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# Possible Irish Responses to Climate Change

Rónán Kennedy\*

## 1 Introduction

Climate change is becoming a very important political, social and economic issue. Recent weeks have seen the publication of the Intergovernmental Panel on Climate Change's Fourth Assessment Report, with predictions of possible dire consequences for humanity if we do not deal with the causes and consequences of global warming. They have also seen the publication of the Irish Government's National Climate Change Strategy, setting out a plan for complying with our European and international obligations.

The paper considers what the issue of climate change and particularly the new National Strategy might mean for environmental law in Ireland. First, it focuses on the current situation. It examines the relevant international treaties and the resulting European obligations. It considers the various stages of the Irish response – the 2001 National Strategy, its seeming abandonment and the new Strategy. It also outlines the principal new Irish legislation that has resulted.

Second, it looks at how Ireland's response to climate change might develop in the future. This is in two parts. The first considers how climate change, as a complex, cross-sectoral issue, requires the application of new environmental policy instruments and what role lawyers might play in this process. The second is a brief overview of other possible policy measures.

It concludes by placing this analysis in the context of the particular nature of climate change as a commons problem, the phenomenon of 'peak oil' and future international and European emission reduction obligations.

### ***1.1 What is Climate Change?***

Climate change, also sometimes called "global warming" or the "greenhouse effect", is caused by the emission of gases into the atmosphere as a result of human activity. The Earth's climate has changed during the industrial era and scientists are beginning to agree that some of those changes have been caused by

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human activity.<sup>1</sup> Certain gases emitted during industrial or agricultural activity, such as carbon dioxide (CO<sub>2</sub>), methane, nitrous oxide and ozone, known as greenhouse gases (GHGs) collect in the atmosphere and lead to changes in the climate system which have led to the 1990s being the warmest decade since records began.<sup>2</sup> Scientific projections predict that concentrations of carbon dioxide in the atmosphere, global average surface temperature and sea levels will rise during the 21<sup>st</sup> century.<sup>3</sup>

This is likely to have an adverse effect on human health, biodiversity and ecological productivity, although the global impacts of a rise in temperature are not all negative. However, the greater the increase in temperature, the greater the adverse effect.<sup>4</sup> Of particular concern is the impact on water supply in water-scarce areas and on human populations in low-lying areas.<sup>5</sup>

Climate change presents new and difficult issues for environmental regulators to solve. CO<sub>2</sub>, one of the primary causes of climate change, is an unavoidable by-product of economic activity and inevitably rises with prosperity.<sup>6</sup> Much of this comes from the burning of fossil fuels, of which the planet still has a significant stock.<sup>7</sup>

## ***1.2 Impact of Climate Change in Ireland***

In the Irish context, this is likely to lead to an increase in mean monthly temperatures of between 1.25°C and 1.5°C.<sup>8</sup> Rainfall amounts are likely to change, either up or down, by 10% to 25%.<sup>9</sup> River flooding may increase.<sup>10</sup> There

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<sup>1</sup> Working Group II Contribution to the Intergovernmental Panel on Climate Change Fourth Assessment Report, *Climate Change 2007: Climate Change Impacts, Adaptation and Vulnerability Summary for Policymakers*, available at <http://www.ipcc.ch/SPM6avr07.pdf>, 3 (2007); International Panel on Climate Change, *Climate Change 2001: Synthesis Report, Summary for Policymakers*, p. 4.

<sup>2</sup> *Id.* at 4-5.

<sup>3</sup> *Id.* at 8.

<sup>4</sup> *Id.* at 9.

<sup>5</sup> *Id.* at 12.

<sup>6</sup> Jeffrey J. Rachlinski, *The Psychology Of Global Climate Change* 2000 U. ILL. L. REV. 299 (2000).

<sup>7</sup> *Id.* at 300.

<sup>8</sup> Ray Mc Grath, Elisa Nishimura, Paul Nolan, Tido Semmler, Conor Sweeney & Shiyu Wang, *Climate Change: Regional Climate Model Predictions for Ireland* (Environmental Protection Agency, 2005), 22.

<sup>9</sup> *Id.* at 24.

may be as many as 15% more intense cyclones.<sup>11</sup> There may be an increased risk of drought.<sup>12</sup>

The EPA report, *Climate Change – Scenarios and Impacts for Ireland*,<sup>13</sup> predicts:

- dramatic changes in rainfall pattern, with winter rainfall increasing by up to 10 per cent while summer rainfall will decrease by up to 40 per cent on parts of the south and east coasts;
- summers will warm by up to 2° C with areas in the central midlands experiencing typical summer daytime temperatures of up to 24.5° C;
- winter temperatures will increase by up to 1.5° C by mid-century, resulting in winters in the northern half of Ireland becoming similar to those presently experienced along the south coast;
- changes in frost frequency and in the growing season; and
- sea level rises, coupled with predicted increases in the frequency of extreme weather events, which render low-lying areas extremely vulnerable.<sup>14</sup>

The changed weather conditions described above are likely to have an obvious impact on population centres near rivers and seas such as Cork, Dublin, Galway and Limerick.<sup>15</sup> In particular, flooding would have consequences for the natural environment, for towns and cities on or near the shores of rivers or seas and for infrastructure such as roads, railways and airports.<sup>16</sup> For agriculture, the effects

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<sup>10</sup> *Id.* at 29.

<sup>11</sup> *Id.* at 35-37.

<sup>12</sup> Laura McElwain & John Sweeney, *Implications of the EU Climate Protection Target for Ireland*, p. 16, prepared for the Environmental Protection Agency by Irish Climate Change Analysis and Research Units, Department of Geography, National University of Ireland, Maynooth (2006), available at <http://www.epa.ie/EnvironmentalResearch/EPA-FundedResearchProjects/ReportsOutputs/ERC%20Report%205.pdf>.

<sup>13</sup> John Sweeney et al., *Climate Change : Final Report : Scenarios & Impacts for Ireland*, prepared for the Environmental Protection Agency by Department of Geography, National University of Ireland, Maynooth (2003), available at [http://www.epa.ie/EnvironmentalResearch/EPA-FundedResearchProjects/ReportsOutputs/ERTDI\\_15\\_Title-pages\\_and\\_ExecutiveSummary-for\\_web.pdf](http://www.epa.ie/EnvironmentalResearch/EPA-FundedResearchProjects/ReportsOutputs/ERTDI_15_Title-pages_and_ExecutiveSummary-for_web.pdf).

<sup>14</sup> <http://www.epa.ie/NewsCentre/PressReleaseArchive/2003/MainBody,471,en.html>

<sup>15</sup> McElwain & Sweeney, *supra* note 12.

<sup>16</sup> Irish Committee on Climate Change, *3rd Scientific Statement: Climate and Sea Level Change* (Royal Irish Academy), available online at <http://www.ria.ie/committees/iccc/pdfs/3statement.pdf>.

are likely to balance out: climate change will lead to adjustment costs, particularly for irrigation, but may also lead to new market opportunities elsewhere. Warmer weather will help crops grow but will also lead to a risk of lack of water in the summer months.<sup>17</sup> The impact on ecosystems and biodiversity will also be mixed,<sup>18</sup> but for fisheries is likely to be negative.<sup>19</sup> Overall, an increase in global mean temperatures of 1° C or less is likely to be beneficial to Ireland, any greater increase will be negative.<sup>20</sup>

## 2 The International Response to Climate Change

Climate change has been an important issue internationally for some years. The efforts of the international community to deal with it have given rise to two principal international agreements. These, in turn, have led to European legislation.

