

CLIMATE CHANGE AND THE LAW: REDUCING IRELAND'S GREENHOUSE GAS EMISSIONS

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I. INTRODUCTION

Few topics have arisen in the last quarter century that have provoked the level of public interest and controversy generated by the issue of global climate change. While at first it may appear that the issue is one that should preoccupy scientists and be of little significance for the lawyer, this is far from the reality. The issue of climate change is one that affects all aspects of human activity and the law is no exception. As an instrument for the implementation of public policy, law will be subject to the effects of climate change in two main ways during the coming years. The law will play a key role in society's response to changes in daily lives precipitated by the impacts of climate change. The fields of planning, environmental, and nature conservation law, in particular, will play key roles in the implementation of government policies that will be a necessary part of Ireland's response to a changing climate and weather patterns. However, the law also has a role to play in the global attempt to prevent future climate changes that may be caused by human activities. It is this aspect of climate change that is the main focus of this paper.

Ireland's obligations under the United Nations Framework Convention on Climate Change (UNFCCC), the Kyoto Protocol and European programmes on climate change have had a significant impact on a wide range of domestic law. While Ireland is attempting to comply with its obligations under these instruments, it has already exceeded its Kyoto and EU emissions limits. Under the European burden sharing agreement, Ireland was permitted to increase its emissions to 13% above 1990 levels by 2012. However, by 2004, emissions had reached 31.1% and are projected to

reach 39.8% by 2010.¹ It seems likely that Ireland will fail to meet its emissions limit, while the European Union as a whole will also fail to meet its target.² In order to meet its targets, Ireland will have to adopt many more measures and policies and the law will have to play a key role in the implementation of many of these.

This paper seeks to examine and evaluate Ireland's level of compliance with international and European climate control agreements and to consider the role of domestic legislation in meeting compliance requirements. In order to place these issues in context, the paper begins with a brief overview of the scientific evidence that global climatic change is occurring and that human activities may be responsible. The international and European climate control agreements are then examined. The remainder of the paper will focus on how Ireland is complying with its obligations under the various agreements and how this is expressed in changes to domestic law. It examines how government and European policies on climate change are implemented through legislation. The Irish legislation is examined under a range of themes based on the obligations imposed by international agreements.

II. CLIMATE CHANGE: THE SCIENTIFIC BACKGROUND

There now appears to be little doubt that the global climate is changing. The global average surface temperature over both land and sea has increased significantly since 1861.³ It is "very likely"⁴ that the 1990s was the warmest decade since 1861,⁵

¹ Environmental Management Ireland, "EU Climate Emission Targets: Domestic measures planned so far are insufficient" 9(1) (2004) *emi Environmental Management Ireland* at p. 12.

² *Ibid.*

³ Houghton, *et. al. Climate Change 2001: the Scientific Basis: Contribution of Working Group I to the third assessment report of the Intergovernmental Panel on Climate Change* (Cambridge, 2001) at p. 2.

⁴ In the Third Assessment Report of the Intergovernmental Panel on Climate Change, a range of terms are used to indicate judgmental estimates of confidence for particular scenarios. "Likely" indicates a 66-90% chance that the result is true. "Very likely" indicates a 90-99% chance that the result is true. "Virtually certain" indicates a greater than 99% chance that the result is true.

⁵ Houghton, *et. al. Climate Change 2001: the Scientific Basis: Contribution of Working Group I to the third assessment report of the Intergovernmental Panel on Climate Change* (Cambridge, 2001) at p. 2.

while 2004 was recorded as the fourth warmest year over the same period.⁶ Other aspects of the global climate are likewise changing. Precipitation has increased over most of the mid and high latitude areas of the northern hemisphere, while cloud cover appears to have increased over high latitudes.⁷ Droughts and periods of extreme wetness also appear to have increased during the twentieth century.⁸

There is increasing scientific evidence that these changes in global climate are a direct result of human activities. Atmospheric concentrations of carbon dioxide have increased by 31% since 1750 and the present concentrations of carbon dioxide have not been exceeded during the past 420,000 years.⁹ Concentrations of other gases, including methane, nitrous oxide and halocarbon gases in the atmosphere have also increased significantly.¹⁰ The Intergovernmental Panel on Climate Change (IPCC) concludes that on the basis of all available scientific evidence it is “likely” that most of the observed global warming over the last fifty years is due to the increased concentrations of greenhouse gases in the atmosphere and their effect on the radiation balance of the planet.¹¹ Scientific evidence also indicates that it is “virtually certain” that the burning of fossil fuels is the dominant influence on the upward concentrations of these gases in the atmosphere.¹²

International and European climate control agreements have focused on attempting to reduce the level of emissions of these greenhouse gases and on conserving sinks and reservoirs of gases, such as forests, in order to reduce the atmospheric concentrations of the gases and prevent future climate change. Ozone is

⁶ American Geophysical Union, ‘News’ (December, 2004) 85(51) *Eos, Transactions, American Geophysical Union*.

⁷ Houghton, et. al. *Climate Change 2001: the Scientific Basis: Contribution of Working Group I to the third assessment report of the Intergovernmental Panel on Climate Change*, (Cambridge, 2001) at p.4.

⁸ *Ibid.* at p. 5.

⁹ *Ibid.* at p. 7.

¹⁰ *Ibid.*

¹¹ *Ibid.* at p. 12.

