

Energy



NORTHERN IRELAND STRATEGIC ENERGY FRAMEWORK 2009

Pre - Consultation Scoping Paper

November 2008

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Introduction

The Department is acutely aware that national and international developments are increasingly moving the primary focus of energy policy world-wide towards tackling the threat of climate change as well as addressing concerns around security of supply and economic development. These concerns are set to be key strategic priorities for Northern Ireland for the foreseeable future. The goal is a sustainable, secure and affordable energy infrastructure.

- 1.1 Looking back to 2004, DETI's Strategic Energy Framework (SEF) aimed to shape the agenda, key priorities and principles within the NI energy sector for the coming decade. Written against a backdrop of small isolated energy markets, a limited choice of fuels, and the absence of exploited indigenous energy, it recognised that many challenges still faced the sector, and set as the primary energy policy objective for the Department, the "*achieving of a competitive, sustainable, reliable energy market, at the minimum cost necessary in an all-island, UK, and European context.*"
- 1.2 To help achieve this broad objective, it outlined four main goals for government, namely:
 - (i) to reduce energy costs relative to other UK/EU regions;
 - (ii) to build competitive energy markets;
 - (iii) to protect our future by enhancing the sustainability of our energy supply and consumption; and
 - (iv) to maintain the reliability of energy supplies.
- 1.3 A review, completed earlier this year, provided a positive endorsement of the 2004 Framework. It concluded that the four main goals were, and still remain, the correct priorities to be addressed, and identified the main achievements as being the expansion of the NI gas network; the creation of the Single Electricity Market; and the increased use of renewable energy.
- 1.4 It further concluded that the cost of energy remained a major concern, despite a convergence in recent years of Northern Ireland's electricity prices closer in line with those operating in Great Britain and the Republic of Ireland.
- 1.5 In light of the review findings, the changing world focus and the EU, UK, RoI policy context, the Department recently secured the Northern Ireland Assembly Enterprise, Trade and Investment Committee's agreement to the development of a new energy framework for Northern Ireland. **As a first step in this process the Department is now undertaking a scoping consultation and a series of workshops aimed at garnering the thoughts and ideas of those with an interest in Northern Ireland's energy future over the next ten years and beyond.**
- 1.6 Determining energy policy is always a difficult balancing act. It is about seeking to make a realistic assessment of the energy challenges we face since there will always be tensions between pursuing economic, social and environmental objectives and accommodating cost implications.

- 1.7 In taking this work forward DETI will seek to ensure complementarity between a new energy framework and the Regional Development Strategy and Regional Economic Strategy. It will also seek to take cognisance of issues raised in response to the recent Northern Ireland Authority for Utility Regulation (NIAUR) consultation on sustainable development. The Department will actively engage with the key statutory players, namely NIAUR and the General Consumer Council for Northern Ireland (GCCNI). It will also liaise with the other NI Executive Departments who have a significant interest in energy matters along with a range of stakeholder organisations such as the CBI, NI Energy Agency, Carbon and Energy Savings Trusts, Action Renewables and the energy industry itself.
- 1.8 This scoping paper sets out the current Northern Ireland energy position and seeks contributions to identifying the best energy solutions for the region which can promote economic development, enhance security of supply, reduce our dependence on imported fossil fuels, help reduce our carbon footprint and importantly, minimise costs for all consumers.
- 1.9 It is envisaged that the findings of this scoping work will enable the Department to produce a more detailed draft framework for full consultation, early in 2009. In addition, it is anticipated that the findings will assist the Utility Regulator in finalising the NIAUR Corporate Plan 2009-2014.

How to respond

- 1.10 Responses to this scoping consultation should be forwarded to reach DETI on or before **8 January 2009** and may be sent either:
by e-mail to: **celine.murray@detini.gov.uk**, or
by post to:

**Celine Murray
Energy Division
Department of Enterprise, Trade and Investment
Netherleigh
Massey Avenue
BELFAST
BT4 2JP.**

All responses should include the name and postal address of the responder.

Confidentially & Data Protection

- 1.11 Your response may be made public by DETI. If you do not want all or part of your response or name made public, please state this clearly in the response by marking your response as 'CONFIDENTIAL'. Any confidentiality disclaimer that may be generated by your organisation's IT system or included as a general statement in your fax cover sheet, will be taken to apply only to information in your response for which confidentiality has been specifically requested.

- 1.12 Information provided in response to this consultation, including personal information, may be subject to publication or disclosure in accordance with the access to information regimes (these are primarily the Freedom of Information Act 2000 (FOIA), and the Data Protection Act 1998 (DPA)). If you want other information that you provide to be treated as confidential, please be aware that, under the FOIA, there is a statutory Code of Practice with which public authorities must comply and which deals, amongst other things, with obligations of confidence.
- 1.13 In view of this, it would be helpful if you could explain to us why you regard the information you have provided as confidential. If we receive a request for disclosure of the information we will take full account of your explanation, but we cannot give an assurance that confidentiality can be maintained in all circumstances. An automatic confidentiality disclaimer generated by your IT system will not, of itself, be regarded as binding on the Department.

Help with queries

- 1.14 Any questions regarding issues raised in the document can be addressed to:

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Telephone: **028 9052 9514**

Copies of The Scoping Consultation

- 1.15 This Scoping Consultation document is being produced primarily in electronic form and may be accessed on the DETI Energy website: www.energy.detini.gov.uk or may be obtained from the address above or by telephoning 028 9052 9574.
- 1.16 If you require access to this document in a different format – e.g. Braille, disk, audio cassette – or in a minority ethnic language, please contact the Department on 028 9052 9574 and appropriate arrangements will be made as soon as possible.

SECTION 1: WHERE ARE WE NOW?

- **The energy sector in Northern Ireland (and the UK) is based on private sector delivery of public policy goals, through competitive markets. Delivery is aided by regulatory oversight of the electricity and natural gas markets. This is underpinned by legislative rules and developmental incentives that need to reflect changing economic and social needs.**
- **The electricity industry in Northern Ireland was privatised in 1992, and since then the market has been progressively opened in line with European Directive requirements, but competition remains elusive. While establishment of the Single Electricity Market (SEM) in November 2007 provided for generated power to be traded in a larger wholesale market covering both parts of the island (the first in Europe) and there has been some customer switching among larger business users, there has been no competition at the domestic level to date.**
- **The natural gas industry has been developed in the Greater Belfast licensed area since natural gas arrived at Ballylumford in the mid 1990's, with around 120,000 customers connected in October 2008. Construction of the North-West and South-North gas pipelines in 2004 and 2006 respectively has allowed gas to be provided to 10 urban areas outside Greater Belfast, now to around 4,000 customers. Additionally, natural gas fuels over 60% of conventional power generation in Northern Ireland.**
- **Fossil fuels, such as gas, oil, and coal, are traded in international markets over which Northern Ireland has no control, with gas and oil being increasingly related markets. Wind is not tradeable and biomass markets are currently local and immature. Wholesale electricity is traded within the Single Electricity Market and the price of natural gas is established via the UK National Balancing Point pricing arrangements.**
- **Use of renewable energy generation has increased 60% since the introduction of the Northern Ireland Renewables Obligation (NIRO) and following cross border work we now understand more about the renewable electricity potential that exists and the limitations of the grid to support that potential.**

Electricity

- 2.1 The electricity industry is complex in its technical, regulatory, and market features and delivers a unique product that underpins almost all commercial, public and domestic activities. It is also a sector that has traditionally been dominated by the State but which is increasingly characterised across European Union Member States by a commercial market environment. The EU's Third Energy Package plans for electricity and gas will increase the speed of market liberalisation and affect the structure of the electricity and natural gas industries in Northern Ireland. Further details are given in Section 2 [3.48].
- 2.2 Northern Ireland remains dependent on imported fossil fuel for around 94% of power generation. The two power generators at Ballylumford and Coolkeeragh are gas fired, while the Kilroot station is coal fired. Recent large increases in the wholesale cost of such fuels have been driving up the cost of generated electricity and ultimately costs to consumers, thus contributing to the already high level of fuel poverty experienced. However, while the most recent price increases have resulted in Northern Ireland prices currently being higher than in the rest of the United Kingdom, recent years have seen electricity prices for domestic users in particular, becoming comparable to similar regions in Great Britain, while a significant differential remains for smaller business users.
- 2.3 The most significant event in relation to the electricity industry in recent years has been the establishment of the Single Electricity Market (SEM). The SEM is of EU-wide significance. This major cross border initiative has been recognised by the European Commission and Energy Commissioner Piebalgs as one of the first cross border markets that will help deliver the EU Internal Market in Electricity.
- 2.4 Under the SEM, wholesale electricity is sold by all significant generators on the island of Ireland into a common trading pool, from which electricity suppliers purchase electricity to be sold on to consumers. The SEM has been operating satisfactorily with the price of electricity traded within acceptable limits since its inception, and it is anticipated that costs benefits to consumer will accrue from market efficiencies. Alongside introduction of the SEM, in November 2007, the electricity supply market in Northern Ireland has been fully opened to competition.
- 2.5 The introduction of the SEM also brought forward divestment of the System Operator Northern Ireland (SONI) from the Viridian Group to encourage greater independence and transparency in system operation. In late August 2008, NIE announced that, from an international pool of bidders, EirGrid, the system operator in the Republic of Ireland, is the preferred bidder for SONI. The NIAUR is currently consulting on the licensing conditions for SONI.
- 2.6 While renewable generation currently only contributes around 6% of total generation in Northern Ireland, this is likely to increase in future years as the incentive provided by the Northern Ireland Renewables Obligation (NIRO) appears to be providing significant wind farm applications to meet future EU and UK renewable energy targets. Additionally, continued reliance on fossil fuels for some 94% of power generation in Northern Ireland is not sustainable in light of increasing UK dependence on imported gas, and EU and UK carbon reduction targets. However, as highlighted in the All-island Grid Study published by the Northern Ireland and Republic of Ireland governments in January 2008, significant electrical

grid reinforcement will be required to allow higher levels of wind energy to be accommodated by the grid, equating to around £280 million investment in the electricity transmission network alone. Further expenditure of around £165 million will be required to provide new network connections.

- 2.7 Irrespective of a requirement to absorb greater levels of renewable generation, investment in substantial additional grid strengthening will be necessary in parts of Northern Ireland to ensure security and stability of the electricity supply. The Department has been engaged with the Utility Regulator, NIE, the Department of Regional Development (DRD) and other bodies such as Planning Service in relation to how such infrastructure improvements can be taken forward. (more details on the Grid Study findings are given in **Annex F**)
- 2.8 DETI is also currently consulting on proposals to tailor the support that the NIRO gives to encourage emerging renewable technologies and plans to implement these proposals with effect from 1 April 2009. This 'banding' of the NIRO will vary the assistance given to generators depending on the type of generation so that emerging technologies will receive more support.