### 2.1 UN Framework Convention on Climate Change

#### 2.1.1 History

Climate change became an issue of serious concern to scientists in the mid-1980s. The political momentum was slower to develop. It did not begin until the late 1980s, through collaboration between UNEP and WMO (World Meteorological Organization). They set up the Intergovernmental Panel on Climate Change (IPCC) in 1988. They tried to put together the predictive models to create a state of the art report and provide policy-related advice about the size of the problem and what the possible responses were. It fed these into a series of ministerial conferences on climate change.

In 1989, the US government indicated that it would support an international treaty dealing with the issue. In December of that year, the United Nations General Assembly (GA) adopted a resolution calling on states “to prepare as a matter of urgency a framework convention on climate”. In December of the following year, after the first IPCC report predicted that the average global

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<sup>17</sup> Irish Committee on Climate Change, *2nd Scientific Statement: Climate and Irish Agriculture* (Royal Irish Academy), available online at [http://www.ria.ie/committees/iccc/pdfs/12214%20Ria%20Agr\\_climate%20chang.pdf](http://www.ria.ie/committees/iccc/pdfs/12214%20Ria%20Agr_climate%20chang.pdf); McElwain & Sweeney, *supra* note 12, at 16.

<sup>18</sup> McElwain & Sweeney, *supra* note 12, at 17.

<sup>19</sup> *Id.* at 18.

<sup>20</sup> *Id.*

temperature would rise by an average of 0.3°C per decade, the GA established a negotiating process that led to the Framework Convention on Climate Change (FCCC). This took two years to negotiate and was opened for signature at the UN Conference on Environment and Development (UNCED) in Rio in 1992.<sup>21</sup> It now has 189 parties and entered into force on March 21, 1994.<sup>22</sup>

### **2.1.2 Purpose of the FCCC**

Under Article 2 of the FCCC, the objective of the Convention (and of any related legal instruments) is to stabilize “greenhouse gas concentrations in the atmosphere at a level which would prevent dangerous anthropogenic interference with the climate system.” This “should be achieved within a time-frame sufficient to allow ecosystems to adapt naturally to climate change, to ensure that food production is not threatened and to enable economic development to proceed in a sustainable manner.”

The convention imposes some binding obligations on parties. These do not go as far as imposing a clear requirement to reduce emissions to a particular target. Instead, the FCCC is a typical framework convention, containing a set of principles. It also creates a set of institutions and some subsidiary bodies. It does not contain specific legally binding commitments on the parties. It mentions ideas of precaution and assigns responsibility for solving the problems of climate change primarily to the industrialized northern states.

All parties must provide inventories of emissions, implement mitigating programmes, promote technology transfer, manage sinks and reservoirs, plan adaptation to climate change, take into account in domestic policy, gather scientific data, exchange information, promote awareness, and communicate with the Conference of the Parties (Article 4 (1)).

### **2.1.3 Obligations on Annex I Parties**

Article 4 (2) is the nearest reference to a goal for the international community: to bring greenhouse gas emissions to a safe level. The industrialized countries are to take the lead in this. They are to stabilize their emissions at 1990 levels by the year 2000.

Article 4 (2) (d) required that the first Conference of the Parties (COP) to the Convention would review these commitments to see if they were adequate to the

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<sup>21</sup> John Knox, *The International Legal Framework for Addressing Climate Change*, 12 PENN ST. ENVTL. L. REV. 135, 135-136 (2004).

<sup>22</sup> [http://unfccc.int/essential\\_background/convention/items/2627.php](http://unfccc.int/essential_background/convention/items/2627.php)

intention of the convention, in light of the growing scientific understanding of the problem. When this review took place, it was clear that there was a need for more binding obligations. This led to the negotiation of the Kyoto Protocol to the FCCC in 1997.

## ***2.2 The Kyoto Protocol***

### **2.2.1 Principal Legal Obligations on Annex I Parties**

The parties to the FCCC and the Kyoto Protocol are divided into three groups. Annex I parties are listed in an annex to the Convention. These are developed countries, generally in the north. Some are former communist countries which are, in the words of the annex, “undergoing the process of transition to a market economy.” Annex II parties are members of the Organisation for Economic Co-operation and Development. The remainder, those not listed in an annex, are developing countries, generally located in the south. These are not subject to any emission reduction obligations.

Annex I parties to the FCCC who have also ratified the Kyoto Protocol are subject to several legally binding obligations under those agreements. Under Article 2, they must “elaborate policies and measures” to limit and reduce greenhouse gas emissions. Examples of what these might be are listed in the Article but there are no measurable targets to be met.

Article 3 imposes a more demanding requirement, that they must “ensure that their aggregate anthropogenic carbon dioxide equivalent emissions of the greenhouse gases listed [in the Kyoto Protocol] do not exceed their assigned amounts [under the Protocol], with a view to reducing their overall emissions of such gases by at least 5 per cent below 1990 levels in the commitment period 2008 to 2012.” This means that each country has a target for emission reduction which it must meet by 2012. (Some former communist countries may select a base year other than 1990, as for some, the peak of their industrial production was after that year, and all parties are permitted to use 1995 as a base year for emissions of hydrofluorocarbons, perfluorocarbons and sulphur hexafluoride.)

### **2.2.2 The Flexible Mechanisms**

Reductions in emissions do not have to be entirely met by actual domestic reductions in emissions. The Kyoto Protocol provides a number of options for

parties to use in ‘balancing the books’ for emissions. These are known as the “flexible mechanisms”.<sup>23</sup>

### **2.2.2.1 Emissions Trading**

The primary form of emissions trading under the Kyoto Protocol is restricted to Annex B parties (industrialised countries). It is governed by Article 17, which provides:

The Conference of the Parties shall define the relevant principles, modalities, rules and guidelines, in particular for verification, reporting and accountability for emissions trading. The Parties included in Annex B may participate in emissions trading for the purposes of fulfilling their commitments under Article 3. Any such trading shall be supplemental to domestic actions for the purpose of meeting quantified emission limitation and reduction commitments under that Article.

This restricts trading to those who have accepted binding emissions targets under Kyoto. It leaves the detail of the mechanisms by which trading takes place to be worked out. Note that trading must be a supplement to “domestic actions”. On first reading, this would seem to mean that a party cannot sit on its hands and allow emissions to rise during the period 2008-2012, then purchase emissions credits at the end of the period in order to meet its obligations under the Protocol. However, the article does not spell out what the consequences of doing this would be and this limitation has been somewhat weakened by later negotiation.

### **2.2.2.2 Joint Implementation**

The second flexible mechanism is known as ‘joint implementation’. This is provided for in Article 6.1:

For the purpose of meeting its commitments under Article 3, any Party included in Annex I may transfer to, or acquire from, any other such Party emission reduction units resulting from projects aimed at reducing anthropogenic emissions by sources or enhancing anthropogenic removals by sinks of greenhouse gases in any sector of the economy, provided that:

- (a) Any such project has the approval of the Parties involved;

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<sup>23</sup> This section relies heavily on Knox, *supra* note 21.