¹² *Ibid.*

also believed to play a key role in the global warming process. However, its effects are not yet fully understood and appear to differ depending on whether the ozone is found in the stratosphere or the troposphere.¹³ Due to this uncertainty and because international agreements relating solely to ozone were intended to address the separate issue of the hole in the ozone layer and were not intended as climate control agreements, the Vienna Convention and Montreal Protocols will not be considered as part of this paper. It focuses instead on the main international climate control agreements: the United Nations Framework Convention on Climate Change (UNFCCC), the Kyoto Protocol and European Climate Control agreements.

III. INTERNATIONAL CLIMATE CONTROL AGREEMENTS

A. *The UNFCCC*

Prior to the late 1950s, the subject of global warming and greenhouse gas emission attracted little attention.¹⁴ However, as scientific evidence of the possible problem began to emerge, the world began to take notice. The first World Climate Conference was held in 1979, while, in 1988, the IPCC was founded by the United Nations Environmental Programme and the World Meteorological Organisation. This organisation was to provide the “scientific underpinning for the diplomatic process” of the UNFCCC.¹⁵ The Convention was adopted on May 9, 1992 and was signed by 154 States and the European Union at the Rio Earth Summit in June 1992.¹⁶ It was ratified by Ireland in April 1994 and entered into force for Ireland in July 1994.¹⁷ 189 States are now signatories to the Convention, which covers all greenhouse gases not

¹³ *Ibid.* at p. 37.

¹⁴ Grubb, *et. al. The Kyoto Protocol: A guide and assessment* (London, 1999) at p. 4.

¹⁵ *Ibid.*

¹⁶ Climate Change Secretariat, *United Nations Framework Convention on Climate Change: The first ten years*, (Bonn, 2004) at p. 14.

¹⁷ Department of the Environment and Local Government, *Ireland: First National Communication to the United Nations Framework Convention on Climate Change* (Dublin, 1994) at p. 14. (hereinafter referred to as Department of the Environment, *First National Communication*).

controlled by the Montreal Protocol on the depletion of the ozone layer.¹⁸ The fundamental aim of the Convention is “the stabilisation of greenhouse gas concentrations in the atmosphere at a level that would prevent dangerous anthropogenic interference with the climate system.”¹⁹

While responsibility for achieving the objectives of the convention is shared among all its parties, various countries have different commitments, depending on their levels of economic development and available resources.²⁰ As a member of Annex I of the Convention, Ireland was obliged to aim to return its emissions to 1990 levels by 2000 and to make regular reports on its implementation of the Convention.²¹ Ireland is also included in Annex II of the Convention, which obliges it to provide financial and other supports to the efforts of developing countries to implement the convention.²² The European Union is a member of both Annexes.

The main obligations of signatories are outlined in Article 4 of the Convention. These include obligations to publish national inventories of anthropogenic emissions sources and sinks, to formulate and implement national and regional climate change mitigation programmes, to promote technologies designed to reduce or prevent emissions, to promote sustainable management and conservation of greenhouse gas sinks, to cooperate in preparing for adaptation to the impacts of climate change and to take climate change into account when formulating policies in other areas.²³

¹⁸ Grubb, *et. al. The Kyoto Protocol: A guide and assessment*, (London, 1999) at p. 128.

¹⁹ *United Nations Framework Convention on Climate Change*, (1992) Article 2.

²⁰ Grubb, *et. al. The Kyoto Protocol: A guide and assessment*, (London, 1999) at p.15.

²¹ *Ibid.*

²² *Ibid.*

²³ *United Nations Framework Convention on Climate Change* (1992), Article 4.

B. The Kyoto Protocol

While the UNFCCC was a step in the right direction, its aims were mainly aspirational and it did not set precise targets for emission reduction. This was addressed by the Kyoto Protocol to the Convention adopted in December 1997 following over two years on intense negotiations.²⁴ The Kyoto Protocol commits its signatories to legally binding targets for emission reduction, as well as to a range of general commitments. Article 2 of the Protocol obliges all signatories to promote sustainable development and implement a range of general policies: to enhance energy efficiency in relevant sectors of the economy; to promote and enhance reservoirs and sinks for greenhouse gases; to promote and develop renewable energy; to remove any fiscal or tax policies that run counter to the aims of the Convention; to encourage reforms of relevant sectors aimed at promoting policies to reduce greenhouse gas emission; to introduce measures to limit greenhouse gas emissions from transport; and to reduce methane emissions from waste management and other sources.²⁵

The Protocol's key measure assigns allowable limits of greenhouse gas emissions for each country listed in Annex I of the UNFCCC.²⁶ These cover the commitment period from 2008 to 2012. Each party is obliged to have made "demonstrable progress in achieving its commitments" by 2005.²⁷ Annex A of the Protocol outlines the gases covered, while Annex B outlines the emissions limits of each of the parties. Ireland is obliged to reduce emissions to 8% below 1990 levels. However, under the bundle provision outlined in Article 4 of the Protocol, the

²⁴ Climate Change Secretariat, *Caring for Climate: A guide to the Climate Change Convention and the Kyoto Protocol* (Bonn, 2003) at p. 4.

²⁵ *Kyoto Protocol to the United Nations Framework Convention on Climate Change* (1997), Article 2.

²⁶ Grubb, *et. al. The Kyoto Protocol: A guide and assessment* (London, 1999) at p. 116.