Gas

- 2.9 The natural gas industry has become well established in Northern Ireland since completion of the undersea pipeline between Scotland and Northern Ireland, and the arrival of natural gas at Islandmagee in September 1996 when a licence was granted to Phoenix Natural Gas Ltd. for the staged development of the industrial, commercial, and domestic natural gas market within the licensed area of Greater Belfast and Larne. Phoenix remains the principal gas company in the Greater Belfast licensed area with currently around 120,000 customers, though the gas supply market has been fully opened within this licence area since 1 January 2007. Phoenix has also begun the roll-out of gas to Comber during 2008.
- 2.10 Outside Greater Belfast, *firmus energy*, the gas distribution and supply subsidiary of Bord Gais Eireann (BGE), has almost 4,000 customers in the urban areas served by two pipelines constructed by BGE(NI). The North-West pipeline was completed in 2004 between Carrickfergus and Londonderry, and provides gas to Coolkeeragh Power Station, Londonderry, Limavady, Coleraine, Ballymena, and Ballymoney.
- 2.11 The South-North pipeline was completed in October 2006 between Dublin and Antrim, connecting with the North-West pipeline, and will provide gas to Newry, Craigavon, Armagh, Banbridge and Antrim. In addition, the pipeline provides interconnection with the natural gas system in the Republic of Ireland, thus enhancing security of supply for both parts of the island. Both pipelines received a total of £38m grant aid from the Northern Ireland Executive, which included an £8.5m contribution from the Irish government.
- 2.12 All natural gas used in Northern Ireland is imported. Ballylumford and Coolkeeragh power stations are gas fired and provide over 60% of our conventional generation capacity. Power generation utilises around 65% of all gas imported to Northern Ireland, with the remainder used for business and domestic consumers. The cost of new infrastructure and transporting gas to Northern Ireland from Great Britain has

contributed to gas prices, on a unit of energy basis, being more expensive in Northern Ireland than in Great Britain.

- 2.13 The Department, in partnership with the Irish Government's Department of Communication, Energy and Natural Resources (DCENR), completed a study into the need and potential for gas storage and liquefied natural gas (LNG) on the island in early 2008. The study highlighted the benefits which such provision could add to security of supply, which has become of greater concern in recent years as North Sea gas reserves have started to decline and the UK becomes a net importer of natural gas. Concerns have been compounded by restrictions on gas supplies to some former Soviet Republics involved in disputes with Russia, thus resulting in interruption of gas supplies to the European Union.
- 2.14 New gas interconnection between Britain and Norway, combined with significant investment in gas storage and LNG facilities in Britain, have been positive steps in relation to the UK's security of supply. However, pipeline failures and problems with supplies from Europe in recent years highlight the vulnerability of Northern Ireland which is at the end of the gas pipeline system. While we benefit from investment in gas storage and liquefied natural gas facilities in Great Britain, there could be significant security of supply and commercial benefits from having gas storage located within Northern Ireland. There is evidence that this may be commercially viable by exploiting the geological features of the Larne basin and off shore salt strata to create underground storage facilities.
- 2.15 The Regulators, North and South are also engaged in preliminary work to consider the merits of common gas arrangements. However, before any decision is taken to proceed, there will need to be clear evidence that having common operating arrangements would bring tangible benefits to consumers.

Oil and Coal

- 2.16 The oil and coal industries are unregulated in Northern Ireland, operating in a fully competitive market, subject to global demand and instabilities. There are five oil terminals importing refined oil products on a "just in time" delivery system. Oil import purchases are undertaken by the main oil companies' head offices, based outside of Northern Ireland.
- 2.17 Northern Ireland is wholly dependent on imported refined oil for back-up electricity production, industry, business, transport and domestic home heating oil use. The industry employs some 10,000 people in its various sectors with 72% of domestic homes dependent on oil for heating, particularly in rural areas.
- 2.18 Any interruption of oil supply or cost instability could have a significant effect on our economy and consumers. Strategic storage of oil for emergency use is outside the Department's remit as it is pursued on a UK wide basis by DECC. DETI works closely with DECC on security of supply issues, as well as liaising with the oil industry to ensure supplies are maintained and equitably distributed.
- 2.19 In addition to the coal-fired Kilroot power station coal continues to be used by many Northern Ireland households. Coal for domestic heating use has declined in recent years, however, for a significant number of people it remains an important energy

source. Coal continues to play a significant role in electricity generation and is therefore an important part of our energy mix. Coal has increased in price due to worldwide demand, while environmental constraints have also led to increases in the cost of burning coal for electricity production.

Mutualisation of Energy Assets

- 2.20 Northern Ireland Energy Holdings (NIEH) was established in January 2005 as a “not for dividend” mutualised company with a remit to own and operate key energy assets within Northern Ireland within a mutualised business model. The company was formed in preparation for the purchase of Premier Transmission, which was subsequent to the purchase of Moyle Interconnector Ltd. by Moyle Holdings Ltd. in April 2003, and which joined the NIEH group in October 2005.
- 2.21 The benefits considered at the establishment of NIEH were the low financing rate which would apply for the debt funding of such assets, and the potential for returns to customers through profits obtained as a result of adopting the mutualised model, and thus not having to provide returns to shareholders.
- 2.22 NIEH own and operate the Moyle electricity interconnector between Scotland and Northern Ireland, the Scotland to Northern Ireland gas pipeline, and the Belfast gas transmission pipeline previously owned by Phoenix Natural Gas, and has declared returns to consumers in recent years. NIEH has been granted approval by the Utility Regulator to invest around £10 million in a renewables fund whose success would ultimately benefit consumers, and has also shown an interest in becoming involved in any future gas storage project.
- 2.23 The mutualised model has potential to offer benefits to energy consumers, over the traditional equity model. Both business models have their detractors however. The most significant question involves a consideration of whether the long standing RPI-X model for regulation of key energy assets is preferable to the mutualised model, in terms of cost efficiency, risks to consumers, and stability of ownership, or does the mutualised model provide an acceptable alternative offering the prospect of lower costs and sufficient safeguards for energy consumers.

Sustainable Energy

- 2.24 Since publication of the SEF in 2004, the world’s understanding of the reality of climate change has moved on significantly with the adoption by the Intergovernmental Panel on Climate Change of the Synthesis Report of its Fourth Assessment Report on climate change in November 2007. The Stern Review highlighted the economic consequences and demonstrated that the costs of stabilising the climate are significant but manageable; delay would be dangerous and much more costly. During the same period, issues with both security of supply and fuel poverty caused by the rising prices of fossil fuels have heightened the importance of sustainable energy solutions. In short, sustainable energy issues have never been more important.

2.25 One of the goals set out in the SEF 2004 was to protect our future by enhancing the sustainability of our energy supply and consumption. This goal remains relevant today but the increased emphasis on climate change mitigation means action to address it is more urgent and we must be increasingly ambitious in our work to ensure that our energy supply is sustainable, where this is economically viable. Over the past three years, there have been significant international and national changes that have given an impetus to the need for more use of renewable energy generation including, most recently, the agreement of EU Member States to work towards a target of 20% for the renewable element of total energy by 2020.

Renewables

- 2.26 DETI's renewable electricity target is 12% renewable electricity from indigenous sources by 2012 with at least 15% of that renewable resource from non-wind sources. Current renewable electricity levels are at 6%. We expect to meet the 12% target, mainly from onshore wind, and are working to develop non-wind policies to facilitate progress towards the non-wind target. Actions to progress beyond the 2012 target will form part of the new energy framework.
- 2.27 The main work of DETI in the area of renewable energy has been the introduction of the NIRO. The NIRO, which is the main mechanism for incentivising increasing levels of renewable electricity generation was introduced in April 2005, and has been very successful to date – the amount of indigenous renewable energy produced and consumed within Northern Ireland (mainly from onshore wind energy) has increased by around 60% since the NIRO's introduction and there is some 1000MW of wind capacity currently under consideration in the planning process.
- 2.28 Since its introduction, the NIRO has been amended both to facilitate micro-generation projects as well as to ensure its continued effectiveness under the SEM. DETI has worked with the Department of Communications, Energy and Natural Resources (DCENR) in the Republic of Ireland, as well as with Regulators, North and South, to ensure that the SEM gives priority to renewable electricity.
- 2.29 The Department has also begun two significant programmes of work to increase the amount of renewable electricity from non-wind sources:
- i. DETI has built on its lead role in energy matters by forming an Inter-departmental Working Group (IDWG) on bioenergy to ensure that work across the board is coordinated in a strategic way and that the optimal benefit to Northern Ireland that can be obtained from bioenergy sources. The IDWG has commissioned expert advice on this issue. During the SEF period, DETI has also taken on responsibility in Northern Ireland for biofuels¹ and has worked closely with the rest of the UK in implementing the Road Transport Fuel Obligation which incentivises the increase in the amount of biofuel mixed with conventional transport fuels. Clearly, there are ongoing concerns about the sustainability of biofuels and NI will follow the UK and EU decisions on this.
 - ii. the Department has embarked on a programme of work to provide a suitable environment for the development of offshore wind and marine renewables (tidal

¹ Biofuels is the only current area of DETI policy which touches on the transport sector: DETI has no responsibility for any other aspect of transport energy.

and wave). It is already in the process of commissioning work on a Strategic Environmental Assessment, a mandatory first step in the development of the marine programme.

- 2.30 Security of supply is one of the key drivers for the development of NI's renewable energy supply, but there are EU drivers as well. In January 2008, the European Commission published proposals for increasing the amount of renewable energy across the EU. For the first time, renewable energy has been broadened to include not only electricity but also renewable heat and renewable transport fuels. In Northern Ireland, DETI has begun work with other departments likely to be affected by the proposals to ensure that we fulfill our obligations in terms of implementing the Directive.
- 2.31 Major progress has been made over the last 2-4 years in increasing the use of renewable energy through the programme delivered by Action Renewables and from 2006, in the roll out of the Environment and Renewable Energy Fund (EREF), plus supporting renewable energy projects with EU funding. Action Renewables has raised public awareness of renewable energy and, through monitoring and evaluation, has promoted better understanding of the potential of renewable technologies and their effectiveness.
- 2.32 DETI has worked extensively in the last 3-4 years on developing the microgeneration market in Northern Ireland. In a 2004 study by the Energy Saving Trust, it was estimated that by 2050 micro generation could supply 30-40% of the UK's electricity needs. In 2006, the UK Micro generation Strategy was introduced to ensure:
- Reliability of energy supplies
 - Promotion of a competitive market
 - Ensure every home is adequately and affordably heated
- 2.33 There is no doubt that the introduction of the EREF accelerated the deployment of micro generation technologies in Northern Ireland. In particular, the Reconnect scheme, which provided grants, to support installations of renewable energy systems in households, has created an increased demand for micro generation. To date, we have around 3500 installations of which solar thermal water heating and wood fuelled boilers are by far the most popular technologies. It is estimated that by December 2008 around 4000 installations will have been completed and the full allocation of £10m drawn down. The scheme is currently being evaluated and its conclusions will inform future initiatives.
- 2.34 A consequence of this expansion of the micro generation market was the need for the industry to support the development of a training and certification programme for the main commercial renewable energy technologies. This would also seek to continually develop high quality standards among these practitioners to ensure customer satisfaction and increase consumer confidence in renewable household technologies. The Renewable Energy Installers Academy (REIA) was established and, to date, has successfully trained around 800 installers. The accreditation system for REIA has still not been finalised and DETI is keen to see the industry embrace a culture of self regulation and accreditation to enhance its long term viability. The micro generation industry in Northern Ireland has already started to explore this and we look forward to seeing what emerges in the next 6-12 months.