- (b) Any such project provides a reduction in emissions by sources, or an enhancement of removals by sinks, that is additional to any that would otherwise occur;
- (c) It does not acquire any emission reduction units if it is not in compliance with its obligations under Articles 5 and 7; and
- (d) The acquisition of emission reduction units shall be supplemental to domestic actions for the purposes of meeting commitments under Article 3.

Basically, this allows developed countries to collaborate on projects that reduce overall emissions either by using cleaner technology or by creating new or better carbon sinks. The resulting emission reduction units (ERUs) can be traded and used to offset carbon emissions in another location. The procedures for these joint projects are to be defined by the COP.<sup>24</sup> “Legal entities” (companies and state agencies) can participate in these schemes.<sup>25</sup> Irish government policy is that joint implementation projects will only be approved by the EPA if they are to be carried out outside of Ireland and this is unlikely to change in the future.<sup>26</sup>

### 2.2.2.3 Clean Development Mechanism

There is also a form of project-based emission reduction between developed and developing countries. This is known as the Clean Development Mechanism (CDM). It is provided for by Article 12:

12. 3. Under the clean development mechanism:

- (a) Parties not included in Annex I will benefit from project activities resulting in certified emission reductions; and
- (b) Parties included in Annex I may use the certified emission reductions accruing from such project activities to contribute to compliance with part of their quantified emission limitation and reduction commitments under Article 3, as determined by the

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<sup>24</sup> Article 6.2 of the Kyoto Protocol.

<sup>25</sup> Article 6.3 of the Kyoto Protocol.

<sup>26</sup> Department of the Environment, Heritage and Local Government, *Ireland's Pathway to Kyoto Compliance: Review of the National Climate Change Strategy* (Government Publications, 2006) [hereinafter *Ireland's Pathway*], available online at [http://www.environ.ie/DOEI/DOEIPol.nsf/0/2f96644fae717d7d80256f0f003bc7ec/\\$FILE/1Irelands%20Path%20to%20Kyoto%20Compliance.pdf](http://www.environ.ie/DOEI/DOEIPol.nsf/0/2f96644fae717d7d80256f0f003bc7ec/$FILE/1Irelands%20Path%20to%20Kyoto%20Compliance.pdf), at 18.

Conference of the Parties serving as the meeting of the Parties to this Protocol.

The purpose behind this provision is that a developed country can fund a project in a developing country which will reduce emissions in that developing country. The developed country can then claim certified emissions reductions (CERs) in return. These can be used to offset GHG emissions in the developed country. This should create a flow of capital and technology transfer to the developing world.

### **2.2.3 Bonn and Marrakesh**

Achieving agreement on many of the details which the Protocol itself left to be filled in proved difficult. Although some progress was made, COP-6 in 2000 failed to produce a successful agreement. In July 2001, the COP met at a special session in Bonn. Because the US had announced in March 2001 that it would not ratify Kyoto, there was great pressure for a successful outcome. This seemed to have been a useful stimulus as broad agreement on many of the outstanding issues was reached.<sup>27</sup>

The most important points to note are as follows: There is no explicit limit to the degree to which a party can purchase emissions credits to meet their obligations, although parties must have met their reporting commitments before purchased credits count. The types of activity which count as sinks have been expanded, which will probably mean that the originally-agreed targets are implicitly softened. The compliance procedure has been defined; breaching commitments will lead to penalties in the next commitment period.<sup>28</sup>

COP-7, held in Marrakesh in 2001, built on these agreements and defined the details of the operation of the flexible mechanisms. It also expanded on the compliance procedure.<sup>29</sup>

### **2.2.4 Entry into Force**

Throughout this process, there was a great deal of speculation regarding whether or not the Protocol would enter into force at all. Under Article 25.1, this required "... not less than 55 Parties to the Convention, incorporating Parties included in Annex I which accounted in total for at least 55 per cent of the total carbon

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<sup>27</sup> Knox, *supra* note 21, at 143.

<sup>28</sup> *Id.* at 144.

<sup>29</sup> *Id.* at 145.

dioxide emissions for 1990 of the Parties included in Annex I” to ratify it. As the US emitted approximately 36% of all carbon emissions in 1990, its withdrawal meant that practically every other party had to ratify. The largest holdout, coaxed by European pressure and encouragement, was Russia. It reluctantly ratified in September 2004, finally bringing the Protocol into force.<sup>30</sup>

### 2.2.5 Montreal Conference

To great media fanfare, the first Meeting of the Parties (MOP-1) to the Kyoto Protocol took place in Montreal from 28 November to 10 December 2005. As the MOP must formally adopt the agreements reached at the various COP, it marked an important step in the development of the international climate change regime. Most of the ‘Marrakesh Accords’ were formally approved. There were discussions on adjustments to the JI and CDM schemes. Most importantly, discussions on the next steps under the FCCC, which under Kyoto needed to begin by 2005, took place. These focused on the commitments of Annex I parties, although some progress was made on opening the way for the developing countries to take on some emission reduction obligations.<sup>31</sup> Despite an American walkout, a (somewhat weak) final decision was reached on “a dialogue on long-term cooperative action to address climate change”.<sup>32</sup>

### 2.2.6 Nairobi Conference

MOP-2, held in Nairobi from 6 to 17 November 2006, was not as productive, despite clearer scientific evidence for global warming. Negotiations on future action are proceeding on several different themes, such as the future commitments of Annex I parties, long-term cooperative action, review of the Protocol itself as required under Article 9 and a proposal from Russia to approve voluntary commitments by parties not in Annex I, but there is still considerable uncertainty regarding the likely shape of the final outcomes.<sup>33</sup>

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<sup>30</sup> See Seth Mydans & Andrew C. Revkin, *With Russia’s Nod, Treaty on Emissions Clears Last Hurdle*, N.Y. TIMES, Oct. 1, 2004.

<sup>31</sup> See Bettina Wittneben, Wolfgang Sterk, Hermann E. Ott & Bernd Brouns, *In From the Cold: The Climate Conference in Montreal Breathes New Life into the Kyoto Protocol*, available online at [http://lucht.milieuinfo.be/uploads/Wuppertal\\_Inst\\_COP11MOP1-report.pdf](http://lucht.milieuinfo.be/uploads/Wuppertal_Inst_COP11MOP1-report.pdf) (2006)

<sup>32</sup> *Id.* at 18, citing FCCC/CP/2005/L.4/Rev.1.

<sup>33</sup> *Summary of the Twelfth Conference of the Parties to the UN Framework Convention on Climate Change and Second Meeting of the Parties to the Kyoto Protocol*, EARTH NEGOTIATIONS BULLETIN (Int’l Inst. for Sustainable Dev., Winnipeg, Can.), Nov. 20, 2006, at 18-20, available at <http://www.iisd.ca/vol12/>.

### **2.3 European Targets**

The emission reduction target for Ireland is 92%; in other words, we must reduce our greenhouse gas emissions to 92% of what they were in 1990. Given the growth in our economy since 1990, this will be difficult. However, the EU managed to negotiate a 'bubble' for its emissions as there seemed to be scope for reducing emissions overall, due to the UK's move to natural gas and the collapse of East German heavy industry after re-unification.