²⁷ *Kyoto Protocol to the United Nations Framework Convention on Climate Change* (1997), Article 3(2).

member states of the European Union have redistributed their targets. This agreement obliged the Union as a whole to reduce emissions by 8%, while Ireland is permitted to increase its emissions to 13%.²⁸

The Protocol also established a number of other measures in relation to greenhouse gas reduction. The Clean Development Mechanism allows for industrialised countries to promote sustainable development in developing countries by investing in “clean” development projects.²⁹ The Protocol also establishes a mechanism for international transfer of emissions credits, known as emissions trading. This system allows two parties “that are subject to emissions controls to exchange part of their emissions allowances.”³⁰ The emissions trading provisions were among the most controversial in the Protocol at the time of its negotiation. Emissions trading will allow one party that has exceeded its emissions limit to purchase credits from another that has reduced its emissions to below its target and has a surplus of credits as a result. However, the Protocol stresses that the emissions trading regime is “supplemental to domestic action” in reducing emissions.³¹ A Carbon Bill to allow Ireland to purchase carbon credits when emissions trading commences is due for publication shortly.³² National and European emissions trading mechanisms for producers of greenhouse gas emissions have already been established and these are discussed *infra*.

The Kyoto Protocol came into force in February 2005 and is now legally binding on all its signatory parties. The Marrakech Accords agreed at the Seventh

²⁸ Environmental Management Ireland, “EU Climate Emission Targets: Domestic measures planned so far are insufficient” 9(1) (2004) *emi Environmental Management Ireland* at p. 12.

²⁹ *Kyoto Protocol to the United Nations Framework Convention on Climate Change* (1997), Article 12.

³⁰ Grubb, *et. al. The Kyoto Protocol: A guide and assessment* (London, 1999) at p. 128.

³¹ *Kyoto Protocol to the United Nations Framework Convention on Climate Change* (1997), Article 6(1)d.

³² Office of the Government Chief Whip, *Government Legislative Programme*, 25th January 2006 (Dublin, 2006) at p. 8.

Conference to the Parties of the UNFCCC provide the compliance regime for the Kyoto Protocol. It has been described as among the “most comprehensive and rigorous” compliance regimes in the international arena today.”³³

IV. EUROPEAN CLIMATE CHANGE POLICY

The European Union is a signatory to both the UNFCCC and to the Kyoto Protocol. As outlined earlier, the European Union is obliged to reduce its emissions by 8% under the Kyoto Protocol and, under the bundle agreement provisions of the Protocol, has redistributed its emissions limits among the member states. Prior to the 1990s, European Union environmental policies did not focus on the issue of climate change. The first four Environmental Action Programmes focused only on the issue of CFCs and the ozone layer and did not address global warming.³⁴ The Fifth Environmental Action Programme was the first to recognise the problem of global climate change. It devoted a whole section to climate change, identifying a number of gases as key contributors to global warming and examining their emissions sources.³⁵ The Sixth Action Programme, finalised in January 2001, included tackling climate change as one of its key objectives.³⁶ It outlines that its first priority is the ratification and implementation of the Kyoto Protocol as part of a long term target of reducing greenhouse gas emissions by 70%.³⁷

The Sixth Action Programme includes a range of measures designed to address the issue of climate change, including the establishment of an EU wide carbon dioxide emissions trading scheme, promotion of renewable energy, promotion of

³³ Climate Change Secretariat, *Compliance under the Kyoto Protocol*, available at http://unfccc.int/kyoto_mechanisms/compliance/items/3024.php.

³⁴ Kramer, *EC Environmental Law* (London, 4th Ed., 2000) at p. 224.

³⁵ *Ibid.*

³⁶ Commission of the European Communities, *Third Communication from the European Union under the United Nations Framework Convention on Climate Change* (Brussels, 2001) at p. 64. (hereinafter referred to as Commission of the European Communities, *Third Communication*).

³⁷ *Ibid.*

energy efficiency and the use of energy taxation.³⁸ Dealing with climate change is seen as an aspect of the Union's sustainable development policy. Sustainable Development is outlined as one of the fundamental objectives of the Community.³⁹ It is EU policy that the main responsibilities for achieving the Kyoto emissions limits rest with the individual member states and that the 8% reduction target set for the EU as a whole will be achieved mainly through "domestic action."⁴⁰

The European Climate Change Programme was established in June 2000 in order to identify the most "environmentally and cost effective additional measures" to allow the EU to meet its Kyoto target.⁴¹ The EU has produced a range of legislation aimed at reducing greenhouse gas emissions and dealing with climate change. European law relating to climate change will be considered through its implementation in domestic Irish law.

V. IRISH LAW

This paper now turns to an examination of how Ireland's obligations under the international and European climate control agreements have been implemented in domestic law and the consequential impact in myriad areas. This is a complex area of law in that Ireland is seeking to achieve its obligations both through the implementation of European environmental law and through the enactment of legislation that is wholly domestic in origin.

A. Energy Efficiency

Article 2 of the Kyoto Protocol obliges states to seek to enhance energy efficiency in "relevant sectors of the national economy" in order to achieve their

³⁸ *Ibid.* at p. 65.

³⁹ *Treaty on the European Union* (1993), Article 2.

⁴⁰ Commission of the European Communities, *Third Communication* at p. 67.

⁴¹ *Ibid.*

emissions limits and to promote sustainable development.⁴² Improving energy efficiency has been one of the main focus areas of Irish climate change policies and this has been reflected in a range of legislative changes. These have affected the law in many areas, but have focused primarily on the construction of buildings and the efficiency of domestic appliances.