2.35 However, the viability of, and need for, a Northern Ireland specific registration scheme must be evaluated not only against the wider UK policy but against an island of Ireland approach to accreditation as well. The UK policy on microgeneration installer accreditation currently includes the adoption of the UK wide Micro-generation Certification Scheme (MCS). This is a third party certification scheme for micro-generation products and installers, developed by the Department for Business, Enterprise and Regulatory Reform (BERR) that has been approved by the European Commission.

Energy Efficiency

2.36 In March 2007, the European Council identified energy efficiency as an essential part of the comprehensive strategy on climate change and energy, and stressed the need to achieve the objective of a 20% saving of EU energy consumption by 2020. Energy conservation and energy efficiency improvements are of increasing importance in the approach to sustainability, security of energy supply and efforts to reduce greenhouse gas emissions. Efficiency improvements already achieved have contributed to a decrease in energy intensity of the EU economy. However, despite this, total energy consumption in Europe is still increasing, with consequent increases in carbon dioxide emissions and fossil fuel import dependence.

2.37 It should be noted that DETI has a strategic overview of energy efficiency policy in Northern Ireland. Currently, statutory authority for energy efficiency in Northern Ireland is shared between DETI, DSD, DFP and Invest NI. Ministerial endorsement has been given for DETI to take the lead in coordinating a cross-cutting cohesive strategy for energy efficiency delivery in Northern Ireland.

2.38 The funding toward Northern Ireland's energy efficiency programmes increased steadily over the years since 2004 with commensurate energy and carbon savings being achieved across all sectors. DETI undertook an extensive scoping exercise in 2005 across the public sector to identify all Government funded energy efficiency activity across Northern Ireland. It identified expenditure on energy efficiency in 2004-05 of almost £70 million across 7 organisations through over 40 different schemes.

2.39 SEF 2004 set a target of a 1% reduction in the upward trend in electricity consumption annually from 2007 to 2012, without compromising economic growth. DETI is in the final process of analysing 2007-08 data and will publish the trend of consumption before the end of 2008. In addition, the Energy End Use Efficiency and Energy Services Directive 2006/32/EC has set targets to improve energy efficiency by 9% by 2016. In some respects this encompasses DETI's previous work on electricity consumption and DETI will expand this work to include all fuels to meet the requirements of the Directive. It is anticipated that this ongoing data collection exercise will allow us to better monitor the actual impact of government and other energy efficiency initiatives.

2.40 The Directive covers providers of energy efficiency improvement measures, energy distributors, distribution system operators and retail energy sales companies. Some of its key requirements are to deliver a national (UK) 1% year on year energy savings target - equating to energy savings target of 9% by 2016; to establish voluntary agreements with energy suppliers to provide energy efficiency advice and

information; better energy billing and metering information; an exemplary role in relation to energy efficiency for the public sector; and energy saving in the transport sector.

Sustainable Energy Markets

- 2.41 Research indicates that the sustainable energy market in Northern Ireland, UK and the wider European Community is beginning to mature. This is reflected partly by the number of organisations now involved in the delivery of renewable energy and/or energy efficiency solutions in Northern Ireland. In 2003, when DETI first sought to develop a sustainable energy policy, it was accepted that there was a significant market failure. Since then organisations such as the CT, EST and NIEA have developed roles in sustainable energy in various sectors across NI.
- 2.42 The ongoing Delivery Landscape Review by Defra, seeks to build an evidence base on the key issues affecting the delivery landscape for carbon mitigation and resource efficiency. The review will examine an assessment of the options for ensuring more effective and efficient delivery of services that contribute to the climate change and sustainability issues. This is of interest to Northern Ireland as it includes UK wide organisations (such as EST and CT) who deliver the Northern Ireland element of these national initiatives.
- 2.43 Prior to this work by Defra, DETI had already undertaken a review of the current Northern Ireland sustainable energy market. The review drew extensively on existing activities within Northern Ireland and a review of activities conducted within comparator regions (including London, North East England, Rotterdam, Scotland and the Republic of Ireland). Overall the review of the sustainable energy market found that while Northern Ireland benchmarked well against other UK and European regions, in the penetration of renewables and improvement of energy efficiency, there remain opportunities for further improvement in both areas.
- 2.44 One of the key recommendations emerging was, notwithstanding the Office of First Minister and deputy First Minister (OFMDFM) role on wider sustainable development issues, the creation of a Ministerially led core strategic group of senior civil servants in Government departments with a focus on sustainable energy. An executive memorandum on the creation of an IDWG is currently awaiting consideration by the Executive.
- 2.45 In light of the EU Directive on Cogeneration, a small steering group was formed to look at the potential for and barriers to CHP. Comprehensive reports on “Potential for high-efficiency cogeneration (CHP) in Northern Ireland” and “The Barriers to Combined Heat and Power in Northern Ireland” were produced. These were a necessary requirement of the Directive, and will help to inform policy decisions in the future.

Security of Supply

- 2.46 Security of energy supply is of fundamental importance to the Northern Ireland economy. Northern Ireland’s lack of indigenous fossil fuels and the immaturity of the local renewables market point to the need to work with neighbouring administrations to deliver security of supply. This was recognised in the SEF and

the All-Island Energy Market Framework, also published in 2004. It continues to be a key priority for the Department.

- 2.47 The EU Internal Market emphasises the ability of the competitive, liberalised internal markets in electricity and gas to enhance security of supply. The EU Directive on Security of Supply (2005/89/EC) emphasises the need to protect Member States' security of electricity supply and infrastructure. The guarantee of a high level of security of electricity supply is a key objective for the successful operation of the Internal Market and prevents disruption to consumers. Increasing levels of wind generation, and the benefit of its more stable costs, has the potential to enhance security of supply, and protect electricity consumers from price variations associated with the volatility of imported fossil fuels.
- 2.48 Action to deliver the SEM was, in part, based on the need to improve our security and diversity of electricity supply. DETI has initiated work with its counterparts in the Republic of Ireland and the two Regulatory Authorities, as well as with Great Britain, to consider the opportunities and constraints from regional cooperation on security of supply in electricity and gas.
- 2.49 Providing end users with a reliable source of electricity is a key requirement. Security of supply in electricity ensures that the electricity system is able to provide users with a sustained standard of electricity. This relates to the reliability of the electricity system to maintain supplies in the face of outages and shocks to the system; and the ability of the infrastructure (generation, transmission and supply) to handle demand. Security of supply for gas refers to the ability of the gas network to maintain a reliable flow of gas, primarily for power generation, and domestic heating. Achieving security of supply must be set in the context of providing an affordable electricity and gas supply to consumers; at a time when there is volatility in market prices and a longer term trend towards higher fossil fuel costs.

Regional Cooperation

- 2.50 Northern Ireland has an ongoing relationship with the other parts of the United Kingdom, helping to meet the UK's Member State obligations in areas such as EU Directives and energy targets; and ensuring that local consumers have access to reliable electricity and gas supplies.
- 2.51 Northern Ireland also works with the Republic of Ireland on energy matters and has done so for many years. This is based on delivering practical results that are mutually beneficial for the economies and consumers on both sides of the border. Cooperation has been characterized by good operational relationships between stakeholders such as the Regulatory Authorities and transmission system operators.
- 2.52 Since 2004 inter-governmental cooperation has been based on the All-island Energy Market Development Framework, which set out agreed policy and an indicative work programme for a range of issues of mutual interest. The Single Electricity Market was the first significant result. The work to delivery additional interconnections for electricity and gas has been another priority.

2.53 Action under the Framework document is overseen by a Joint Steering Group that reports to Ministers on progress. It is co-chaired by senior officials from the two Departments – DETI and the Department for Communications, Energy and Natural Resources, along with members from the two Regulatory Authorities – the NI Authority for Utility Regulation and the Commission for Energy Regulation.

SECTION 2: WHERE ARE WE GOING?

- **Electricity and gas supply markets have been opened to retail competition for around 790,000 electricity consumers throughout Northern Ireland and approximately 120,000 gas customers in the licensed area of Greater Belfast and Larne. Apart from some switching by industrial users there been little evidence of effective competition, however, the threat of competition from new licence holders may prove beneficial within the respective markets.**
- **The challenge remains to encourage new supply companies to enter the Northern Ireland energy market, allowing customers to benefit from greater choice and product offers which may be made available.**
- **Another challenge relates to the further roll-out of natural gas, the success of which has historically been dependent on the availability of a sizeable source of customer demand. If the gas network is to be extended to areas where there is less density of population and associated industry, then the economics of developing new networks present new challenges.**
- **A major challenge is to agree the future power generation mix in Northern Ireland. It will include gaining acceptance that significant levels of renewable generation will require investment in new grid infrastructure. This will be necessary to reduce our dependence on fossil fuels and their accompanying extreme price volatility.**
- **EU Directives, including those on renewables and energy efficiency, mean Northern Ireland must do more to harness renewable energy sources, plus increase demand side management and drive up new areas such as renewable heat.**
- **The challenge is how to maximise the use of renewable energy sources in light of cost implications and environmental impact.**

Electricity

- 3.1 EU initiatives that aim to increase the pace of change in delivering the Internal Market, point to greater harmonisation of Member States' wholesale electricity markets and transmission networks. Northern Ireland can play its part by promoting greater regional cooperation and infrastructural harmonisation measures where these make economic sense and help to protect consumers. The new European Directive on electricity will aim to improve the functioning of the market, strengthen the powers and independence of national regulators, and provide for further unbundling of supply and production activities from network operations. The Department will engage with the Regulator and the electricity industry to ensure timely transposition of the Directive.
- 3.2 While much of electricity policy is focussed on medium to longer term activity aimed at building a more competitive market, short term challenges exist around the very significant electricity price increases seen in 2008, caused by rising wholesale fuel costs which drives up generation costs. DETI must therefore work with partners in the social policy arena.
- 3.3 Other challenges will be to increase supply competition at both the industrial and commercial level, and to ensure that the necessary grid infrastructure is in place to allow a greater proportion of the generation mix to be from renewable generation, and wind in particular.
- 3.4 Northern Ireland remains a small market with around 790,000 electricity consumers, and it is encouraging to see interest from supply companies outside Northern Ireland, whose larger customer base can provide economies of scale which may help reduce costs to consumers.
- 3.5 An aim of the new wholesale Single Electricity Market is to encourage new efficient generators to enter the all-island market. The growth in energy companies participating in the market is therefore welcomed. The Department also supports the Irish Regulator's plan to reduce generation market dominance of ESB to under 40% by 2010. This is on track, as indicated by the Spanish company Endesa's plan to buy ESB power plants.

Interconnection

- 3.6 A robust and stable electricity transmission system is critical to the modern economy. The Department is committed to the strategic upgrading of Northern Ireland's electricity infrastructure to meet growing demand and handle significantly higher levels of renewable electricity generation in the future.
- 3.7 The Department, along with its counterpart in the Republic of Ireland, is supportive of the plan to construct a new electricity interconnector between Tyrone and Cavan by 2012, which along with the existing interconnector, will more than double total interconnection capacity. In the short term, the increased capacity will facilitate growth in wholesale competition in the SEM and is a key component for effective market operation. It will also enhance security and stability of supply for consumers.