This is provided for in Article 3.1<sup>34</sup> and Article 4, which allows parties to "reach[] an agreement to fulfil their commitments under Article 3 jointly." Under Article 4.6, if an individual party to such an agreement does not meet its emissions targets, that party, the "regional economic integration organization" (the phrase used to denote the EU) and the other member states are jointly and severally responsible for this breach. The emission reduction target for the EU is 92%. In the Burden Sharing Agreement, Ireland (as a Cohesion country) has negotiated an increase of 13% over 1990 levels.<sup>35</sup>

### **2.4 European Emissions Trading System**

The European Union measure for reducing GHG emissions is the emissions trading scheme (EU ETS), which is regulated by Directive 2003/87/EC. This is the largest cap-and-trade system in the world,<sup>36</sup> regulating the activities of producers in various manufacturing and energy industries.<sup>37</sup> It takes place in two periods, one of three years from 1 January 2005 and one of five years from 1 January 2008 (which is parallel to the first commitment period under the Kyoto Protocol).<sup>38</sup>

The ETS applies to a number of different industries listed in Annex I of the Directive: energy activities (such as coke ovens), the production and processing

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<sup>34</sup> "The Parties included in Annex I shall, individually or jointly, ensure" that they meet their assigned targets.

<sup>35</sup> Vinay Ganga & Simon Armitage, *The Kyoto Protocol, Carbon Credit Trading and their Impact on Energy Projects in Europe and the World*, 4 INT'L ENERGY L. AND TAX'N REV. 73 (2005); see also Jason Anderson & Ian Skinner, *The European Union's Approach to Reducing Greenhouse Gas Emissions*, 2 JOURNAL EUR. ENVTL. & PLAN. L. 92, 93 (2005).

<sup>36</sup> Gerard H. Kelly, *An Evaluation of the European Union's Emissions Trading Scheme in Practice*, 15 EUR. ENVTL. L. REV. 175 (2006).

<sup>37</sup> Ganga & Armitage, *supra* note 35, at 74.

<sup>38</sup> Directive 2003/87/EC, Article 10.

of ferrous metals, the mineral industry and pulp and paper plants;<sup>39</sup> but only to their emissions of carbon dioxide, not the range of gases listed in Annex II. (Article 24 permits the member states to extend the coverage of gases, subject to the approval of the Commission; this seems to be largely dependent on the availability of accurate monitoring.<sup>40</sup>) The installations covered account for about 45% of the EU's total CO<sub>2</sub> emissions or 30% of total GHG emissions.<sup>41</sup>

Governments draw up national allocation plans (NAPs), which deal with both how many emissions allowances will be granted and how they will be allocated (guided by the criteria listed in Annex III); these are then approved by the Commission.<sup>42</sup> In practice, the Commission has rejected some NAPs and given only conditional consent to others,<sup>43</sup> while Britain had to sue the Commission in order to have its plan accepted.<sup>44</sup>

Operators in these industries are granted emission allowances by national governments, who are to be guided by the Treaty, particularly Articles 87 and 88, which deal with competition and the functioning of the internal market.<sup>45</sup> For the first, three-year, period, at least 95% of these allowances are to be granted free-of-charge. For the second, five-year, period, at least 90% of these allowances are to be granted free-of-charge.<sup>46</sup>

Unused allowances can be sold by operators in a market in which any European person (including legal persons) or person based in a country with a compatible trading system can participate.<sup>47</sup> On 30 April of each year, an operator must surrender sufficient allowances to cover its verified emissions. If it does not do so, it will suffer a penalty of €40 per tonne of carbon dioxide equivalent,

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<sup>39</sup> These are a subset of the activities which are already covered by Annex I of the Integrated Pollution Prevention and Control Directive 96/61/EC. Bram Delvaux, *The EU Greenhouse Gas Emission Allowance Trading Directive*, 7 ENV. L. REV. 63, 65 (2005).

<sup>40</sup> *Id.* at 65.

<sup>41</sup> Kelly, *supra* note 36, at 176.

<sup>42</sup> Directive 2003/87/EC, Article 9.

<sup>43</sup> Peter Davies, *Trading in Greenhouse Gas Emissions: The European Community's Endorsement of Emissions Trading*, 4 INT'L ENERGY L. & TAX. REV. 105, 110 (2006).

<sup>44</sup> Kelly, *supra* note 36, at 178-79.

<sup>45</sup> Directive 2003/87/EC, Article 11.

<sup>46</sup> Directive 2003/87/EC, Article 10.

<sup>47</sup> Directive 2003/87/EC, Article 13.

increasing to €100 per tonne for the period from 2008.<sup>48</sup> Units can be carried ('banked') from year to year or even borrowed from future years.<sup>49</sup> The use and trading of units is tracked through a system of European-wide registries administered under Commission Regulation EC/2216/2004.<sup>50</sup>

Through the European Linking Directive (2004/101/EC), this system also allows European industries to participate in the Kyoto flexible mechanisms outlined above.<sup>51</sup> One ETS unit can be automatically converted to one Certified Emissions Reduction (CER) or Emissions Reduction Unit (ERU).<sup>52</sup>

The price of carbon emissions fell from €29 per tonne to €12 per tonne in May 2006 when it emerged that a number of regions, including Spain, had emissions that were significantly below their allocations. Unless emissions are above allocations, credits are not valuable; this uncertainty is liable to persist for some time.<sup>53</sup> There are indications that the scheme is not operated as well as hoped and that the price of carbon emission credits are not as high as are needed in order to achieve the goal of slowing climate change.<sup>54</sup> The scheme has also been criticised for "grandfathering" existing firms, as it favours incumbents and may discourage reductions as firms seek to preserve their allocations in future phases.<sup>55</sup>

## ***2.5 Other European Legislation***

In addition to the ETS, the European Union has brought into force a number of other instruments aimed at reducing GHG emissions.<sup>56</sup>

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<sup>48</sup> Directive 2003/87/EC, Article 16.

<sup>49</sup> Kelly, *supra* note 36, at 177.

<sup>50</sup> Anderson & Skinner, *supra* note 35, at 96.

<sup>51</sup> Ganga & Armitage, *supra* note 35, at 74.

<sup>52</sup> Davies, *supra* note 43, at 112.

<sup>53</sup> Carl-Stephan Schweer, Joseph Phelan & Bernd Beckmann, *Is the Clean Development Mechanism Warming Up?*, 15 UTIL. L. REV. 103, 112-13 (2005-2006).

<sup>54</sup> James Murray, *Emission trading suffers as carbon prices plummet*, available at [http://green.itweek.co.uk/2007/02/emission\\_tradin.html](http://green.itweek.co.uk/2007/02/emission_tradin.html) (Feb. 21, 2007).

<sup>55</sup> Kelly, *supra* note 36, at 176.

<sup>56</sup> For an overview of European climate change policy before Kyoto, see Anderson & Skinner, *supra* note 35, at 93.

