robust, consistent over time and meet quality standards. This approach has implications for local SDI sets as many local indicators are developed in a 'bottom-up' way and may not always meet these requirements. Overall it is intended that the development of SDI sets should be an evolving process and further refinement should take place as sets are implemented.

Measures

69. Sustainable Development Indicator Set

The Government will develop and adopt a sustainable development indicator set aimed at national policy making and the general public based on the conceptual framework at Figure 23.

The CSO will collate and publish the agreed national and headline SDI set on a biennial basis with support from others such as the EPA, SEAI, ESRI, Forfás and NESC. Similarly a local indicator set will be developed in consultation with the Local Government Management Services Board and the County/City Managers Association.

70. Further Development of the Indicators

Over the course of implementation of *Our Sustainable Future*, further research should be undertaken to improve the SDI sets. This should be led by the CSO, in consultation with the Department of Public Expenditure and Reform, with the support of key stakeholders referred to in Measure 69. The CSO will oversee the specifications for the indicators and any revisions to the indicator sets.

[71] www.comharsdc.ie

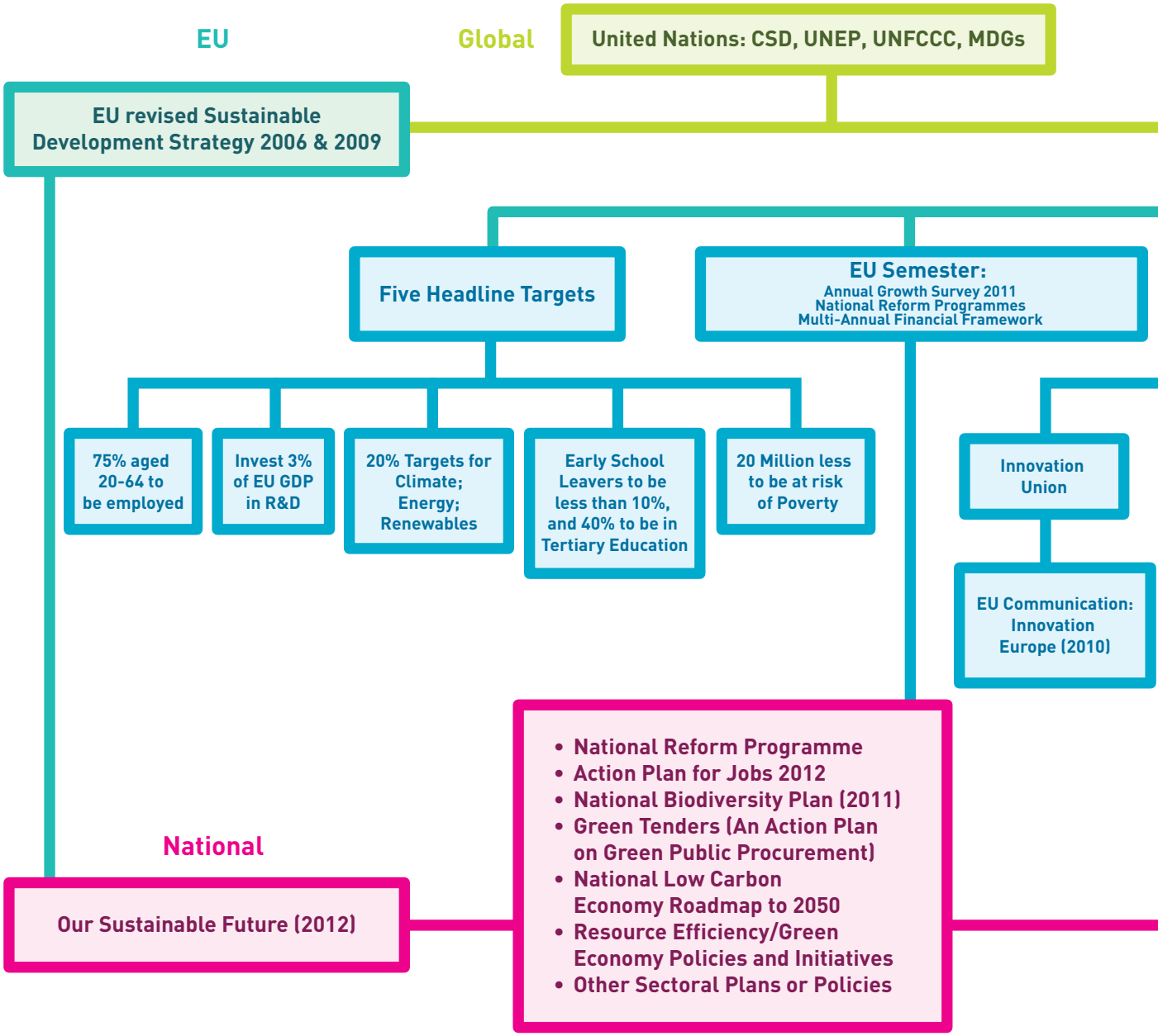
ANNEXES

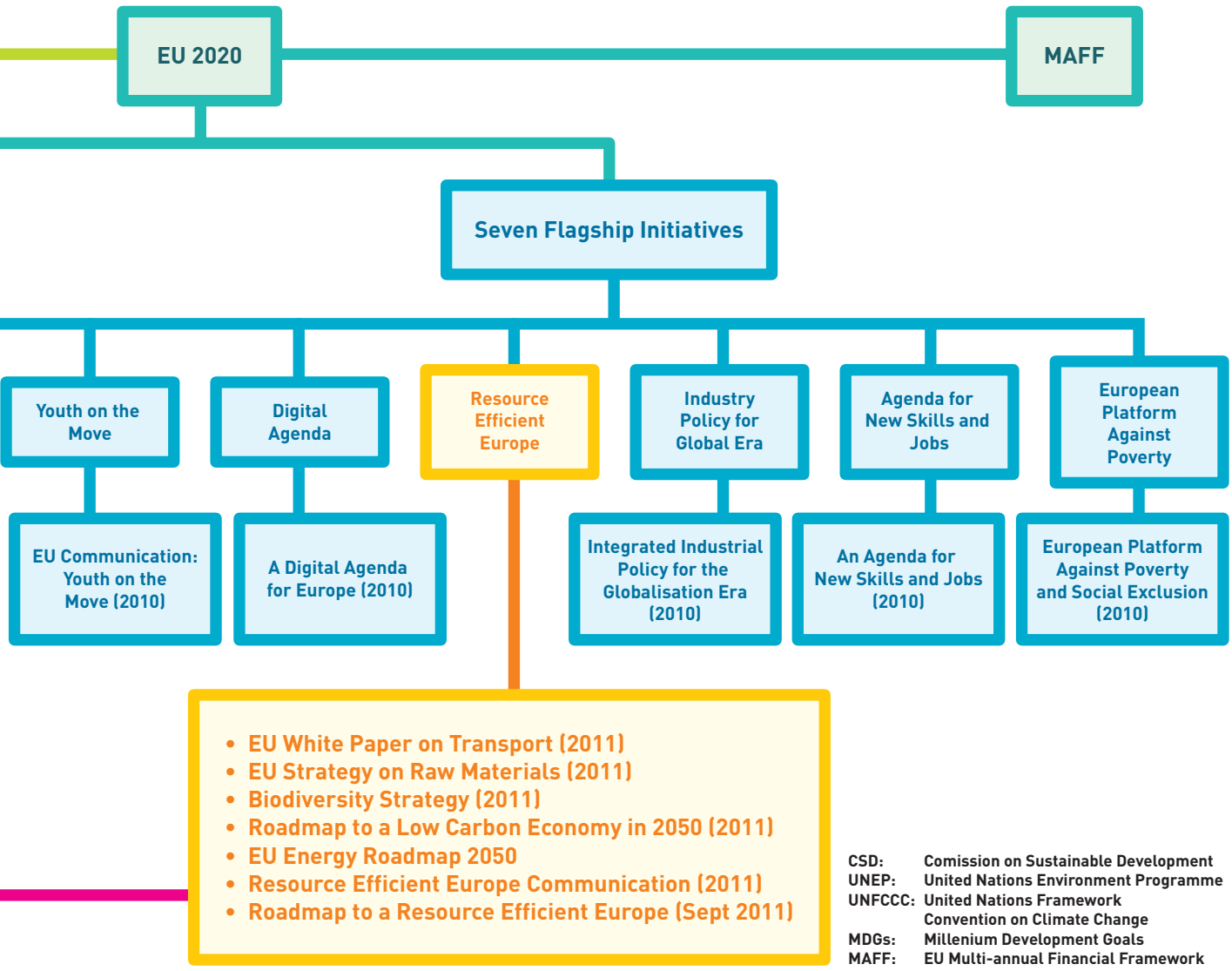
MAP OF COMMITMENTS AND TARGETS

IMPLEMENTATION PLAN

ANNEX 1.