Space heating of buildings accounts for up to 80% of the national energy usage.⁴³ Following a review of the energy efficiency of buildings conducted in 1990 by the Department of the Environment, the national building regulations were significantly modified. The power to modify the regulations by ministerial order was laid down in the Building Control Act, 1990. It grants the Minister the power to set regulations in relation to the design, construction, extension and alteration of buildings.⁴⁴ It provides that, in so doing, the Minister may make provision for the “conservation of fuel and energy in relation to buildings.”⁴⁵

The building regulations were modified in 1991 to include a provision that buildings must be designed and constructed to “secure, in so far as is reasonably practicable, the conservation of fuel and energy.”⁴⁶ These changes in the building regulations were designed to reduce fuel and energy use by 20% by the year 2000.⁴⁷ It was hoped that this would lead to a 2% reduction in the national level of carbon dioxide emissions. A further review of the regulations was conducted in 1997 with the aim of clarifying existing guidelines and introducing an optional energy rating system for homes. These changes were aimed at achieving a further 5% reduction in

⁴² *Kyoto Protocol to the United Nations Framework Convention on Climate Change* (1997), Article 2.

⁴³ Department of the Environment, *First National Communication* at p. 23.

⁴⁴ Building Control Act, 1990, s.3(1)a.

⁴⁵ Building Control Act, 1990, s.3(2)c.

⁴⁶ Building Regulations, 1991 (S.I. No. 306 of 1991) s.L(1).

⁴⁷ Department of the Environment, *First National Communication* at p. 23.

energy use.⁴⁸ The building regulations were modified further during the 1990s and again in 2002. Section L1 of the Building Regulations, 2002 sets new standards for thermal performance and insulation and outlines how the conservation of fuel and energy should be achieved. It outlines measures aimed at reducing energy loss from hot air or water storage systems, pipes and ducts.⁴⁹

While these measures clearly constitute a step in the right direction to meeting Ireland's obligations, there is certainly scope for additional measures in this field. Higher standards of energy efficiency could be introduced that would contribute to a further emissions reductions. The government has pledged that new more stringent Building Regulations will be introduced in the near future.⁵⁰ However, in the meantime, Ireland's building boom continues and the delay in enacting new regulations ensures that thousands more buildings can be constructed to lower energy efficiency standards than would have been the case had the new regulations been enacted more quickly.

The government has also been lethargic in its implementation of the European Union Directive on the energy efficiency of buildings.⁵¹ Despite the deadline for implementation of January 4, 2006,⁵² the new Building Control Bill which will implement the new provisions was not published until December 22nd 2005,⁵³ and remains at the second stage of the legislative process in the Dáil.⁵⁴ This legislation

⁴⁸ Department of the Environment and Local Government, *Ireland, Second National Communication to the United Nations Framework Convention on Climate Change* (Dublin, 1997) at p. 24. (hereinafter referred to as Department of the Environment, *Second National Communication*).

⁴⁹ Building Regulations, 2002 (S.I. No. 284 of 2002) s.L (1)c.

⁵⁰ Department of the Environment, Heritage and Local Government, *Roche publishes major Building Control Bill*, 22 December 2005, available at <http://www.environ.ie/DOEI/DOEIPub.nsf/0/203164c399e8d7c3802570df00858755?OpenDocument>.

⁵¹ Council Directive 2002/91/EC.

⁵² "Who'll pay for the energy delay," *Sunday Business Post*, 30 January 2005.

⁵³ Department of the Environment, Heritage and Local Government, *Roche publishes major Building Control Bill*, 22 December 2005, available at <http://www.environ.ie/DOEI/DOEIPub.nsf/0/203164c399e8d7c3802570df00858755?OpenDocument>.

⁵⁴ As of March 2006.

will require that all houses have an energy performance certificate supplied by the owner when a building is sold or rented. It is hoped that a high rating will increase the market value of the proper and consequently encourage investment in energy efficient design and construction. However, the long delayed implementation will not take place immediately upon enactment of the legislation. The energy certificate will not be required for new homes until January 2007 and it will likely be January 2008 before it becomes a requirement for all other new buildings.⁵⁵ More rapid introduction of both these new legislative measures would have significantly improved Ireland's compliance with emissions targets, but the government seems reluctant to act quickly in the face of construction industry opposition to the proposals.⁵⁶

The level of grant aid available for the construction of new houses has also been amended in order to encourage energy efficiency and emission reductions. The Housing Act, 2002 provides that the level of the grant aid available may be varied depending on a number of conditions, including the energy efficiency involved or the use of renewable energy in the design of the houses.⁵⁷ However, this is another area in which the government has failed to advance legislation that could have further reduced emissions. Additional amendments to the Housing Act could be used to provide greater financial incentives for energy efficient construction and for domestic use of renewable energy technologies. Grant aids could be used to encourage domestic use of solar, heat pump and wind technologies to supply both electricity and space heating needs. Encouraging domestic electricity production using renewable technologies would also be beneficial in helping to reduce pressure on the national electricity grid, which is struggling to cope with rapidly increasing demand.

⁵⁵ *Ibid.*

⁵⁶ "From house prices to energy labels," *Business and Finance*, 18 November 2004.

⁵⁷ Housing (Miscellaneous Provisions) Act, 2002 s.11(2)b(ii).

A range of other legislation aimed at improving energy efficiency and reducing emissions has also been introduced over recent years. The European Directives on labelling of domestic appliances were implemented in Ireland by Regulations adopted in 1997. These made it illegal to offer for sale household washing machines or combined washer dryers unless they were accompanied by information relating to the consumption of electricity by the appliances.⁵⁸ Other regulations making it illegal to offer for sale any new appliance that failed to satisfy the energy efficiency requirements set out in the directive on energy efficiency of domestic appliances came into force in 1999. These regulations apply to household electric refrigerators and freezers.⁵⁹ Legislation has also been adopted in relation to the energy efficiency of hot water boilers. Regulations were introduced in 1994 to give effect to Council Directive 92/42/EEC.⁶⁰ These regulations lay down minimum standards for efficiency of boilers and make it illegal to sell or operate boilers that do not comply with the standards laid down in the directive.