- 3.8 In the longer term the North/South interconnector will play an integral role in the wider strategic investment programme that is being planned to expand transmission capacity to handle increasing levels of electricity generated from renewable sources, primarily wind. The planning is in the early phase of development. The final scope of the network expansion plans will be guided, in part, by their cost, which could be significant. The Department and the Regulatory Authority will need to know that the costs are affordable.
- 3.9 Northern Ireland already has the security of the Moyle interconnector with Scotland. Plans for the construction of the first east west electricity interconnector between the Republic of Ireland and Wales by 2012 will also have an impact on regional market security and the SEM. These links are crucial to greater regional market integration under the EU Internal Market. They will allow markets on both sides of the Irish Sea to have efficient, economic access to existing and new generation sources (such as wind farms). This will support increased wind generation locally (and the potential for export), while giving access to GB generation as a source of reserve capacity.

Gas

- 3.10 The isolation of the Northern Ireland natural gas market, its immaturity and small customer base, and our dependency on the Scottish-Northern Ireland Pipeline (the "SNIP") for our imports, all point to the need to develop new ideas about how to maximise security of supply, competitiveness and economies of scale in the gas market. While the South-North gas pipeline provides gas interconnection with the Republic of Ireland, it also receives the bulk of its natural gas from Great Britain, the Kinsale gas fields being in decline. However, the South-North pipeline does provide Northern Ireland with additional security of gas supply in the event of a failure with the SNIP.
- 3.11 Looking forward, the challenges are to continue with the roll-out of natural gas infrastructure, to increase gas connections, and improve competition. This will involve *firmus energy* continuing their efforts to connect new customers in the ten urban areas outside Greater Belfast served by the two gas transmission pipelines and Phoenix development of new areas such as Comber.
- 3.12 The further roll-out of natural gas has considerable environmental benefits being the least polluting fossil fuel, and can contribute to a lower carbon energy strategy for Northern Ireland. The further exemption from the Climate Change Levy for business users of natural gas until 2011 represents an opportunity to encourage conversion from oil to gas, with resulting cost savings to industry, commerce and agriculture where natural gas is available.
- 3.13 The *firmus energy* licence is different from that granted to PNG in Greater Belfast, with the effect that privately owned domestic households within the ten urban areas outside Belfast will not have access to gas unless it is economically viable. Some 70% of households in Northern Ireland use oil for heating, and while gas is not available in all areas of the Province, there are significant environmental and diversity of supply benefits if there was further roll-out of gas to more domestic consumers within the current licenced areas.

- 3.14 While the gas supply market has been fully opened to competition in the Greater Belfast area since 1 January 2007, and there are now other licenced gas suppliers for this area, but only a few business customers who have switched supplier. While there has been an increasing interest from gas suppliers in becoming licensed in Northern Ireland, the relatively small gas market of around 120,000 consumers, is likely to have impacted on realisation of benefits which can be derived from significant levels of competition which takes place in much larger markets such as in Great Britain.
- 3.15 In relation to the possibility of gas storage provision in Northern Ireland, it is encouraging to see commercial interest in developing a facility in the Larne/ Islandmagee area. Not only would gas storage provide additional security of supply and the avoidance of winter price spikes in Northern Ireland, there is potential for the export of stored gas to Great Britain and to the Republic of Ireland if a suitably large storage facility could be constructed.
- 3.16 The new European Directive on gas will focus on improving the functioning of the market, strengthen the powers and independence of national regulators, and provide for further unbundling of supply and production activities from network operations. Transposition of the Directive will involve efforts by government, the Regulator, and the gas industry.

Sustainable Energy

- 3.17 Our vision for sustainable energy is for Northern Ireland to maximise the use of its natural resources for the benefit of the people of Northern Ireland in terms of security of energy supply, providing a cushion against the volatility of world energy prices and minimising the damage to our environment. There will be costs associated with this however, and choices to be made. It is in our long-term interests to make this investment, given our peripheral location on the edge of Europe and our almost total dependence on imported fossil fuels and current uncertainty about their fluctuating prices.

Grid Strengthening

- 3.18 The All-island Grid Study, published by both governments, North and South, in January 2008, reported that up to 42% of power generation could be from renewable sources, but that significant grid reinforcement will be required to allow higher levels of renewable energy, and wind energy in particular to be accommodated by the grid. This reinforcement equates to 198km of transmission network in NI at an approximate cost of £280 million, and 1,449km of distribution network at an estimated cost of £165 million, assuming no undergrounding of cables. Irrespective of a requirement to absorb greater levels of renewable generation, significant grid strengthening will be necessary in parts of Northern Ireland to ensure security and stability of the electricity supply, hence actual costs for grid strengthening are likely to be much in excess of these amounts. The Department has been engaged with the Utility Regulator, NIE, and other bodies such as Planning Service in relation to how such infrastructure improvements can be taken forward. Key Grid Study findings are given in **Annex F**.

Renewables

- 3.19 Increasing concern about security and diversity of supply, as well as widespread scientific and political agreement about the potential effects of man-made climate change, have coalesced in agreement that Europe as a whole must significantly increase the amount of renewable energy it produces. These European-level arguments have particular resonance here in Northern Ireland which relies almost entirely on imported fossil fuel.
- 3.20 In spring 2007, European Union Heads of Government agreed to a binding target that 20% of EU's energy should come from renewable sources by 2020. This is an ambitious target: in 2005, approximately 8.5% of the EU's energy came from renewable sources, and on the basis of current policies this figure is expected to rise to only 10% by 2020. The equivalent figures for the UK are less than 2% and 5% respectively.
- 3.21 On 23 January 2008, the European Commission issued proposals in the form of a draft EU Directive on the promotion of the use of energy from renewable sources: it set a proposed target of 15% renewable energy consumption in the UK and, for all MS, a 10% mandatory biofuel target. It is important to be aware that this target covers not only electricity, but also, and for the first time, heat and transport energy.
- 3.22 The details of how the EU 2020 target is to be implemented are expected to be agreed in final form by the end of this year. However, it is clear that a step change will be required in the level of renewable deployment across the EU, including in Northern Ireland. If this level of target is adopted, it will require:
- enormous investment in technological development, deployment and infrastructure;
 - difficult decisions on planning and other restrictions to renewables deployment;
 - huge progress on energy efficiency (as lower energy consumption rates will make renewables targets easier to reach); and
 - full delivery of current measures to encourage renewable deployment and their amendment, and further measures above and beyond those currently envisaged.
- 3.23 The UK as a whole has recently completed a consultation on how it might meet these targets and the draft Renewable Energy Strategy suggested that a 15% target might mean levels of 32% renewable electricity, 14% renewable heat and 10% biofuels, subject to sustainability criteria.
- 3.24 NI's targets currently focus on renewable electricity: 12% by 2012 and with a more aspirational target in the NI Sustainable Development Strategy (SDS) of 40% by 2025. With very low renewable heat and transport penetration levels, Northern Ireland is likely to need significantly higher levels of renewable electricity – perhaps to the maximum limits indicated by the Electrical Grid Study – in order to help the UK as a whole meet the 15% target. Again, the Grid Study shows that the grid infrastructure will require significant reinforcement if levels envisaged by the SDS are to be met and this will have cost implications.

- 3.25 The evaluation of the household micro generation scheme Reconnect, is crucial in determining the way forward for micro generation support. This will not complete until November 2008 and will examine the impact of the programme not only in terms of installed capacity but in terms of the impact on the supply chain and associated industry. The need or otherwise to incentivise the market will need to be established once the review completes. There is anecdotal evidence to suggest that consumer's use of renewable energy is wasteful due to its cost being unrelated to the volume of usage and the perception that wastage of renewable energy is not harmful to the environment.
- 3.26 While it is not within DETI's remit, the Building Regulations directly impact on the micro generation market here. We need to balance any support for micro generation going forward to align with the Building Regulations and not skew the market through other fiscal measures that may influence changes which could otherwise have been brought about by the building regulations. It seems likely that the proposed EU Directive on renewable energy will require building regulations to increase the share of energy from renewable sources in the building sector.
- 3.27 The price of household renewable technology is currently a barrier to the uptake of household renewables as is the ability of the supply chain to source material for manufacture of products. Going forward these are key areas that need addressed to ensure better accessibility and deployment of household renewables on a larger scale. Financial incentives in this area however directly aimed at housing developers in the new build market and installers are limited, as infringement of state aid competition rules may need to be considered.
- 3.28 Over the coming years, DETI will need to continue its work to maximise wind, bio-energy and marine energy resources in order to increase our security of supply and minimise reliance on fossil fuels. Continuing work to research and develop policies on Northern Ireland's currently under-exploited natural resources, such as deep geothermal energy, will also be necessary.
- 3.29 In order to maximise the benefit to Northern Ireland of increasing indigenous energy production, remaining barriers to renewable energy will need to be addressed in partnership with other departments. Informing and challenging political and public attitudes towards and local acceptability of renewable and sustainable energy technologies and the infrastructure needed to support them will be crucial to the future of renewable energy in Northern Ireland.
- 3.30 We will continue to work to resolve some of the barriers to increasing the levels of renewables such as grid reinforcement: the widened focus of the Renewable Energy Directive to include all energy consumption means that the scope for DETI involvement is constrained by the Department's statutory ability to engage in activities beyond electricity and gas and in offshore areas; and public acceptability continues to be a key challenge for renewables development.

Renewable Heat

- 3.31 Heat production is responsible for 49% of the final energy consumed in the UK, and 47% of the carbon emissions. Around 80% of energy consumed in Northern Ireland is used for space heating and hot water in buildings, and delivering heat for various public and commercial facilities and industrial processes. 49.2% of energy

consumed in Northern Ireland is used for heat in the domestic sector alone. Northern Ireland presents good economic conditions for renewable heat due to the high proportion of heat demand that remains off mains gas supplies. Therefore there is the potential to significantly reduce Northern Ireland's carbon emissions, increase diversity of energy supply and reduce dependency on volatile fuel prices, through the adoption of heat energy from renewable sources. It is therefore vital that the Department begins to incentivise and support increased levels of renewable heat in Northern Ireland.

- 3.32 In considering renewable heat, and the heat market in general, the Department is currently constrained by its statutory focus on electricity and gas. DETI would therefore require a fundamental shift in its statutory duties so that it could address the heat market as a whole. This would require a new focus on not only renewable heat, but also on other heating fuels not currently under DETI's remit, such as oil and coal. It is likely therefore that DETI will require a new legal regime for heat and potentially some form of incentive mechanism or other form of Government support to make a significant leap forward on renewable heat – possibly through the adoption of such measures as the Renewable Heat Incentive recently proposed in the Westminster Energy Bill.
- 3.33 Deciding how best to incentivise and support a switch away from imported fossil fuels to renewable heat production in Northern Ireland will require a strong evidence base. DETI has already held an introductory seminar on renewable heat, and is working with Action Renewables to increase the pace of its evidence gathering on renewable heat on a sectoral basis. Much further work and consultation will be required to maximise the contribution of this form of renewable energy to 2020 and beyond.