Map of commitments and targets





CSD: Comission on Sustainable Development
UNEP: United Nations Environment Programme
UNFCCC: United Nations Framework Convention on Climate Change
MDGs: Millenium Development Goals
MAFF: EU Multi-annual Financial Framework

ANNEX 2.

Implementation Plan

Short-term (within 5 years) **medium-term (six to 10 years)** **longer-term (beyond 10 years)**

No.	Measure	Lead Department	Other Bodies	Timetable
Sustainability of public finances and economic resilience				
1	Integrate Environmental and Social Indicators into Measures of Economic Progress	DPER, CSO		Longer term
2	Develop a Framework for Environmental Tax Reform	DF		Longer term
3	User charges	DF, DECLG		Medium term
4	Shifting the Fiscal Focus towards the Green Economy	DF	DCENR, DTTS, DAFM	Longer term
5	National Reform Programmes under Europe 2020	DT		Short term
Sustainable consumption and production (SCP)				
6	Completion of Policy on Waste Management	DECLG		Short term
7	Resource Efficiency	Whole of Govt	DAFM, EPA	Short term
8	Green Tenders, An Action Plan on Green Public Procurement	DECLG, DPER	OPW	Short term
9	Resource Efficiency Programmes for Business	DJEI	IDA, EI, SEAI, EPA	Short term
Conservation and management of natural resources				
10	Implementation of Actions for Biodiversity 2011 – 2016: Irelands National Biodiversity Plan	DAHG	DCENR, DAFM, DE-CLG, EPA, Marine Institute, IFI, Heritage Council, ÚnaG, LAs	Short term
11	Development of a National Terrestrial and Marine Habitat Map	DAHG, EPA, OSI	DCENR, IFI	Medium term
12	Development of an Integrated Approach to Green Infrastructure	DAHG, DECLG	DCENR, IFI	Short term
13	Effectively Communicating the Economic Rationale for Conservation of Natural Resources	DAHG	DCENR, IFI	Short term
14	Development of Indicators and Accounting Systems (Satellite Accounts) for Natural Capital	CSO	DPER, DAHG, DCENR, IFI	Longer term
15	Development of a National Landscape Strategy	DAHG	DCENR, IFI	Medium term
16	Development of an Integrated Approach to Marine and Coastal Planning	DECLG	DAFM, DCENR, IFI	Medium term

No.	Measure	Lead Department	Other Bodies	Timetable
17	Implementation of the EU Marine Strategy Framework Directive	DECLG	DAFM, DCENR, IFI	Medium term
18	Conservation and Management of Marine Biological Resources	DAFM	DCENR, IFI	Medium term
19	Implementation of the EU Water Framework Directive	DECLG	LAs	Medium term
20	Introduction of Domestic Water Metering and Charges	DECLG	DPER, LAs	Medium term
21	Establishment of Irish Water	DECLG	LAs	Short term
Climate change and clean energy				
22	National Climate Policy	DECLG	NESC	Short term
23	National Climate Change Adaptation Framework and National Adaptive Capacity Assessment	DECLG		Short term
24	Ensure that Critical Infrastructure is Climate Resilient	DECLG, DTTS, DCENR		Longer term
25	Climate Legislation	DECLG		Short term
26	Emissions Trading	DECLG	EPA	Medium term
27	Develop a Communication & Research Plan	DECLG		Medium term
28	Review of Irish Energy Policy	DCENR		Short term
29	Implementation of National Energy Action Plans	DCENR		Medium term
30	Bio-energy Strategy	DCENR	DAFM	Short term
Sustainable Agriculture				
31	Continued Support for Sustainable Agricultural and Forestry Development in Ireland	DAFM		Longer term
32	Research and Knowledge Transfer	DAFM	EPA, Teagasc	Short term
Sustainable Transport				
33	Ensure continued implementation of Smarter Travel and the National Cycle Policy Framework	DTTS	DEHLG, DCENR, DF, DES, OPW, transport agencies and LAs	Medium term
34	Examine Feasibility of Retrofitting Gross Polluter Vehicles with NOx Abatement Technology	DTTS, DECLG		Short term
Social inclusion, sustainable communities and spatial planning				
35	Developing Sustainable Communities	DECLG	LAs, RAs, EPA DAHG	Short term
36	Social Inclusion: Key National Strategies	Office for Social Inclusion, DSP	LAs, CDBs, Local Development Companies	Medium term
37	Social Inclusion: Housing	DECLG	LAs	Short term
38	Social Inclusion: Children and Young People	DCYA	DES, DH	Short term
39	Social Inclusion: Support for Local and Community Engagement	DECLG	LAs; Local Development Companies	Short term