While Ireland has made very significant progress in the area of energy efficiency of appliances, many of the changes have been effectively forced upon the government by developments at European level. It is important that more action should be taken at the national level and that minimum standards should be increased as more advanced energy saving technologies are developed in the years ahead. Fiscal measures could also be used to encourage both manufacturers and consumers to use the most energy efficient models available.

⁵⁸ European Communities (Energy Labelling of Household Combined Washer Dryers) Regulations, 1997 (S.I. No. 319 of 1997); European Communities (Energy Labelling of Household Electric Washing Machines) (Amendment) Regulations, 1997 (S.I. No. 208 of 1997).

⁵⁹ European Communities (Energy Efficiency Requirements for Household Electric Refrigerators, Freezers and Combinations Thereof) Regulations, 1997 (S.I. No. 482 of 1997).

⁶⁰ European Communities (Efficiency Requirements for Regulation of New Hot Water Boilers Fired with Liquid or Gaseous Fuels) Regulations, 1994 (S.I. No. 260 of 1994).

B. Energy Production

A number of changes to the law in relation to energy production have also been implemented in order to assist in achieving Ireland's obligations under international and European climate control agreements. It is government policy to promote the use of fuels with low emissions, renewable energy and energy efficiency. As natural gas produces less greenhouse gas emissions than other fuels, like coal and oil, efforts have been made to replace these fuels for electricity generation. This is been implemented in law through a provision in the Gas Act, 2000 providing for a scheme to allocate a specific level of capacity in the national gas network for fuelling new electricity generating capacity.⁶¹ It is doubtful whether this provision has had any positive impact on actual emissions levels because much of this new generating capacity has been required just to keep pace with increasing electricity demand. New gas generating capacity appears to have supplemented rather than replaced other more harmful fuels.

It is also European and Irish government policy to promote the development and use of renewable and sustainable energy technologies. European policy is outlined in the Commission's White Paper, "Energy for the Future: Renewable Sources of Energy," published in 1997,⁶² while Irish government policy is outlined in the "Green Paper on Sustainable Energy," produced in 1999.⁶³ The Green Paper focuses on promoting the use of wind energy in particular. The Department of the

⁶¹ Department of the Environment, *Second National Communication* at p. 25.

⁶² Sustainable Energy Ireland, "Policy and Targets," available at http://www.sei.ie/content/content.asp?section_id+693.

⁶³ *Ibid.*

Environment published “Guidelines for Planning Authorities on Wind Farm Development” in 1996 and then a “Strategy for Intensifying Wind Energy” in 2000.⁶⁴

It has been government policy to promote the use of renewable energy in electricity production. This is reflected in a number of legislative measures. The Electricity Regulation Act, 1999 created a Commission for Electricity Regulation.⁶⁵ This Commission has, *inter alia*, an obligation to advise the relevant government minister regarding the impact of electricity generation on sustainability and in relation to international agreements on the environment to which Ireland is a party.⁶⁶ The Act also imposes an obligation on both the Minister and the Commission to promote “renewable, sustainable or alternative forms of energy.”⁶⁷ The duties of the Commission are outlined further in Section 9(5) of the Act. It is obliged to encourage the efficient use and production of electricity; to take account of protection of the environment; to encourage research and development into methods of electricity generation using renewable, sustainable or alternative forms of energy; and to require the electricity system operator to give network priority to generating stations using renewable, sustainable or alternative sources.⁶⁸ Some of the provisions of the Act were amended by the Gas Act, 2002. This changed the name of the Commission to the Commission for Energy Regulation⁶⁹ and changed some of the provisions of Section 9 of the 1999 Act. The Commission remains obliged to promote renewable, sustainable and alternative energy and is also obliged to promote efficiency in all electricity and gas undertakings.⁷⁰ Additional amendments to the Commission’s

⁶⁴ Department of the Environment and Local Government, *Ireland, Third National Communication to the United Nations Framework Convention on Climate Change* (Dublin, 2003) at p. 19. (hereinafter referred to as Department of the Environment, *Third National Communication*).

⁶⁵ Electricity Regulation Act, 1999, s.8(2).

⁶⁶ Electricity Regulation Act, 1999, s.9(1)c.

⁶⁷ Electricity Regulation Act, 1999, s.9(4)f.

⁶⁸ Electricity Regulation Act, 1999, s.9(5).

⁶⁹ Gas (Interim) (Regulation) Act, 2002, s.5.

⁷⁰ Gas (Interim) (Regulation) Act, 2002, s.6.

functions are expected in the new Energy Bill included in the government's legislative programme for 2006, but these are not expected to include any changes to its remit in relation to renewable energies.⁷¹

Further government policies were implemented in the Sustainable Energy Act, 2002. This Act established the Sustainable Energy Authority of Ireland,⁷² which is obliged to "promote and assist the reduction of greenhouse gas emissions and transboundary air pollution associated with the production supply and use of energy."⁷³ The government has also sought to promote renewable energy through tax relief schemes. The Finance Act, 1998 contains provisions providing tax relief for corporate investment in renewable energy schemes. This relief is available for projects in several areas of technology, including solar power, wind power, hydro power and biomass.⁷⁴ Companies involved in renewable energy projects may make an application to the Minister for Public Enterprise for approval for the available tax reliefs. The projects that may qualify for the tax relief under this scheme include projects that were successful in the Alternative Energy Requirements Competitions run in order to promote the use of renewable energy. These tax reliefs came into force in March 1999.⁷⁵ Continuation and expansion of these provisions can contribute to further reductions in emissions.