Energy Efficiency

- 3.34 Energy efficiency, over the medium to longer term, will continue to produce the most affordable route to energy and carbon savings for consumers and is particularly relevant during a period of high fuel costs. DETI will seek as part of its strategic overview role of energy policy to ensure that energy efficiency remains high on the agenda
- 3.35 The main driver for energy efficiency policy going forward over the next 5 years will be the targets set by the Energy End-Use Efficiency and Energy Services Directive 2006/32/EC, transposed on a UK wide basis on 17 May 2008. The Directive covers an eight year period from 2008.
- 3.36 The Directive covers providers of energy efficiency improvement measures, energy distributors, distribution system operators and retail energy sales companies. 'Energy' includes all forms of commercially available energy, including electricity, natural gas (including liquefied natural gas), liquefied petroleum gas, any fuel for heating and cooling (including district heating and cooling), coal and lignite, peat, transport fuels (excluding aviation and maritime bunker fuels) and biomass.
- 3.37 The approach to this Directive is pragmatic and recognises the relatively advanced policy framework in the UK for addressing energy efficiency. The National Energy Efficiency Action Plan (EEAP) sets out the strategy for achieving a national indicative energy savings target of 9% by 2016. The 9% target is essentially an

energy efficiency target, in that the UK has to demonstrate that it has implemented measures that give an absolute energy saving of 9% of a base average of energy use in the most recent five years prior to implementation of the Directive. This target essentially allows energy use to grow, but at a slower rate due to the extent of the savings. DETI will need to finalise and implement an action plan that is likely to deliver energy savings that can contribute to the UK target. The UK has informed Europe that it is on target to deliver an 18% energy target over the 8 year period, which is double to that which is asked for by the Directive.

- 3.38 This Directive seeks to improve billing and metering over the next 8 years. While Northern Ireland is already considered to be well advanced with regard to smart metering, in order to ensure compliance with the Directive, DETI plans to launch a Northern Ireland consultation on the energy and billing requirements of the Directive in November 2008 with a view to publishing a policy statement early in 2009.
- 3.39 Another key driver will be the negotiation of voluntary agreements to provide energy services and promote energy efficiency in the relevant net bound and non net bound sectors. The energy supply market in Northern Ireland has different characteristics to the market in GB. There is a larger market share for non-net bound supplies and the penetration of net bound gas supply is still growing. There are already good partnerships between energy companies, businesses, households and third party organisations (such as the Energy Saving Trust and the Carbon Trust), though there is still scope for developing these further to promote energy services. In Northern Ireland the voluntary agreements will cover those sectors which are not covered by the EU Emission Trading Scheme, Climate Change Agreements and Carbon Reduction Commitment.
- 3.40 The establishment of voluntary agreements with energy suppliers is set to be completed by January 2009. The agreements will provide energy efficiency advice and information, collection of energy data, monitoring of targets, and provision of energy audits. These agreements will be with the net bound energy suppliers (i.e. electricity and natural gas industries) and non net bound energy suppliers (i.e. non regulated energy such as oil, coal, biomass and LPG) suppliers.

A Coordinated Approach to Sustainable Energy Issues

- 3.41 The focus on sustainable energy means that the implementation of our policies cuts across other policy areas, such as planning, rural policy investment and others, and there is an increasing imperative both to balance the competing priorities of these policies with the need to increase the level of sustainable energy in Northern Ireland. This has driven the increasing amount of cross-cutting work that the Department is leading for instance, the inter-departmental working group (IDWG) on bioenergy, and successful cross departmental working at official level, co-ordinated by DETI, to achieve compliance on the implementation of the Energy End Use Efficiency and Energy Services Directive.
- 3.42 It is clear that almost every department has a vital role to play in either increasing the sustainable use of energy or renewable energy – some have a direct responsibility, such as DSD, DOE, DARD, OFMDFM, and DFP but where other departments may not seem to have an obvious role in sustainable energy, they may have large estates or be responsible for large infrastructural flagship projects, e.g. DRD, DHSSPS, DE, DEL and DCAL. A proposal for the establishment of an IDWG

on sustainable energy is currently being considered by the Northern Ireland Executive. This is the first step in developing a strategic and co-ordinated response from the Northern Ireland Executive to sustainable energy issues.

- 3.43 It will provide a clear message to stake-holders (industries, energy consumers, environmental groups), that the Executive recognises the opportunities and challenges presented by sustainable energy. If Northern Ireland is to ensure that sustainable energy plays a part in securing Northern Ireland's energy supply, then we must ensure a more holistic and cohesive approach to sustainable energy that will make Northern Ireland competitive in this new market.
- 3.44 A key challenge for the group would be to develop actions and structures (including resource implications for a small region in the UK) to ensure a co-ordinated and strategic response from the Northern Ireland Departments to the challenge of creating a more secure and sustainable energy supply.
- 3.45 Continuing a watching brief on emerging technologies is an imperative going forward. It is essential that we continue to support cutting edge research into emerging areas so that we accurately assess any potential contribution to the energy mix.

Security of Supply

- 3.46 Northern Ireland is faced with an environment that is increasing subject to external political and economic pressures on energy supplies. In recognizing the dangers to security of supply for the UK and Northern Ireland we need to also grasp the opportunities presented by the growing emphasis within the EU on regional cooperation on energy.
- 3.47 This raises a number of concerns. Prediction of future energy developments, especially in the renewables sector, is marked with both promise and uncertainty in terms of application and commercial risk.
- 3.48 The joint Working Group on Security of Supply in Electricity and Gas established by DETI and its counterpart in the Republic of Ireland, the Department of Communications, Energy and Natural Resources also includes the two Regulatory Authorities.
- 3.49 The Group is identifying areas where there are potential weakness arising from the differing roles/responsibilities/markets. It will go on to identify how, in the long term, the authorities in each jurisdiction could coordinate policy to meet their respective duties for security of supply and the protection of consumers; set in the context of the Single Electricity Market; the potential for common arrangements for gas, and EU Internal Markets for gas and electricity. Particular regard will be paid to EU Directive 2005/89/EC for electricity and EU Directive 2004/67/EC for natural gas. UK arrangements and the necessary regional coordination and cooperation requirements will also be considered. Related emergency planning arrangements for the energy sector will be considered as part of this process.

Nuclear Power

- 3.50 The United Kingdom Government, through its White Paper on nuclear power “Meeting the Challenge” (January 2008), is committed to meeting the UK’s climate change and security of supply priorities by, in part, enabling the continued role of nuclear power as part of the long term energy mix. The Department of Energy and Climate Change (DECC) is therefore taking action to facilitate the planning, construction and operation of new nuclear plants in England and Wales. It should be noted that an element of electricity generated from nuclear power is already used, on occasion, in Northern Ireland as a result of electricity transmitted from Scotland across the Moyle interconnector. Across Europe, nuclear power continues to play an important role in providing electricity to consumers. For example, some 75% of power generation in France is produced by nuclear powered plants.
- 3.51 The UK Government’s action on nuclear power reflects the wider European debate on the role of nuclear energy in electricity generation, and the difficult decisions that face government in providing a secure and diverse energy mix for the future. The debate raises questions about the serious constraints as well as the opportunities that nuclear energy presents for society, locally and nationally.
- 3.52 Although nuclear installations is a reserved national matter, Northern Ireland has devolved responsibility for planning and energy, which includes consent to construct and operate power plants. In light of the current focus on promoting the use of renewable energy as part of a balanced energy mix in Northern Ireland, the Department, along with the Department of the Environment have agreed that DECC’s assessment of suitable sites for nuclear plants is restricted to Great Britain.

Oil and Coal

- 3.53 Addressing security of supply into the future will need to take into account the continuing contribution made by oil and coal in delivering a balanced and diverse energy mix for consumers. This includes the potential for an ongoing role for coal in electricity generation if clean coal and carbon capture technology proves effective. Although there are lignite reserves in the North Antrim area there is a moratorium on lignite mining licenses across Northern Ireland until 2010. This may need to be reviewed in light of any new energy framework.

European Union IME Directive – 3rd Legislative Package

- 3.54 A key aim of the European Union’s liberalized Internal Markets for electricity and gas is to ensure non-discriminatory access to networks. This includes encouraging investment, cross border trade and market integration; ensuring transparent information; and effective unbundling of transmission operation from vertically integrated energy companies that are also engaged in generation and supply. The aim is to promote competition and provide real choice for consumers.
- 3.55 A medium term goal is to develop greater regional market harmonization, for example the UK-Ireland-France regional project. Work on a total of seven regional projects is led by Member State’s Regulatory Authorities.

- 3.56 The 3rd legislative package is due to become European law in the spring of 2009. New directives for electricity and gas will strengthen the powers and independence of national regulators, create a new Agency for Cooperation of Energy Regulators, and enhance cooperation between transmission system operators (TSOs). It will also improve the functioning of the Internal Market and provide further measures for the unbundling of supply and production activities from network operations, which will affect the structure of the electricity and natural gas markets in Northern Ireland.
- 3.57 Northern Ireland will have to comply with these directives as part of the UK compliance. Measures already underway to restructure Viridian by divesting SONI will go a long way to ensuring compliance, however further work will be necessary to ensure the gas industry also complies with the new Directive requirements

Regional Cooperation

- 3.58 Northern Ireland's relationship with the other parts of the United Kingdom, in helping to meet the UK's Member State obligations and ensuring local consumers can access reliable electricity and gas supplies, continues to develop. Our relationship with the Republic of Ireland and the work of the Joint Steering Group on energy matters has worked well and continues to develop, following the successful introduction of the Single Electricity Market. However, the future focus of Northern Ireland's links with Great Britain, and with the Republic of Ireland, needs to be considered in the context of growing regionalization of energy markets within the EU's Internal Market.
- 3.59 Regional cooperation on energy is evolving. British Irish Council (BIC) discussions are taking place to explore the potential benefits from having a specific BIC energy workstream. This would provide a forum for regional policy development on key energy concerns such as renewables, climate change, energy efficiency and security of supply. This could promote greater understanding and coordination in the work of individual administrations on common energy issues.
- 3.60 Good examples of cooperative action to achieve common goals can be seen from work on two areas of research, which will be funded under the EU's INTERREG IV Programme. The Department is partnering with its counterparts in Scotland and the Republic of Ireland to explore the potential for a regional marine electricity grid linking the two islands. The "Isles" project will run for two years and is due to commence this year. It will identify the opportunities and constraints for maximizing the use of off-shore wind, wave and tidal renewable energy for electricity generation.
- 3.61 A second example is tripartite government support for a four year "Biomara" research study into the use of seaweeds and algae for marine bio-energy. The local coastal resources offer opportunities for Northern Ireland to gain a foothold in this evolving technology which could make a significant impact in areas such as public transport and economic development. This major study is due to start this year and will be led by the Scottish Association for Marine Sciences in conjunction with local universities.

HOW DO WE GET THERE?