### 2.5.1.1 Emissions from Cars

The Commission negotiated an environmental agreement with the European automotive industry,<sup>57</sup> the first such EC negotiated agreement.<sup>58</sup> It was followed by Directive 1999/94/EC on availability of consumer information on fuel economy and CO<sub>2</sub> emissions in respect of the marketing of new passenger cars, which requires that showrooms for new cars sold after 18 January 2001 display information on fuel consumption and CO<sub>2</sub> emissions. Council and Parliament Decision 1753/2000/EC on CO<sub>2</sub> monitoring for new cars requires member states to establish a scheme to monitor the average specific emissions of CO<sub>2</sub> from new passenger cars registered in the Community. Further legislation from the Commission is likely to require car manufacturers to cut emissions by 18% over five years.<sup>59</sup>

### 2.5.1.2 Renewable Energy Directive

Directive 2001/77/EC on the promotion of electricity from renewable energy sources, which entered into force on the 27<sup>th</sup> October 2001, creates obligations for member states to set national targets which are aimed to achieve a greater proportion of domestic energy production from renewable sources. It requires the Commission to evaluate the direct and indirect supports given to electricity producers and their compatibility with the European regime on state aid. It also requires member states to certify green electricity providers, guarantee access to green electricity and ensure providers have transparent, non-discriminatory access to the grid.<sup>60</sup>

### 2.5.1.3 Energy Performance of Buildings Directive

Directive 2002/91/EC on the Energy Performance of Buildings requires that member states shall provide a methodology of calculation of the integrated energy performance of buildings; minimum standards for energy performance of new buildings and major renovations; energy certification of buildings; and regular inspections of boilers and air-conditioning systems. These are to be in force from 4 January 2006.

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<sup>57</sup> Commission Communication, *Implementing the Community Strategy to Reduce CO<sub>2</sub> from Cars: An Environmental Agreement with the European Automobile Industry*, COM (1998) 495 (final).

<sup>58</sup> David Pocklington, *Progress Towards Kyoto Targets Through an EU Environmental Agreement on CO<sub>2</sub> Emissions from Passenger Cars*, 12 ENVTL. L. & MGT. 60 (2000).

<sup>59</sup> Jamie Smyth, *EU orders car makers to cut CO<sub>2</sub> emissions*, IRISH TIMES, Feb. 8, 2007.

<sup>60</sup> Bram Delvaux, *The EC State Aid Regime regarding Renewables: Opportunities and Pitfalls*, 12 EUR. ENVTL. L. REV. 103, 106-07 (2003).

#### **2.5.1.4 Directive on Taxation of Energy Products**

Council Directive 2003/96/EC on taxation of energy products requires a minimum level of taxes on energy products and electricity. It entered into force on 31 October 2003. Ireland has an exemption until 1 January 2008.

#### **2.5.1.5 Regulation on F Gases**

Regulation 842/2006/EC on certain fluorinated greenhouse gases controls the use of what are known as 'F gases' (hydrofluorocarbons (HFCs), perfluorocarbons (PFCs) and sulphur hexafluoride (SF<sub>6</sub>)), which are very effective global warming agents. It entered into force on 4 July 2006.

### **3 The Irish Response to Climate Change**

The Irish response to climate change seems to have gone through three stages. The first stage, commencing with the first Strategy in 2000, included a mix of proposed policies in an attempt to reduce our carbon emissions across the economy. The second stage, although unsurprisingly not officially acknowledged, seems to have been a retreat from this strategy and a return to 'business as usual'. The third stage, recently begun, is founded on a new National Strategy document.

#### ***3.1 First Stage: "Business as Usual No Longer an Option"***

##### **3.1.1 National Climate Change Strategy 2000**

In 2000, the Minister for Environment and Local Government, Noel Dempsey TD, published the "National Climate Change Strategy" (NCCS). This stated:

We have already reached our Kyoto 13% growth limitation target. Now, we have to achieve the difficult task of dramatically reducing greenhouse gas emissions over this decade. We intend to do so in a manner that protects our economy, that is equitable, and that will place a premium on efficiency and on technical innovation.<sup>61</sup>

The criteria which would guide this strategy would include:

- the requirement to promote sustainable development,

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<sup>61</sup> Department of the Environment, Heritage and Local Government, *National Climate Change Strategy* 2000, 2, available at <http://www.environ.ie/DOEI/DOEIPol.nsf/wvNavView/Climate+Change?OpenDocument&Lang=#i4>.

- maximisation of economic efficiency, including a preference for the use of "no regret" and least cost measures,
- achievement of sectoral equity (relative costs and effort, achievement of reductions across the economy),
- protection of economic development and competitiveness (market based instruments, exploitation of new markets and opportunities),
- generating an impetus for early action.<sup>62</sup>

The strategy document provides an overview of many proposed changes in Irish legislation and government policy to help tackle climate change. Key initiatives would include:

- carbon energy taxation,
- use of emissions trading,
- measures supportive of ending coal-firing at Moneypoint
- fuel switching to low and zero carbon fuels,
- livestock reductions and lower fertiliser use,
- fuel efficiency, demand management and modal shift in transport,
- energy efficiency in construction, and
- adjustment of the new house grant.<sup>63</sup>

The accompanying press release from the Minister made it clear that 'business as usual' was not an option for the future and underlined the government's determination to comply with our Kyoto obligations by reducing emissions.<sup>64</sup>

### 3.1.2 Progress Report 2002

In 2002, the Department of the Environment published a progress report on the National Climate Change Strategy. This predicted that without implementation

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<sup>62</sup> *Id.* at 3.

<sup>63</sup> *Id.* at 2.

<sup>64</sup> See Department of the Environment, Heritage and Local Government, *Climate Change: We Must Act Now*, available at [http://www.environ.ie/DOEI/DOEIPol.nsf/0/2f96644fae717d7d80256f0f003bc7ec/\\$FILE/climate.doc](http://www.environ.ie/DOEI/DOEIPol.nsf/0/2f96644fae717d7d80256f0f003bc7ec/$FILE/climate.doc), 2 November 2000.

of the strategy, emissions could be 37% over 1990 levels by 2010.<sup>65</sup> The report provides an overview of the initiation of a large number of studies and research in support of the initiative mentioned above. The principal concrete achievements were the provision of additional resources for public transport<sup>66</sup> and changes to farming grant structures.<sup>67</sup> Although a review was promised in 2002,<sup>68</sup> it was not published.

### ***3.2 Second Stage: Back to 'Business As Usual'?***

In the meantime, it would seem that government policy shifted somewhat. In particular, the government had planned to introduce a specific carbon tax but decided not to do so in September 2004, probably because they did not wish to add to the high increases in energy costs that had occurred around that time and because of lobbying from industry.<sup>69</sup>

A review of the strategy was published in 2006.<sup>70</sup> It is clear from this that many of the policies in the original 2000 strategy were quietly shelved and are viewed as no longer relevant:

Other proposals in the Strategy have not been implemented in light of further analysis as to their suitability in an Irish context. Examples include the decisions not to proceed with a proposed carbon tax at a national level and to continue coal firing at the ESB's Moneypoint power station. As such, this review does not measure progress against the sectoral targets included in the Strategy, which were set with reference to the policy mix available and proposed at the time.<sup>71</sup>

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<sup>65</sup> Department of the Environment, Heritage and Local Government, *Progress Report: Implementation of the National Climate Change Strategy*, 8 (2002), available at [http://www.environ.ie/DOEI/DOEIPol.nsf/0/2f96644fae717d7d80256f0f003bc7ec/\\$FILE/ccrpt2.pdf](http://www.environ.ie/DOEI/DOEIPol.nsf/0/2f96644fae717d7d80256f0f003bc7ec/$FILE/ccrpt2.pdf)

<sup>66</sup> *Id.* at 16.

<sup>67</sup> *Id.* at 20.

<sup>68</sup> *Id.* at 24.

<sup>69</sup> Cliff Taylor, *Cabinet Abandons Plan to Introduce Carbon Tax*, IRISH TIMES, Sept. 10 2004.