It has also been government policy to promote the use of combined heat and power systems. This has not been a major source of energy in Ireland, producing only 2% of national electricity requirements.⁷⁶ In an effort to encourage the use of combined heat and power, the Electricity Act, 2001 opened the combined heat and

⁷¹ Office of the Government Chief Whip, *Government Legislative Programme*, 25th January 2006 (Dublin, 2006) at p. 2.

⁷² Sustainable Energy Act, 2002, s.4.

⁷³ Sustainable Energy Act, 2002, s.6(1)c.

⁷⁴ Finance Act, 1998, s.62(1).

⁷⁵ Finance Act, 1998 (Section 62) (Commencement) Order, 1999 (S.I. No 65 of 1999).

power market to all electricity customers irrespective of their level of annual consumption.⁷⁷ Further measures in this area are anticipated in the new Energy Bill,⁷⁸ which should include changes required by recent European legislation.⁷⁹ Government actions in relation to renewable energies have certainly been successful, especially in the encouragement of wind energy developments, but further measures are necessary in other areas. It is important that domestic policies should continue to encourage renewable energy because this can simultaneously reduce emissions and benefit national energy security by reducing demand for fuel imports.

C. Transport

Article 4(1)c of the UNFCCC obliges signatories to the Convention to reduce greenhouse gas emissions in “all relevant sectors,” including transport.⁸⁰ The transport sector is responsible for substantial amounts of greenhouse gas emissions and is one of the key areas being targeted for emissions reduction by the government. Taxation laws in relation to the transport industry have not been significantly changed in recent years. The government has argued that, even though taxation measures in Ireland have fiscal, and not environmental objectives, taxes on energy are already high when compared to other countries and fuel prices are significantly higher than the European average.⁸¹ The taxation regime relating to vehicles is currently composed of Vehicle Registration Tax, Annual Road Tax, Value Added Tax and Excise Duties on fuel.⁸² Petrol and diesel are taxed at significantly higher rates than more environmentally friendly fuels.⁸³ The law in relation to Excise Duties was modified during the 1990s in

⁷⁶ Department of the Environment, *Third National Communication* at p. 21.

⁷⁷ Electricity (Supply) (Amendment) Act, 2001 s.9.

⁷⁸ Office of the Government Chief Whip, *Government Legislative Programme*, 25th January 2006 (Dublin, 2006) at p. 2.

⁷⁹ Council Directive 2004/8/EC

⁸⁰ *United Nations Framework Convention on Climate Change* (1992), Article 4(1)c.

⁸¹ Department of the Environment, *First National Communication* at p. 22.

⁸² Department of the Environment, *Second National Communication* at p. 36.

⁸³ *Ibid.*

order to support the use of biofuels. The Finance Act, 1995 provided that, if a project is undertaken within the State “to produce biofuel” or to “test its technical validity as motor fuel,” the Revenue Commissions may remit or repay the Excise Duties payable on the fuel.⁸⁴ This provision gave effect to Council Directive 92/81/EEC as amended.⁸⁵ The government appears reluctant to amend taxation regimes in this field and has retreated from proposals to introduce a carbon tax on fuels, which forms part of the National Climate Change Strategy.⁸⁶ It seems very unlikely that this issue will be addressed in the near future due to political opposition to the proposal. However, it is likely to resurface at some point as transport contributes significantly to greenhouse gas emissions in Ireland. Failing to introduce the carbon tax appears to be simply postponing the inevitable. The introduction of a carbon tax, although politically unpopular, could be a substantial step towards achieving compliance with Kyoto targets.

Tax relief has also been made available for the use of hybrid electric vehicles. The Finance Act, 2001 provides that, where a person purchases such a vehicle, she may be permitted to reclaim up to 50% of the Vehicle Registration Tax payable for the vehicle.⁸⁷ A hybrid electric vehicle is defined in the Act as any vehicle that is powered by a combination of an electric motor and an internal combustion engine and is capable of operating for part of its cycle on electric propulsion alone.⁸⁸

Irish law in relation to vehicle emissions has also changed in an effort to comply with emissions targets. Directives in relation to gas emissions from motor

⁸⁴ Finance Act, 1995, s.116(4)a.

⁸⁵ Department of the Environment, *Second National Communication*, p. 35.

⁸⁶ Department of the Environment and Local Government, *National Climate Change Strategy* (Dublin, 2000) at p. 27.

⁸⁷ Finance Act, 2001, s.168.

⁸⁸ Finance Act, 2001, s.168.

engines and pollution from diesel engines have been adopted into Irish law.⁸⁹ Regulations in relation to the provision of information on the fuel efficiency of new cars have also been implemented. These give effect to Directive 1999/94/EEC and require that information on the fuel economy and carbon dioxide emissions of new cars be made available at the point of sale.⁹⁰ This information must be displayed on all new car labels and on any posters displayed at the point of sale. These regulations came into force in August 2001. It is hoped that this legislation will encourage consumers to become more environmentally aware and to purchase more efficient vehicles. These measures would become increasingly important if a carbon tax were introduced because vehicle owners would become more aware of vehicle fuel consumption efficiencies.