- **The views of key stakeholders are crucial to developing the next steps.**
- **Engagement with industry, consumer representatives, other NI Government Departments and other interested parties is essential in agreeing priorities and actions.**
- **Choices must be made in light of competing interests which need to be balanced.**

Electricity

- 4.1 Northern Ireland is too small to stand alone and its electricity policy will need to develop in the light of greater regional cooperation. The EU IEM Directive both points the way forward and binds Member States to certain agreed actions. It is therefore important that we use policy discussions at regional intergovernmental level, for example through the British Irish Council, and the All-island Energy Market Framework to provide agreed aims and targets, and the implementation mechanisms needed to ensure policy is based on practical measures that can be delivered at the minimum cost necessary.
- 4.2 The UK Government's 2007 Energy White Paper "Meeting the Challenge" set out measures to strengthen and clarify an investment framework for Great Britain's electricity and gas markets and security of supply. It proposed the introduction of a new licensing regime for major energy infrastructure projects; and encourages the development of low carbon electricity generation technologies to ensure a more diverse and secure electricity generation mix for the future. In addressing the long term energy challenges the UK faces it set out four energy policy goals:
- to put the UK on a path to cutting CO₂ emissions by some 60% by about 2050, with real progress by 2020;
 - to maintain the reliability of energy supplies;
 - to promote competitive markets in the UK and beyond;
 - to ensure that every home is adequately and affordably heated.
- 4.3 In its own White Paper "Delivering a Sustainable Energy Future for Ireland", the Irish Government has stated its support for the progressive development from 2007 to 2020 of a regional electricity network with the UK and North West Europe underpinned by new electricity interconnection. In addition, a grid development strategy has been published, and the Irish Government has stated its commitment to reducing its over-reliance on natural gas for power generation by encouraging the growth in alternative energy sources, for example the development of wind, wave and tidal renewable technologies.
- 4.4 A fundamental requirement for Northern Ireland is to provide security of supply from a sustainable electricity generation and supply sector.
- 4.5 The key actions for the Department in taking forward this work will include:
- working closely with the industry and the Utility Regulator to create market conditions where elements of the final electricity (and gas) retail price to consumers, other than commodity costs can be minimised;
 - continuing to work with the industry and the Utility Regulator to actively encourage greater levels of supply competition in both gas and electricity markets; and
 - continuing to work with the relevant departments, agencies and industry to determine the optimum solution for upgrading the electricity grid to enhance security of supply and allow it to absorb increasing levels of renewable generation.

Gas

- 4.6 The 2004 All-island Energy Market Framework pointed the way towards cooperation on more competitive and efficient cross border gas arrangements that potentially could deliver long term benefits to Northern Ireland consumers. However, the market priority was the development of the Single Electricity Market (SEM). The SEM project was delivered on time in November 2007 and is now operating successfully. This has allowed the SEM partners to turn our attention to exploring the potential of greater co-operation in gas.
- 4.7 The European Commission has put in place an overarching policy and legislative framework within which all member states are working to achieve a single European Internal Market for natural gas which is designed to bring benefits to all European citizens and contribute to Europe's competitiveness. The United Kingdom including Northern Ireland, and the Republic of Ireland are committed to the development of this single European gas market and the proposal for Common Arrangements for Gas (CAG) is being considered in this context. The key is that it should deliver tangible benefits to Northern Ireland consumers. The project is still in the early stages of development and the extent and size of the mutual benefits are still being established. However, the early work to identify practical harmonisation measures and tangible benefits shows great promise.
- 4.8 Within this overarching policy framework, cross border trading is developing and the interconnectivity of gas networks is increasing. Countries that are physically close are developing closer trading ties. Because NI and RoI are far less interconnected than other mainland European jurisdictions, creating common arrangements within the island could provide the basis for further development of the natural gas industry and for development of the economies of Northern Ireland and RoI. This should benefit all consumers of gas and the economies north and south. Furthermore, in the future it may be possible to align gas arrangements in both jurisdictions with that of Great Britain and the implementation of CAG will make this more feasible.
- 4.9 Development and implementation of CAG seems to have the potential to be a significant contribution to DETI's aim of promoting the strategic development of the energy industry in Northern Ireland in the balanced interests of consumers, the economy and the environment. The Memorandum of Understanding between NIAUR and the CER, in April 2008 is a further significant step forward in which the two regulatory authorities have committed themselves to working together to develop the common arrangements.
- 4.10 Harmonisation of gas transmission and associated gas arrangements on the island of Ireland should facilitate the delivery of potential efficiencies, result in lower prices, and enhance economic integration in line with European policy.
- 4.11 A larger competitive gas market, with increasing economies of scale and scope, should be capable of providing :
- a more stable and attractive investment location;
 - greater security of supply;

- greater consumer choice of supplier of energy or energy services;
- longer term savings through rationalisation of system operation and transmission;
- asset planning and ownership and regulation; and
- consequential improvements to national and international competitiveness of the wider industry.

4.12 In consultation with the Regulator, DETI will consider the merits for further extension and roll-out of the of the gas network in NI.

4.13 DETI and its Irish counterpart, DCENR, have completed a joint study on the need for and potential for gas storage and liquefied natural gas (LNG) on the island. The study highlighted a number of short, medium and long term measures to enhance security of gas supply, with the longer term recommendations including consideration of the benefits of gas storage and LNG. There has been recent interest in the development of an LNG facility at the Shannon Estuary, and renewed interest from companies interested in assessing the geology of East Antrim for underground gas storage in solution mined salt caverns. The Department has also been involved in a study of the geology of this area, which will consider both on-shore and off-shore areas in relation to the potential for underground energy storage. The Department continues to engage with its counterparts in the Republic of Ireland in relation to both policy development and commercial proposals for this infrastructure which would have a positive impact on security of gas supply for both jurisdictions.

4.14 The key actions for the Department going forward include:

- development of Common Arrangements for Gas on a cross border basis if it is clear there are benefits to consumers;
- cooperation with the industry to assess the potential for gas storage or liquefied natural gas in NI;
- in conjunction with the Utility Regulator, consider merits for further extension and roll-out of the natural gas network in NI.

Sustainable Energy

Renewables

4.15 It is increasingly clear that continuing to depend only on fossil fuels is not a sustainable policy. Not only are there issues associated with climate change, but also issues around the finite nature of fossil fuel resources result in price volatility and security of supply problems which will not disappear. Therefore the goal set out in the SEF 2004 - to protect our future by enhancing the sustainability of our energy supply and consumption - is still relevant today. The increased international consensus on climate change mitigation means action to address it is more urgent and we must be increasingly ambitious in our work to ensure that our energy supply is sustainable.

4.16 Over the past three years, there have been significant international and national changes that have given an impetus to the need for more use of renewable energy

generation including, including most recently, the agreement of EU Member States to work towards a target of 20% for the renewable element of total energy by 2020.

- 4.17 The Department is ready to meet the challenge of these targets because it makes best sense for Northern Ireland. In order to maximise renewable energy here, the Department will build on the work of the Grid Study and suggest targets for renewable energy after it has commissioned and carefully studied work on the economic impact of renewables targets for 2020. DETI believes Northern Ireland should have its own sustainable energy action plan which, among other things, will incorporate key actions coming out of the work of the Bioenergy IDWG, taking account of the recommendations of the ARD Committee in this field. It will also set out the programme of work on marine renewables that will continue during the SEA period and beyond. We consider that over the coming years, DETI will also need to look at developing policies on other renewable technologies such as solar, geothermal, and take into account research on emerging technologies.
- 4.18 DETI will continue to work with the system operator and other key stakeholders in order to develop grid infrastructure that is key to increasing levels of renewable energy in our region. In addition, DETI will also continue cooperation with the Department for Transport in GB on the Road Transport Fuel Obligation as the main incentive for increasing use of biofuels across the UK and to meet the biofuel element of the Renewables Directive.
- 4.19 The contribution of household micro generation is a key issue going forward and DETI will need to consider the issues such as supply chain and associated industry capability to establish the need or otherwise to incentivise the market in the future. A key part of this will be understanding the consumer's use of renewable energy, does a perception exist that wastage of renewable energy is not harmful to the environment? This is something that DETI will further investigate.
- 4.20 Raising awareness and informing and challenging political and public attitudes towards and local acceptability of renewable and sustainable energy technologies and the infrastructure needed to support them will be crucial to the future of renewable energy in Northern Ireland. DETI will continue to examine this going forward.

The key actions for the Department in increasing levels of renewable energy in Northern Ireland will be:

- to set long term targets for renewables generation;
- to publish a sustainable energy action plan;
- to ensure that renewable heat levels are increased in the context (depending on the outcome of this consultation) of the heat market in general;
- to increase the range of renewable technologies under consideration;
- to ensure that Northern Ireland meets the requirements of the Renewable Energy Directive (likely to be finalised by the end of 2008) by working with other NI departments;
- to ensure that NI has the infrastructure to support appropriate levels of renewable power generation;
- to ensure that NI benefits from UK work on biofuels;
- to ensure that micro generation policy is developed going forward by examining the following key areas:

- Complete the Reconnect evaluation
 - Look at the role of micro generation in new build
 - Support the supply chain
 - Feed in tariffs
 - Renewable Heat Obligations; and
 - Engage with the industry
- to promote renewable energy and tackle public acceptability of renewables, both in terms of general awareness and carbon saving potential. However, this promotion work will be coupled with energy efficiency so that the best low carbon solution will be available for Northern Ireland.

Energy Efficiency

- 4.21 In March 2007, the European Council identified energy efficiency as an essential part of the comprehensive strategy on climate change and energy, and stressed the need to achieve the objective of a 20% saving of EU energy consumption by 2020. Energy conservation and energy efficiency improvements are of increasing importance in the approach to sustainability, security of energy supply and efforts to reduce greenhouse gas emissions.
- 4.22 Energy efficiency, over the medium to longer term, will continue to produce the most affordable route to energy and carbon savings for consumers and is particularly relevant during a period of high fuel costs. DETI will seek as part of its strategic overview role of energy policy to ensure that energy efficiency remains high on the agenda
- 4.23 The main driver for energy efficiency policy going forward over the next 5 years will be the targets set by the Energy End-Use Efficiency and Energy Services Directive 2006/32/EC, transposed on a UK wide basis on 17 May 2008. The Directive covers an eight year period from 2008.
- 4.24 However, DETI has limited vires in respect of energy efficiency. While DETI can have a strategic oversight and co-ordinate cross-departmentally wider policy interventions on energy efficiency, the ability to implement energy efficiency policy lies with in the main DSD, DFP and Invest NI. However, DETI has a crucial role to play in its strategic oversight role by working with other departments to examine the following key steps for progressing energy efficiency policy:
- Comply with the Energy End Use Efficiency Directive
 - Develop an action plan to ensure implementation of the UK Energy Efficiency Action Plan
 - Raise the profile of energy efficiency
 - Develop a policy position on smart metering
 - Develop a community sustainable energy programme

A Coordinated Approach to Sustainable Energy Issues

- 4.25 If Northern Ireland is to ensure that sustainable energy plays a part in securing Northern Ireland's energy supply, then we must ensure a more holistic and cohesive approach to sustainable energy that will make Northern Ireland competitive in this new market.

- 4.26 The focus on sustainable energy means that the implementation of our policies cuts across other policy areas, such as planning, rural policy investment and others, and there is an increasing imperative both to balance the competing priorities of these policies with the need to increase the level of sustainable energy in Northern Ireland. It is clear that almost every department has a vital role to play in either increasing the sustainable use of energy or renewable energy. A proposal for the establishment of an IDWG on sustainable energy is currently being considered by the Northern Ireland Executive. This is the first step in developing a strategic and co-ordinated response from the Northern Ireland Executive to sustainable energy issues.
- 4.27 Assuming Executive endorsement of an IDWG for sustainable energy, the key steps that DETI will take to ensure effective co-ordination across government will be to:
- ensure that the group and any sub groups are action orientated;
 - ensure outputs/ outcomes of the group are achievable and measurable;
 - ensure the group will develop actions and structures to ensure a co-ordinated and strategic response from Northern Ireland departments and NDPBs who can contribute to this area; and
 - ensure that policy on renewables across departments develops and aligns strategically to achieve higher renewables targets.