<sup>70</sup> *Ireland's Pathway*, *supra* note 26.

<sup>71</sup> *Id.* at 15.

### ***3.3 Third Stage: National Climate Change Strategy 2007***

The new National Climate Change Strategy was launched by the Minister for the Environment, Dick Roche T.D., on 2 April 2007. The strategy is cross-sectoral and covers both measures already part of the National Development Plan 2007-2013, Transport 21, the Energy White Paper and the Bioenergy Action Plan and additional measures.<sup>72</sup>

#### **3.3.1 Key Policies**

Ireland is currently running well over its targets for emissions growth, at 25.4% of 1990 figures in 2005.<sup>73</sup> Ireland's projected emissions per annum, without taking reduction measures, will be approximately 80 megatonnes (Mt) of carbon dioxide equivalent (CO<sub>2</sub>E). Its estimated Kyoto target is approximately 63 Mt CO<sub>2</sub>E.<sup>74</sup> This means that the Government must achieve reductions of just over 17 Mt CO<sub>2</sub>E per annum or obtain carbon credits to cover the shortfall.

The new National Climate Change Strategy deals with a number of different sectors of the economy, as follows (figures in brackets are emissions for 2005;<sup>75</sup> figures for reductions are estimates for 2010):

- *Energy Supply* (16.3 Mt CO<sub>2</sub>E): Connected with the recent White Paper, *Delivering a Sustainable Energy Future for Ireland*,<sup>76</sup> reductions in this sector with amount to approximately 4 Mt CO<sub>2</sub>E. This will largely be made up of 2.4 Mt CO<sub>2</sub>E arising from the ETS and 1.47 Mt CO<sub>2</sub>E from the use of renewable sources of electricity generation. Other measures include the co-firing of biomass and peat in power generation, more efficient

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<sup>72</sup> Department of the Environment, Heritage and Local Government, *National Climate Change Strategy: comprehensive measures across all sectors to ensure we meet our Kyoto targets, says Roche*, available at <http://www.environ.ie/DOEI/DOEIPub.nsf/6fb57b90102ce64c80256d12003a7a0d/fc5e589279618256802572b1004a8178?OpenDocument>.

<sup>73</sup> Liam Reid, *EPA Calls For New Measures To Tackle Emissions*, IRISH TIMES, Feb. 16 2007.

<sup>74</sup> Department of the Environment, Heritage and Local Government, *National Climate Change Strategy 2007-2012* [hereinafter *Strategy 2007-2012*], 17, available at [http://www.environ.ie/DOEI/DOEIPol.nsf/0/2f96644fae717d7d80256f0f003bc7ec/\\$FILE/NCCS%20FINAL%20280307.pdf](http://www.environ.ie/DOEI/DOEIPol.nsf/0/2f96644fae717d7d80256f0f003bc7ec/$FILE/NCCS%20FINAL%20280307.pdf) (2006).

<sup>75</sup> *Id.* at 52.

<sup>76</sup> Department of the Environment, Heritage and Local Government, *Delivering a Sustainable Energy Future for Ireland*, available at <http://www.dcmnr.gov.ie/NR/rdonlyres/B0D3D168-3DCD-43E9-8D87-F4666239049F/0/EnergyWhitePaper12March2007.pdf> (2007).

- electricity generation, improved electrical and gas transmission infrastructure, development of Combined Heat and Power (CHP), and electricity Demand Side Management (DSM), for which a full plan will be prepared in 2007. Research into ocean energy continues. The coal-fired station at Moneypoint will remain open.<sup>77</sup>
- *Transport* (13.46 Mt CO<sub>2</sub>E): Emissions here have increased by 160% from 1990 to 2005 and decoupling these from economic growth is imperative. Reductions in this sector will amount to approximately 2.3 Mt CO<sub>2</sub>E. This will be largely made up of 0.5 Mt CO<sub>2</sub>E from Transport 21, 0.5 Mt CO<sub>2</sub>E from car technology improvements required by the EU, 0.27 Mt CO<sub>2</sub>E from the Mineral Oils Tax Relief II Scheme and 0.5 Mt CO<sub>2</sub>E from achieving EU biofuels market penetration.<sup>78</sup>
  - *Residential* (7.1 Mt CO<sub>2</sub>E): Reductions in this sector will amount to approximately 0.5 Mt CO<sub>2</sub>E. This will be largely made up of 0.36 Mt CO<sub>2</sub>E from existing improvements to the Building Regulations and 0.12 Mt CO<sub>2</sub>E from further revision. Other anticipated changes include the introduction of a Building Energy Rating, grants administered under the Greener Homes Scheme, a levy on incandescent lightbulbs, the provision of smart meters and continuing awareness initiatives.<sup>79</sup>
  - *Industry, commercial and services* (12 Mt CO<sub>2</sub>E): Reductions in this sector will amount to approximately 1.2 Mt CO<sub>2</sub>E. This will be largely made up of 0.6 Mt CO<sub>2</sub>E from the ETS, 0.15 Mt CO<sub>2</sub>E from the voluntary Large Industry Energy Network, 0.16 Mt CO<sub>2</sub>E from a bioheat support scheme and 0.16 Mt CO<sub>2</sub>E from a CHP support scheme. Other measures include EU legislation dealing with fluorinated gases, various plans directed towards greater energy efficiency and support from research and development.<sup>80</sup>
  - *Agriculture, land-use and forestry* (19.3 Mt CO<sub>2</sub>E): Reductions in this sector will amount to approximately 4.5 Mt CO<sub>2</sub>E. This will be largely made up of 2.4 Mt CO<sub>2</sub>E arising from CAP reform and 2 Mt CO<sub>2</sub>E from afforestation as a carbon sink. Other measures include the Rural Environment

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<sup>77</sup> *Strategy 2007-2012*, *supra* note 74, at 20-21.

<sup>78</sup> *Id.* at 22-24.

<sup>79</sup> *Id.* at 25-27.

<sup>80</sup> *Id.* at 28-30.

Protection Scheme (REPS) 4, better manure management, anaerobic digestion and the growing of energy crops.<sup>81</sup>

- *Waste* (1.8 Mt CO<sub>2</sub>E): Reductions in this sector will amount to approximately 1.2 Mt CO<sub>2</sub>E. This will be largely made up of 0.7 Mt CO<sub>2</sub>E from diversion of biodegradable waste from landfill and 0.5 Mt CO<sub>2</sub>E from landfill gas capture. Other measures will include recovery and recycling, public awareness campaigns and waste-to-energy conversion.<sup>82</sup>
- *Public sector*: No predictions of reductions are made for this sector. The targets include a reduction in greenhouse gas emissions equivalent to a 33% saving in energy use by 2020, the exclusive purchase of CFL light bulbs by the end of 2007, a multi-tiered strategy for energy savings by the Office of Public Works, carbon offsets for all air travel on Government business and installing biomass heating in schools.<sup>83</sup>
- *Cross-sectoral*: Other measures will include an awareness campaign with a budget of at least €15 over 5 years, tax incentives, the ETS and the purchase of up to 3.6 million carbon allowances for each of the years 2008 to 2012, new planning guidelines, and funding for research and development.<sup>84</sup>

These measures give a total combined reduction of approximately 13.6 Mt CO<sub>2</sub>E. The remaining 3.6 Mt CO<sub>2</sub>E will be obtained using the Kyoto flexible mechanisms,<sup>85</sup> which are “an element of [the Government’s] overall response to meeting its emissions target.”<sup>86</sup> The government’s estimate of the cost of 1 Mt CO<sub>2</sub>E is €15 million, giving an anticipated annual cost of €54 million per annum for the first commitment period.