No.	Measure	Lead Department	Other Bodies	Timetable
40	Social Inclusion: Migrant Integration	Office for the Promotion of Migrant Integration - DJE	DSP, DES, DECLG, DH, DC, DJE, DAHG, DTTS, HSE	Medium term
Public health				
41	Review of Policy Framework for a Sustainable Public Health System	DH	HSE	Medium term
42	Implement Preventative Interventions	DH	HSE, DECLG	Short term
43	Improve Availability of Information on Health Inequalities	DH	HSE	Short term
44	Health Information Bill	DH		Short term
45	Disease Modelling	DH		Short term
Education, communication and behaviour change				
46	Strategy on Education for Sustainable Development	DES		Short term
47	Communicating Progress on Sustainable Development	DECLG		Short term
48	Encouraging Behavioural Change	DECLG		Short term
49	Aarhus Convention	DECLG		Short term
Innovation, research and development				
50	Deliver the Right Investment Framework	DJEI, DES	DF	Medium term
51	Bridge the Gap in Linking R&D to Sustainable Commercialisation and Policy Development	DJEI	EI, SEAI, EPA, Forfás, Teagasc, Science Foundation Ireland, ÚnaG	Medium term
52	Focused Research on Sustainable Development	EPA	Teagasc, NESC	Short term
53	Postgraduate Training	DES	HEA, Teagasc, Irish Research Council, EPA	Medium term
54	Develop Ireland's Green Economy	DJEI	EI, IDA, SEAI, EPA, DECLG, DAHG, LAs, ÚnaG	Medium term
Skills and training				
55	Ensure Education and Training Provision is Aligned with the Skills Requirements of the Green Economy	DES	EGFSN[19], DAHG	Short term
56	Industry Training Networks for Sustainability	DES	ÚnaG	Medium term
57	Public Service Training	DECLG	DF	Medium term
58	Role of Civil Society Organisations	DECLG		Medium term
Global poverty and sustainable development				
59	Official Development Assistance	DFAT, Irish Aid		Medium term
60	Address Hunger and Food And Nutrition Insecurity in the World's Poorest and Most Vulnerable Households	DFAT, Irish Aid	DAFM	Short term
61	Financing Climate Change Actions in Developing Countries	DECLG, DPER	DFAT, Irish Aid	Medium term

No.	Measure	Lead Department	Other Bodies	Timetable
62	Trade	DJEI	DFAT, Irish Aid	Medium term
63	Mainstreaming Environment and Sustainable Development	DFAT, Irish Aid	DECLG	Short term
64	United Nations Conference on Sustainable Development	DECLG	Irish Aid	Short term
Implementation				
65	Implementation, Monitoring and Reporting of Our Sustainable Future	All Departments and agencies		Short term
66	Training Programmes for Local and Regional Authority Staff, Elected Representatives and other Relevant Public Bodies	DECLG	CCMA, LAMA, GCCC, AMAI	Short term
67	Sustainability Assessment	DECLG	DF, DPER	Short term
68	Stakeholder Engagement for Sustainable Development	DECLG	NESC	Short term
Measuring progress on sustainability				
69	Sustainable Development Indicator Set	CSO	DECLG, DPER, DAHG, EPA, SEAI, ESRI, NESC, Forfás, LAs, LGMSB	Short term
70	Further Development of the Indicators	CSO	DECLG, DPER	Medium term