Security of Supply

- 4.28 As indicated earlier, Northern Ireland is taking action to review its security of supply for electricity and gas in light of the Single Electricity Market and new work on common arrangements for gas. These initiatives have demonstrated that market isolation weakens security of supply and that practical cooperation with neighbouring administrations brings benefits.
- 4.29 The findings of the review will feed into long term security of supply planning as well as emergency planning. This work will sit alongside and take cognizance of the allied work to improve the physical infrastructure and the outworking of the All-island Grid Study.
- 4.30 In seeking to promote a sustainable, secure and affordable energy infrastructure, the Department is aware of the need to avoid restricting government's ability to respond to future events in times of need.
- 4.31 This may mean keeping the debate open on options such as nuclear power. It can also mean ensuring that access to local sources of lignite for power generation is maintained in case of future need. This could be pertinent if the potential for clean coal technology is realized.
- 4.32 It also means moving the policy and planning debates forward on a wide range of new and emerging alternative technologies such as energy from waste, geothermal, wind farm zones and off-shore renewables. We will also need to expand policy consideration across government to examine the potential impact of other

technologies on energy generation, for example bio-energy and electricity powered transport.

- 4.33 Energy efficiency and demand side management will be a key strand of policy debate for the future. We will need to examine, for example, the potential for a supplier obligation going forward, and the cost effectiveness of implementing high levels of energy efficiency to reduce carbon emissions. Improving energy efficiency is widely recognised as the easiest and most cost effective means of reducing carbon dioxide emissions in the medium term. This principle aligns well with the NI Sustainable Development Strategy and going forward we will need to examine the potential for much higher levels of energy efficiency and the impact that it will produce. Reducing overall energy demand offers the potential for the best social, environmental and economic gains.

SECTION 4: KEY QUESTIONS

Key Policy Questions:

The Department is acutely aware that national and international developments are increasingly moving the primary focus of energy policy world-wide towards tackling the threat of climate change as well as addressing concerns around security of supply and economic development. These concerns are set to be key strategic priorities for Northern Ireland for the foreseeable future. The goal is a sustainable, secure and affordable energy infrastructure, so:

- **How can we protect the Northern Ireland economy and consumers from being held hostage in the future to external energy forces?**
- **How do we deliver a reliable and secure energy supply at the minimum cost to consumers?**
- **What more can we do to facilitate renewable energy development and deployment?**
- **How can Northern Ireland best contribute to the carbon reduction targets set for Europe and the UK?**
- **How can we maximise the opportunities presented by regional cooperation on energy matters?**

Electricity:

Flowing from the establishment of the competitive wholesale Single Electricity Market and the growing emphasis on electricity generated from renewable sources, there is a need to future proof the electricity infrastructure. There is a growing realisation that increasing the proportion of power generation from renewable sources has the greatest potential to enhance security of supply, reduce our dependence on imported fossil fuels (and their associated price volatility), and reduce carbon emissions.

- a) How can the electricity grid infrastructure be improved to enhance security of supply at least cost to consumers, e.g. to provide a flexible and robust transmission and distribution network with stronger interconnection that can absorb significant amounts of renewable generation?
- b) Should consideration be given to zoning areas where the wind resource (and therefore wind farm development) is greatest, in order to minimise the impact of additional electricity grid lines on the landscape? This could apply to both land based and off shore development.
- c) Should new grid development be constructed within infrastructure corridors encompassing other utility services and key transport links e.g. alongside new arterial roads?
- d) In the light of question a): Is our current power generation mix fit for purpose in order to meet long term security of supply and emissions targets?

- e) For gas and electricity customers, how can greater levels of retail competition be introduced in NI?
- f) In looking to 2020 and beyond to 2050, will the current energy mix (gas, oil, coal, renewables) continue to meet Northern Ireland's economic needs e.g. facilitating industrial growth and rural development, with particular reference to the development of new energy technologies?
- g) Should there be enhanced electricity interconnection to provide further security of supply and import/ export of generated electricity. Is it accepted that in terms of cost and security of supply, the most effective means for interconnection is via overhead power lines?

Gas:

The Department has a statutory duty to promote the development and maintenance of an efficient, economic and co-ordinated gas industry in Northern Ireland. Natural gas is the cleanest burning and least polluting fossil fuel and is available in Greater Belfast and the urban areas served by the North-West and South-North gas pipelines.

- a) Should there be increased penetration of natural gas within the existing licensed areas to displace oil usage in particular, and should any gas uptake be incentivised to encourage customer switching from other fossil fuels?
- b) Should the gas transmission network in NI be extended to provide natural gas to new areas, such as Omagh, Strabane, and Enniskillen in the west, even though the economic case for doing so may not be strong?
- c) If the gas network is to be extended, should there be incentives to encourage customer switching from other fossil fuels? And how should the cost be met?
- d) What benefits would be provided for Northern Ireland energy consumers if a natural gas storage was available in Northern Ireland, and/or a liquefied natural gas facility was available in the Republic of Ireland.
- d) In light of declining UK gas reserves and increasing dependency on imports, should natural gas still be considered as the principal long term fuel source for power generation, and commercial and domestic energy requirements in NI?

Sustainable Energy:

- a) In the context of EU and UK targets for renewable energy, at what level should Northern Ireland set its own renewable energy generation and consumption targets – and should specific targets be set for key renewable technologies?
- b) How should the necessary costs of increased investment in renewable energy and associated infrastructure be balanced with the need to minimise the cost of energy to the consumer and how should such costs be shared between present and future consumers?

- c) Should Northern Ireland include significantly increased levels of micro-generation as part of the energy mix going forward? If so, should NI concentrate on specific technologies?
- d) Should Northern Ireland focus on certain key emerging technologies for strategic energy planning and investment; e.g. the potential for alternative fuel sources for transport? If so, which energy technologies are likely to offer the best prospects?
- e) Should Northern Ireland continue to rely on a voluntary agreement mechanism as per the Energy Efficiency End Use and Energy Services Directive to get energy suppliers to provide energy efficiency services ?
- f) Should Northern Ireland roll out smart metering?
- g) DETI believes that energy efficiency and managing demand are key contributing factors in meeting our climate change targets. How can energy efficiency activities in Northern Ireland best be co-ordinated?

Security of Supply:

Reliable and competitively priced energy supplies are the bedrock for economic growth and for society as a whole.

- a) What are the priorities for Northern Ireland and what measures do we need to take, including working with Great Britain and the Republic of Ireland, to deliver a long term, reliable and balanced energy mix?
- b) To what extent should government rely on commercial forces to provide for security of supply?
- c) What should the power generation mix look like in 2015, 2020, and beyond in order to provide security and diversity of supply?
- d) Should the debate on nuclear power be guided by technical and economic arguments, or other factors, such as whether NI can rely on GB or international solutions on waste?

Role of the Department:

The principal objective of the Department and the Regulatory Authority in carrying out their respective electricity functions is to protect the interests of consumers of electricity supplied by authorised suppliers, wherever appropriate by promoting effective competition in the generation, transmission or supply of electricity. The Department and the Regulatory Authority also have a statutory duty to promote the development and maintenance of an efficient, economic and co-ordinated gas industry in Northern Ireland. Amongst other measures, they seek to meet their responsibilities by securing a diverse and viable and environmentally sustainable long-term energy supply. The Department's statutory responsibilities are given in Annex B.

- a) How can the Department improve on how it currently supports the Northern Ireland energy sector in the future?

- b) Does the Department need to review its statutory duties and principal objectives for electricity and gas? If so, how? This is asked in light of the growing emphasis on developing a competitive energy market based on sustainable energy sources that deliver security of supply and which help to deliver EU and UK long term climate change targets – for example, should the department refocus its statutory duties away from electricity and gas to electricity and heat?
- c) Energy policy is primarily an economic development responsibility (with a clear statutory role for DETI working alongside the NIAUR), but clearly has wider environmental and social impacts. How can these best be represented and balanced?

Roles and Responsibilities of Key Statutory Players

DETI

DETI works with the independent Northern Ireland Authority for Energy Regulation (NIAUR) “to promote the strategic development and regulation of the energy industry in Northern Ireland in the balanced interests of consumers, the economy and the environment.”

The legislative bases for the regulation of the electricity and gas markets in Northern Ireland are the Electricity (Northern Ireland) Order 1992, the Gas (Northern Ireland) Order 1996 and the Energy (Northern Ireland) Order 2003.

The principal objective of the Department is to protect the interests of consumers of electricity by promoting effective competition and to promote the development and maintenance of an efficient economic and co-ordinated gas industry.

DETI’s key PSA targets within the current Programme for Government are:

- (i) Reduce energy costs relative to UK/EU regions by 2011.
- (ii) Secure 12% of electricity consumption in Northern Ireland from indigenous renewable sources by 2012.

NIAUR

The **NIAUR** carries out its work in line with statutory duties set out in the Energy Order 2003. It is a non-Ministerial Department accountable to the NI Assembly through financial and annual reporting arrangements and is responsible for regulating the electricity and gas industries in Northern Ireland. It is governed by a Board of Directors, made up of a Chairman and six non-executive members. The Board is responsible for the overall strategic direction of the organisation and ensuring it meets its legal obligations.

In relation to energy, the Utility Regulator’s main objectives are, in line with the Department’s statutory role, to:

- protect the interests of electricity consumers with regard to price and quality of service by promoting competition in the Generation, Transmission and Supply of Electricity; and
- promote the development and maintenance of an efficient, economic and coordinated gas industry and to protect the interests of gas consumers with regard to price and quality of service.

The Authority works to protect the interests of electricity and gas consumers in Northern Ireland by:

- issuing and maintaining licences for gas and electricity companies to operate in Northern Ireland;
- making sure these companies meet relevant legislation and licence obligations;
- challenging companies to keep the prices they charge electricity and gas customers as low as possible;

- encouraging regulated companies to be more efficient and responsive to customers;
- working to encourage competition in the gas and electricity markets;
- setting the standards of service which regulated companies provide to customers in Northern Ireland; and acting as an adjudicator on certain customer complaints, disputes and appeals.

GCCNI

Under the General Consumer Council (NI) Order 1984, the **Consumer Council's** functions encompass consumer education, consumer support and complaints handling, as well as a multi-utility statutory role to represent consumers in electricity, natural gas, transport and water. The Energy (NI) Order 2003 gave the Consumer Council extended powers and an expanded remit with responsibility for representing the interests of energy consumers in Northern Ireland.

The Consumer Council's statutory functions and duties include:

- Making proposals or providing advice and information about consumer matters and representing the views of consumers on such matters
- Obtaining and keeping under review information about consumer issues and the views of consumers on those matters
- A duty to investigate and seek to resolve consumer complaints about companies about regulated matters
- Giving information to Ministers, the Northern Ireland Authority for Utility Regulation (NIAUR), licence holders and any other body with a consumer interest, such as local authorities
- A specific duty to "have regard" to the interests of
 - Individuals who are disabled or chronically sick
 - Individuals of pensionable age
 - Individuals with low incomes
 - Individual residing in rural areas
- Powers to publish information where the Council thinks it would be in the consumer interest

As part of the responsibilities for policy on consumer protection issues, the Department determines the Consumer Council's performance framework. The Department ensures that the Consumer Council's strategic aims and objectives support the Department's wider strategic aims, objectives and targets. It also ensures that the financial and governance controls applied by the Department to the Consumer Council are appropriate and sufficient to safeguard public funds.