In addition to the various measures listed above, the Government will establish a Climate Change Commission, attached to the National Economic and Social Development Office, reporting annually to Government through an appropriate Cabinet Committee. The Department of the Environment, Heritage and Local Government will coordinate the preparation of an annual Implementation Status

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<sup>81</sup> *Id.* at 31-32.

<sup>82</sup> *Id.* at 33-34.

<sup>83</sup> *Id.* at 35-37.

<sup>84</sup> *Id.* at 38-41.

<sup>85</sup> *Id.* at 17.

<sup>86</sup> *Ireland’s Pathway*, *supra* note 26, at 17.

Report which will be laid by the Minister before both Houses of the Oireachtas and presented to the Joint Oireachtas Committee on the Environment and Local Government. The EPA will prepare emissions reports and emissions projections. Finally, the Government will publish the third National Climate Change Strategy “in good time to ensure that Ireland is well placed to meet its post-Kyoto commitments.”<sup>87</sup>

### 3.3.2 Climate Change Legislation

Climate change features in a number of other items of Irish legislation. The following is a brief overview of the principal instruments.

#### 3.3.2.1 Sustainable Energy Act 2002

Section 6 (c) of the Sustainable Energy Act 2002 makes it one of the functions of Sustainable Energy Ireland (SEI) to

promote and assist the reduction of greenhouse gas emissions and transboundary air pollutants associated with the production, supply and use of energy[.]

On foot of that mandate, SEI has worked on negotiated energy agreements with industry,<sup>88</sup> set up a website, [www.combatclimatechange.ie](http://www.combatclimatechange.ie), to spread public awareness of climate change and also organised a symposium on the topic.<sup>89</sup> Indeed, all of SEI’s activities should assist with reducing Ireland’s carbon emissions.

#### 3.3.2.2 Protection of the Environment Act 2003

Section 5 of the Protection of the Environment Act 2003 amends, *inter alia*, the definition of ‘emission’ in section 3 of the Environmental Protection Agency Act 1992 to include “the release of a greenhouse gas or a precursor of a greenhouse gas into the atmosphere”, where a ‘greenhouse gas’ means

(a) carbon dioxide, methane, nitrous oxide, sulphur hexafluoride, any hydrofluorocarbon or any perfluorocarbon, and

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<sup>87</sup> *Strategy 2007-2012*, *supra* note 74, at 48-49.

<sup>88</sup> Sustainable Energy Ireland, *Annual Report 2005*, available at [http://www.sei.ie/getFile.asp?FC\\_ID=1929&docID=67](http://www.sei.ie/getFile.asp?FC_ID=1929&docID=67), 17 (2005).

<sup>89</sup> Sustainable Energy Ireland, *Annual Report 2002*, available at [http://www.sei.ie/getFile.asp?FC\\_ID=36&docID=67](http://www.sei.ie/getFile.asp?FC_ID=36&docID=67), 19 (2002); Sustainable Energy Ireland, *Annual Report 2003*, available at [http://www.sei.ie/getFile.asp?FC\\_ID=37&docID=67](http://www.sei.ie/getFile.asp?FC_ID=37&docID=67), 31 (2003).

(b) such other gases as may be prescribed, in so far as the emission of any such gas contributes to global climate change;

This includes greenhouse gases amongst the substances whose release into the atmosphere can be controlled and licensed by the EPA under the IPPC process.

### **3.3.2.3 European Communities (Greenhouse Gas Emissions Trading) Regulations 2004**

S.I. 437 of 2004, the European Communities (Greenhouse Gas Emissions Trading) Regulations 2004, implements Directive 2003/87/EC (the EU ETS) in Ireland.<sup>90</sup>

Under Article 4, none of the activities listed in Schedule 1 of the Regulations can be carried on after 1<sup>st</sup> January 2005 without an GHG emissions permit issued by the EPA (which is the competent authority for the purposes of the Directive). The Regulations also set out a licensing procedure administered by the Agency, which is to be coordinated with the Integrated Pollution Prevention and Control (IPPC) licensing scheme.

The Agency is also charged with developing a NAP for Ireland, allocating allowances to operators and monitoring emissions. This has been completed for the period 2005 to 2007 and accepted by the Commission.<sup>91</sup> Operators without sufficient allowances to surrender on 30<sup>th</sup> April of each year during the “pilot period” from 1<sup>st</sup> January 2005 and the “Kyoto period” from 1<sup>st</sup> January 2008 must pay a penalty of €40 or €100, respectively, per tonne of CO<sub>2</sub>E.

### **3.3.2.4 European Communities (Greenhouse Gas Emissions Trading) (Amendment) Regulations 2005**

S.I. 706 of 2005, the European Communities (Greenhouse Gas Emissions Trading) (Amendment) Regulations 2005, which came into force on 11<sup>th</sup> November 2005, amend the 2004 Regulations slightly in order to implement the European Linking Directive.<sup>92</sup> This allows operators in Ireland to use CERs or ERUs from the CDM or JI to meet their obligations under the EU ETS. For the “pilot period” (2005-2007), only CERs from the CDM may be used; for the “Kyoto period” (2008-

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<sup>90</sup> See Ciarán Oakes, *Primary and Secondary Legislation relevant to Planning and Environmental Law*, 11 IRISH PLAN. & ENVTL. L. J. 196 (2004).

<sup>91</sup> <http://www.epa.ie/Licensing/EmissionsTrading/NAP12005-2007/>. The final decision is available at <http://www.epa.ie/Licensing/EmissionsTrading/NAP12005-2007/FinalAllocation/FileUpload,6163,en.pdf>.

<sup>92</sup> See Ciarán Oakes, *Primary and Secondary Legislation relevant to Planning and Environmental Law*, 13 IRISH PLAN. & ENVTL. L. J. 47 (2006).

2012), both CERs and ERUs from JI projects may be used. However, credits from projects related to nuclear facilities, land use, land use change or forestry project activities may not be used.

### **3.3.2.5 European Communities (Energy Performance of Buildings) Regulations 2005**

S.I. 872 of 2005, the European Communities (Energy Performance of Buildings) Regulations 2005, which came into force on 21<sup>st</sup> December 2005, amends section 3 of the Building Control Act 1990.<sup>93</sup> This allows the Minister to make building regulations making provision for the conservation of fuel and energy in relation to buildings and regulations to transpose Directive 2002/91/EC.

### **3.3.2.6 Building Regulations (Amendment) Regulations 2005**

S.I. 873 of 2005, the Building Regulations (Amendment) Regulations 2005, which came into force on 1<sup>st</sup> July 2006, partly implements the Energy Performance of Buildings Directive (2002/91/EC).<sup>94</sup> It seems to implicitly repeal S.I. 284 of 2002, the Building Regulations (Amendment) Regulations 2002. The new regulation substitutes a new Part L into the Building Regulations 1997 (S.I. 497 of 1997), requiring that a building

shall be designed and constructed so as to ensure that the energy performance of the building is such as to limit the amount of energy required for the operation of the building and the amount of CO<sub>2</sub> emissions associated with this energy use insofar as is reasonably practicable.