Measures have also been introduced into Irish law to address the area of motor vehicle testing. Directive 96/96/EC obliged member states to introduce laws dealing with roadworthiness testing of vehicles and their engines. Properly tuned engines have lower fuel consumption, improved performance and emissions of greenhouse gases are significantly reduced. The vehicle testing requirements were introduced into Irish law by the Road Traffic (Car Testing) Regulations, 1998. These established the requirements for testing of certain vehicles and specified the body to carry out the testing programme.⁹¹ It is important that the minimum standards for vehicle emissions are increased in line with technological improvements.

The government has also adopted a number of legislative measures aimed at promoting the use of public transport and “park and ride” facilities as an alternative to the use of private cars. It is hoped that these measures will reduce both traffic

⁸⁹ Council Directive 2001/1/EC; Council Directive 2001/27/EC; Department of the Environment, *Third National Communication* at p. 32.

⁹⁰ European Communities (Consumer Information on Fuel Economy and CO₂ Emissions of New Passenger Cars) Regulations, 2001 (S.I. No. 339 of 2001).

congestion and the level of greenhouse gas emissions from private car use. The Finance Act, 1999 provides tax reliefs for capital expenditure incurred in the construction of park and ride facilities.⁹² The Planning and Development Act, 2000 also obliges planning authorities and An Bord Pleanála to have regard to the Retail Planning Guidelines, 2001.⁹³ These guidelines provide that where practical, retail developments should be located near to town centres.⁹⁴ This type of demand management reduces the level private car transport being used in urban areas, thereby reducing traffic congestion and greenhouse gas emission. The Planning and Development Act also provides for sustainable transport and the promotion of public transport.⁹⁵

It is questionable whether any of these provisions are effective because there has been no concomitant evidence of a reduction in traffic congestion or an increased use of public transport. Further measures to encourage use of public transport are necessary. Measures, such as congestion charges to discourage private car use in urban centres, will need to be considered in the years ahead. This may also need to be associated with an improvement in public transport services. Such measures would reduce emissions and have a range of other social and economic benefits associated with a reduction in congestion and travel times. It is also vital that measures currently in place are effectively implemented, especially in relation to planning regulations.

D. Industry

A range of changes to the law in relation to emissions from the industrial sector have also been made in recent years. Some of these have had broader

⁹¹ Road Traffic (Car Testing) Regulations, 1998 (S.I. No. 481 of 1998).

⁹² Finance Act, 1999, s.70.

⁹³ Department of the Environment, *Third National Communication* at p. 31.

⁹⁴ *Ibid.*

⁹⁵ Department of the Environment and Local Government, *National Climate Change Strategy* (Dublin, 2000) at p. 43.

environmental pollution objectives not directly related to climate change. However, despite their broader aims, some of these provisions have contributed to Ireland's attempts to meet its emission targets. The issue of greenhouse gas emissions has become increasingly important in legislative changes adopted in more recent years.

A system for the licensing of pollutant emissions from industrial sources has been in place in Ireland since 1994. The Integrated Pollution Control (IPC) Licence system was established under the Environmental Protection Agency Act, 1992. Over seventy types of industrial activity were listed as requiring an IPC Licence,⁹⁶ and these became illegal without a licence.⁹⁷ The licensing system was amended by the Protection of the Environment Act, 2003. This established a system of Integrated Pollution Prevention and Control (IPPC) Licensing, as required by Council Directive 96/61/EC, and replaced the IPC licensing system. This Directive came into force in 1996 and the IPPC licensing system came into operation in Ireland in July 2004.⁹⁸ Among the primary aims of the IPPC licensing system is the reduction or prevention of emissions to air and the efficient use of energy. Before granting a licence, the Environmental Protection Agency (EPA) must be satisfied that the activity involved will use energy efficiently.⁹⁹ This focus on energy efficiency will help to reduce the national level of greenhouse gas emissions from industrial sources. The Act also provides that the EPA may regulate greenhouse gas emissions as part of the granting of an IPPC Licence.¹⁰⁰ The 2003 Act increases the obligation on industrial producers of emissions by changing the obligation involved from that of using the best available

⁹⁶ Environmental Protection Agency, "Integrated Pollution Prevention and Control (IPPC) Licensing in Ireland," available at www.epa.ie/Licensing/IPPCLicensing/#d.en.216.

⁹⁷ Environmental Protection Agency Act, 1992, s.82(1).

⁹⁸ Environmental Protection Agency, "Integrated Pollution Prevention and Control (IPPC) Licensing in Ireland," available at www.epa.ie/Licensing/IPPCLicensing/#d.en.216.

⁹⁹ Environmental Protection Agency Act, 1992, s.15(5)(viii).

¹⁰⁰ Environmental Protection Agency, "Integrated Pollution Prevention and Control (IPPC) Licensing in Ireland," available at www.epa.ie/Licensing/IPPCLicensing/#d.en.216.

technologies not entailing excessive costs to that of best available technology.¹⁰¹

These changes are certainly positive and it is important that these legislative changes continue to be properly enforced.

A system of emissions trading for producers of greenhouse gases from industrial and other sources has also been established. The European Emissions Trading Directive¹⁰² is being implemented as part of a Community-Wide endeavour to achieve the European Kyoto target of an 8% reduction in emissions. The Directive has been implemented in Ireland by the European Communities (Greenhouse Gas Emissions Trading) Regulations, 2004. The activities covered by the scheme are outlined in the Act and include energy production, processing of ferrous metals, the mineral industry and other large industrial plants.¹⁰³ The greenhouse gases involved are also outlined and include carbon dioxide, methane, nitrous oxide, hydrofluorocarbons, perfluorocarbons and sulphur hexafluoride.¹⁰⁴

The Act provides that the EPA shall be responsible for implementing the Directive in Ireland. The Regulations came into force on the 1st of January 2005 and it is now illegal for any person to carry out any activity listed in Schedule 1 of the Act without a greenhouse gas emissions permit issued by the EPA.¹⁰⁵ The EPA is obliged to develop a national allocation plan.¹⁰⁶ The scheme will operate initially over a period of two phases. The first phase runs until 2007, while the second phase will

¹⁰¹ *Ibid.*

¹⁰² Council Directive 2003/87/EC.