The Energy (Northern Ireland) Order 2003

PART III EXTRACT

OBJECTIVES OF REGULATION OF ELECTRICITY AND GAS

Electricity

The principal objective and general duties of the Department and the Authority in relation to electricity are:

11. –

- (1) The principal objective of the Department and the Authority in carrying out their respective electricity functions is to protect the interests of consumers of electricity supplied by authorised suppliers, wherever appropriate by promoting effective competition between persons engaged in, or in commercial activities connected with, the generation, transmission or supply of electricity.
- (2) The Department and the Authority shall carry out those functions in the manner which it considers is best calculated to further the principal objective, having regard to -
 - (a) the need to secure that all reasonable demands in Northern Ireland or Ireland for electricity are met; and
 - (b) the need to secure that licence holders are able to finance the activities which are the subject of obligations imposed by or under Part II of the Electricity Order or this Order
- (3) In performing that duty, the Department or the Authority shall have regard to the interests of -
 - (a) individuals who are disabled or chronically sick;
 - (b) individuals of pensionable age;
 - (c) individuals with low incomes; and
 - (d) individuals residing in rural areas;but that is not to be taken as implying that regard may not be had to the interests of other descriptions of consumer.
- (4) The Department and the Authority may, in carrying out any electricity functions, have regard to the interests of consumers in relation to gas and in relation to water or sewerage services.
- (5) Subject to paragraph (2), the Department and the Authority shall carry out their respective electricity functions in the manner which it considers is best calculated -
 - (a) to promote the efficient use of electricity and efficiency and economy on the part of persons authorised by licences or exemptions to supply or participate in the transmission of electricity;
 - (b) to protect the public from dangers arising from the generation, transmission or supply of electricity;
 - (c) to secure a diverse and viable and environmentally sustainable long-term energy supply;

- (d) to promote research into, and the development and use of, new techniques by or on behalf of persons authorised by a licence to generate, supply or participate in the transmission of electricity; and
- (e) to secure the establishment and maintenance of machinery for promoting the health and safety of persons employed in the generation, transmission or supply of electricity;

and shall have regard, in carrying out those functions, to the effect on the environment of activities connected with the generation, transmission or supply of electricity.

- (6) In carrying out their respective electricity functions the Department or the Authority shall not discriminate between persons whose activities consist of or include generating, supplying or transmitting electricity as regards either rights or obligations.
- (7) In this Article –
“electricity functions” means functions under Part II of the Electricity Order and functions under this Order relating to electricity; and
“environmental sustainability” includes the need to guard against climate change.

Gas

The principal objective and general duties of the Department and the Authority in relation to gas are:

14.–

- (1) The principal objective of the Department and the Authority in carrying out their respective gas functions is to promote the development and maintenance of an efficient, economic and co-ordinated gas industry in Northern Ireland.
- (2) The Department and the Authority shall carry out those functions in the manner which it considers is best calculated to further the principal objective, having regard to -
 - (a) the need to ensure a high level of protection of the interests of consumers of gas;
 - (b) the need to secure that licence holders are able to finance the activities which are the subject of obligations imposed by or under Part II of the Gas Order or this Order;
 - (c) the need to secure that the prices charged in connection with the conveyance of gas through designated pipe-lines (within the meaning of Article 59) are in accordance with a common tariff which does not distinguish (whether directly or indirectly) between different parts of Northern Ireland or the extent of use of any pipe-line; and
 - (d) the need to protect the interests of gas licence holders in respect of the prices at which, and the other terms on which, any services are provided by one gas licence holder to another.
- (3) In performing that duty, the Department or the Authority shall have regard to the interests of -
 - (a) individuals who are disabled or chronically sick;
 - (b) individuals of pensionable age; and

- (c) individuals with low incomes;
but that is not to be taken as implying that regard may not be had to the interests of other descriptions of consumer.
- (4) The Department and the Authority may, in carrying out any gas functions, have regard to the interests of consumers in relation to electricity and in relation to water or sewerage services.
- (5) Subject to paragraph (2), the Department and the Authority shall carry out their respective gas functions in the manner which it considers is best calculated -
 - (a) to promote the efficient use of gas;
 - (b) to protect the public from dangers arising from the conveyance, storage, supply or use of gas;
 - (c) to secure a diverse, viable and environmentally sustainable long-term energy supply; and
 - (d) to facilitate competition between persons whose activities consist of or include storing, supplying or participating in the conveyance of gas;and shall have regard, in carrying out those functions, to the effect on the environment of activities connected with the conveyance, storage or supply of gas.
- (5A) In carrying out their respective gas functions the Department or the Authority shall not discriminate between persons whose activities consist of or include storing, supplying or participating in the conveyance of gas as regards either rights or obligations.
- (6) In this Article "gas functions" means -
 - (a) functions under Part II of the Gas Order; and
 - (b) functions under this Order relating to gas.
- (7) For the purposes of paragraph (5)(c) environmental sustainability includes the need to guard against climate change.

Northern Ireland Energy Key Facts & Figures

1. Northern Ireland has c. 725,000 domestic and c. 65,000 non-domestic electricity customers. Phoenix Natural Gas has approximately 120,000 customers and firmus energy around 4,000 gas customers.
2. There are three power stations in Northern Ireland:
 - Ballylumford (owned and operated by Premier Power Ltd) consisting of:
 - 780MW (gas-fired); and
 - 116MW (Gas oil fired)
 - Kilroot (owned and operated by AES Kilroot Power Ltd) consisting of:
 - 440 or 520MW (dual coal or heavy fuel oil fired respectively); and
 - 58MW (Gas oil fired)
 - Coolkeeragh (owned and operated by ESB International Ltd) consisting of:
 - 414MW (gas-fired Combined Cycle Gas Turbine (“CCGT”)); &
 - 58MW (Gas oil fired)
3. Northern Ireland has a total installed generation capacity of 2794MW (including renewables), with a forecast peak electricity demand of c. 1702MW, for 2008/09. Indigenous renewables account for approximately 6% of electricity output in Northern Ireland.
4. There are currently 19 windfarms across Northern Ireland accounting for just under 240MW of renewable generating capacity. There are a further 10 windfarms through the Planning process that are under construction or about to be built and another 48 in the Planning approval system. This could see potentially another 1,300 MW of wind capacity on the Northern Ireland electricity grid.
5. The Moyle electricity interconnector, owned by Northern Ireland Energy Holdings (a mutual / “not for dividend” company), links Northern Ireland with Scotland and has a capacity of 450MW. The North-South interconnector has a capacity of 600MW. However, net transfer capacity is limited to 300MW, north to south, mainly because of transmission constraints in RoI. It is planned to build a second North-South interconnector by 2012 which will more than double trading capacity.
6. The Scotland to Northern Ireland gas pipeline (SNIP) supplies natural gas to Northern Ireland for power generation and to almost 124,000 business and domestic customers. The SNIP is owned by Northern Ireland Energy Holdings, who have also recently acquired the Phoenix Natural Gas transmission business.

Comparison of Electricity Costs in NI/GB/Rol – 2004 / 2007

		Domestic		Small Medium Enterprises		Large Energy Users	
		3,300 kWh pa		15,000 kWh pa		10 GWh pa	
		p/kWh	vs NI %	p/kWh	vs NI %	p/kWh	vs NI %
2004	NI	10.1		10.2		5.9	
	GB **	7.9	-22%	7.1	-30%	3.6	-39%
	Rol	10.3	+2%	9.5	-7%	5.2	-12%
2005	NI	10.4		11.5		6.7	
	GB**	8.6	-17%	7.7	-33%	4.8	-28%
	Rol	11.7	+13%	10.4	-10%	6.3	-6%
2006	NI	11.6		12.7		7.2	
	GB **	10.5	-10%	9.5	-25%	7.3	+1%
	Rol	12.0	+3%	11.2	-12%	6.8	-6%
2007	NI	11.2		12.4		7.7	
	GB **	11.2	Nil	8.5	-31%	6.8	-12%
	Rol	13.5	+20%	12.3	-1%	7.1	-8%
Nov 2007	NI	11.7		12.0		8.2	
	GB **	11.1	-5%	8.5	-29%	6.9	-16%
	Rol	12.7	+8%	10.5	-12%	7.3	-11%

** Great Britain average

Exchange rate used for Rol was 1€ = £0.68

Source: NIE

Table 2 – Comparison of Gas Prices in NI/GB/Rol - 2004 / 2007

		Domestic		Industrial	
		c/GJ	vsNI%	c/GJ	vsNI%
2004	Northern Ireland	8.22		6.61	
	United Kingdom	6.52	-21%	4.70	-29.90%
	Republic of Ireland	7.93	-3.53%	5.4	-18.31%
2005	Northern Ireland	9.11		7.90	
	United Kingdom	6.91	-24.15%	5.81	-26.46%
	Republic of Ireland	8.80	-3.40%	6.24	-21.01
2006	Northern Ireland	12.18		13.02	
	United Kingdom	7.84	-35.63%	8.92	-31.49%
	Republic of Ireland	11.02	-9.52%	7.81	-40.02
2007	Northern Ireland	16.69		10.00	
	United Kingdom	11.20	-32.89%	10.55	+5.5%
	Republic of Ireland	14.74	-11.68%	9.41	-5.9%

These figures represent indicative costs only, as the market opening in Great Britain and Rol and the entry of new suppliers to the respective markets, means that it is difficult to provide a unit statistic across each sector.

Source: Eurostat; Phoenix Natural Gas and CER

Summary of Grid Study Conclusions

- The All-island Grid Study was a significant piece of research into how the electricity grid in both parts of the island could absorb increasing amounts of renewable energy. The study was commissioned by DETI in Northern Ireland and DCENR in the Republic of Ireland and findings were reported by both Departments on 10 January 2008.
- The study reported that up to 42% by demand of power generation could be from renewable sources, with the cheapest and most readily available renewable energy source being on-shore wind.
- The study also noted that with this level of renewable generation, there would be reduced consumption of fossil fuels and a 25% reduction in CO₂ emissions compared to the base case in the study.
- The Grid Study identified the need for significant strengthening of the electrical transmission and distribution systems to accommodate the higher levels of renewable generation which appear feasible. This equates to 198km of transmission network in NI at an approximate cost of £280 million, and 1,449km of distribution network at an estimated cost of £165 million, assuming no undergrounding of cables. It should be noted that grid improvements will be required to upgrade the network in addition to that required for the connection of renewable power generation, hence actual costs are likely to be much in excess of these amounts.
- The study also highlighted the need for consideration of a different conventional generation mix if significantly higher levels of wind were to be available for dispatch to the grid. This was likely to mean that some investment would be required in faster start Open Cycle Gas Turbines rather than Combined Cycle Gas Turbines, which are more suitable for baseload generation.
- The Grid Study identified that it is uneconomic to curtail wind energy from turbines connected to the grid, and that this could only be overcome by grid strengthening.