¹⁰³ European Communities (Greenhouse Gas Emissions Trading) Regulations, 2004 (S.I. No. 437 of 2004), Schedule 1.

¹⁰⁴ European Communities (Greenhouse Gas Emissions Trading) Regulations, 2004 (S.I. No. 437 of 2004), Schedule 2.

¹⁰⁵ European Communities (Greenhouse Gas Emissions Trading) Regulations, 2004 (S.I. No. 437 of 2004), s.4.

¹⁰⁶ European Communities (Greenhouse Gas Emissions Trading) Regulations, 2004 (S.I. No. 437 of 2004), s.9.

operate from 2008 to 2012.¹⁰⁷ The emission trading scheme applies to 1/3 of national greenhouse gas emissions and is likely to encourage further improvements in emission reduction.¹⁰⁸

E. Other Sectors

Under Article 2 of the Kyoto Protocol, Ireland is obliged to promote sustainable agriculture as part of its drive to reduce emissions. Emissions from agriculture are responsible for a very significant proportion of Ireland's national greenhouse gas emission total. 34.6% of national emissions of greenhouse gases and over 80% of methane emissions emerge from the agriculture sector.¹⁰⁹ Despite this reality, little or no legislation aimed at reducing emissions from agriculture has been adopted. Some agricultural activities are governed by the IPPC Licensing System. Licenses are required for the rearing of poultry and pigs in certain installations and for facilities for the slaughter of animals.¹¹⁰ Steps have also been taken to reduce emissions from the use of nitrate-based fertilisers. The use of nutrient management plans for individual farms and wider areas was given a statutory basis in the Waste Management Act, 1996.¹¹¹ It is planned that legislation on good agricultural practise will be implemented in the near future.¹¹² The agricultural sector appears to offer further scope for emissions reductions, but is unlikely to be significantly targeted due to anticipated political opposition from farmers' groups.

No significant legislation has yet been introduced to deal with many of the other aspects of Ireland's obligations under the Kyoto Protocol and the UNFCCC. These obligations include the promotion and protection of forests and other sinks, the

¹⁰⁷ Environmental Protection Agency, "Integrated Pollution Prevention and Control (IPPC) Licensing in Ireland," available at www.epa.ie/Licensing/IPPC/Licensing/#d.en.216.

¹⁰⁸ Department of the Environment, *Third National Communication* at p. 16.

¹⁰⁹ *Ibid.* at p. 34.

¹¹⁰ Environmental Protection Agency Act, 1992, First Schedule.

¹¹¹ Department of the Environment, *Second National Communication* at p. 42.

reduction of methane emissions from waste facilities and the adoption of climate change adaptation measures.¹¹³

VI. CONCLUSIONS

While Ireland is attempting to comply with its obligations under the UNFCCC, the Kyoto Protocol and European programmes on climate change, it has already exceeded its Kyoto and EU emissions limits. It seems certain that Ireland will fail to meet its emissions limit, while the European Union as a whole will likewise fail to meet its target.¹¹⁴ Ireland has also been slow to meet its reporting requirements under the UNFCCC and its Fourth National Communication, due on January 1st 2006, has yet to be submitted at the time of this writing.¹¹⁵

This paper has examined Ireland's attempts to comply with its obligations through a wide range of legislative initiatives. While some progress has been made, it has frequently been slow and largely ineffective. The government has often been forced into action due to developments at European level, rather than acting pursuant to its own initiative and has failed to implement many of the measures outlined in its own climate change policies. This paper has made some suggestions for further legislative action that could help to achieve greater compliance. However, these seem unlikely to be implemented due to an unwillingness to address these issues, especially when faced with opposition from powerful interest groups.

The unwillingness to address these issues is unfortunate because many of these changes would have wider economic and social benefits, in addition to ensuring compliance with climate change obligations. Further improvements in energy

¹¹² Department of the Environment, *Third National Communication* at p. 37.

¹¹³ *Kyoto Protocol to the United Nations Framework Convention on Climate Change* (1997), Article 2(1) a(ii) and Article 2(1)a(viii).

¹¹⁴ *Ibid.*

¹¹⁵ Climate Change Secretariat, *National Communications Annexe 1*, available at http://unfccc.int/national_reports/annex_i_natcom/items/1095.php.

efficiency across all sectors and increased use of renewable energies could reduce levels of air pollution and increase national energy supply security by decreasing dependence on fuel imports. Expanded use of public transport would also reduce pollution and congestion, leading to time savings and wider social and economic benefits. However, it seems likely that the slow pace of change will continue for the foreseeable future. The arrival of emissions trading and the likely cost of failure to reach Kyoto targets may eventually push these issues up the political agenda and engender legislative action. Compliance with international climate agreements has had an impact on domestic Irish legislation, but its future importance will be much greater. It is simply a matter of how soon the government is willing to fully address the issue.

The international instruments on climate change offer very wide scope to individual states to adopt imaginative and unique approaches to compliance. It is time for Ireland to stop reacting to European developments and to adopt proactive and visionary approaches to achieving greater compliance. The short-term sacrifices inherent in compliance are well worth it.