CO<sub>2</sub> emissions are to be calculated using a method published by SEI.<sup>95</sup> Construction work for which planning permission approval is applied for on or before June 30, 2006, provided that substantial work has been completed by June 30, 2008 is exempted. In *Adroit Co. and Granbrind Ltd. v. Minister for Environment, Heritage and Local Government*,<sup>96</sup> Kelly J. held that “substantial work” (in the context of Part M of the 1997 Regulations) was to be interpreted as referring to work carried

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<sup>93</sup> See *id.*

<sup>94</sup> See *id.*

<sup>95</sup> The methodology was published on 29<sup>th</sup> June 2006 and is available at <http://www.sei.ie/index.asp?locID=1011&docID=-1>.

<sup>96</sup> [2005] 2 I.L.R.M. 96.

out on individual buildings and not to works carried out on foot of a planning permission as a whole.<sup>97</sup>

### **3.3.2.7 Kyoto Protocol Flexible Mechanisms Regulations 2006**

S.I. 244 of 2006, the Kyoto Protocol Flexible Mechanisms Regulations 2006, which came into force on 15<sup>th</sup> May 2006, designate the EPA as the Focal Point for approval of projects under the JI or CDM flexible mechanisms of the Kyoto Protocol.<sup>98</sup> Persons within Ireland who wish to participate in a JI or CDM project must therefore apply to the EPA for approval. The EPA is also to establish a register for the purposes of Article 7(4) of the Protocol, *i.e.* maintaining a proper record of the various types of credits under the Protocol.

### **3.3.2.8 European Communities (Energy Performance Of Buildings) Regulations 2006**

S.I. 666 of 2006, the European Communities (Energy Performance Of Buildings) Regulations 2006, which came into force on 1<sup>st</sup> January 2007, partly implements Directive 2002/91/EC, on a phased basis. Part 3 requires that buildings which are offered for sale or letting should have a Building Energy Rating (BER) certificate. The certificate is to be issued by an assessor certified by Sustainable Energy Ireland according to the procedure set out in the regulations. It will apply to

- (a) new dwellings commencing on or after 1 January 2007;
- (b) new buildings, other than dwellings, commencing on or after 1 July 2008;
- (c) buildings of any class in existence at 1 January 2009 offered for sale or letting on or after 1 January 2009.

However, it does not apply to

- (a) a new dwelling for which planning permission was applied for or a planning notice was published on or before 31 December 2006, and where substantial work is completed by 30 June 2008;
- (b) a new building, other than a dwelling, for which planning permission is applied for or a planning notice is published on or before 30 June 2008 and

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<sup>97</sup> Case and Comment, *Adroit Company and Granbrind Ltd. v. Minister for Environment, Heritage and Local Government*, 10 CONVEYANCING AND PROPERTY LAW JOURNAL 71 (2005).

<sup>98</sup> See Ciarán Oakes, *Primary and Secondary Legislation relevant to Planning and Environmental Law*, 13 IRISH PLAN. & ENVTL. L. J. 93 (2006).

where substantial work is completed by 30 June 2010, except when such building is offered for a second or subsequent sale or letting.

(c) a new dwelling in respect of which an application for certification for the purposes of Section 25 of the Act of 1997 was made on or before 31 December 2006 and where substantial work is completed by 30 June 2008;

(d) a new building, other than a dwelling, in respect of which an application for certification under Section 25 of the [Dublin Docklands Development Authority Act 1997, for exempted development status] was made on or before 30 June 2008 and where substantial works is completed by 30 June 2010 except where such building is offered for a second or subsequent sale or letting;

(e) any building, other than a dwelling, which is exempted development by virtue of Section 25(7)(a)(i) of the [Dublin Docklands Development Authority Act 1997] and where substantial work on such development is completed by 30 June 2010 except where such building is offered for a second or subsequent sale or letting.

Part 2 requires that the use of alternative energy systems must be given “due consideration” in the design of any large building from 1<sup>st</sup> January 2007. Paragraph 8 requires that public service buildings must, on or after 1<sup>st</sup> January 2009, display a prominent BER certificate.

### **3.3.2.9 Carbon Fund Act 2007**

The Carbon Fund Bill 2006 went through its final stages in the Dáil on 28<sup>th</sup> March 2007. It was signed by the President on 7<sup>th</sup> April 2007 and entered into force immediately. The Act permits the Minister for the Environment to create a ring-fenced fund (the “Carbon Fund”) for the future purchase of emissions credits under the FCCC and the Kyoto Protocol. The Fund is to be managed by the National Treasury Management Agency, who must report to the Minister and the Oireachtas on it annually. The Chief Executive of the Agency may also be required to give evidence before the Public Accounts Committee.

## 4 Future Possible Responses

### 4.1 *Second Generation Environmental Regulation*

The new National Climate Change Strategy is a step in the unavoidable “transition to a low-carbon world”.<sup>99</sup> We must consider how we can best manage this transition and what regulatory tools and options are available to us.

“Traditional” command-and-control methods of dealing with pollution, involving the use of uniform technology standards, have been criticised for operating in a fragmented manner, with the inefficiency of a large central bureaucracy and without coordination. They do not always properly balance the costs and benefits of regulation and do not encourage continual reductions in pollution.<sup>100</sup> This has led to the development of a “second generation” of regulatory instruments: market-based, further upstream, more flexible, built on public transparency, integrated into business planning and focusing on incentives rather than punishment.<sup>101</sup> These may operate in a flexible, modular way.<sup>102</sup>

Amongst the tools available are contracts between government and regulated industries and firms (used for environmental regulation in Holland), negotiation over rule-making, economic incentive systems such as taxes, tradable permits, transferable development rights and risk bubbles (an umbrella of permissible emissions for an entire facility). Supplementary options include consumer information strategies, liability schemes, strong private property rights in environmental resources and subsidies in exchange for reductions in pollution.<sup>103</sup>

Regulators may also use “reflexive law” instruments, such as product labelling, emissions reporting and internal environmental audits, in an attempt to make polluters internalise the norm of environmental protection as society moves to a

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<sup>99</sup> Department of the Environment, Heritage and Local Government, *National Climate Change Strategy 2007-2012* (Government Publications, 2007), available at [http://www.environ.ie/DOEI/DOEIPol.nsf/0/2f96644fae717d7d80256f0f003bc7ec/\\$FILE/NCCS%20FINAL%20280307.pdf](http://www.environ.ie/DOEI/DOEIPol.nsf/0/2f96644fae717d7d80256f0f003bc7ec/$FILE/NCCS%20FINAL%20280307.pdf), p. 6.

<sup>100</sup> Richard B. Stewart, *A New Generation of Environmental Regulation?*, 29 *CAP. U. L. REV.* 21, 28-34 (2001).

<sup>101</sup> Denis D. Hirsch, *Symposium Introduction: Second Generation Policy and the New Economy*, 29 *CAP. U. L. REV.* 1, 6-15 (2001).

<sup>102</sup> See Jody Freeman & Daniel A. Farber, *Modular Environmental Regulation*, 54 *DUKE L.J.* 795 (2005).

<sup>103</sup> Stewart, *supra* note 100, at 80-99.

more cooperative and coordinated approach to achieving its goals. Examples include the obligation on US federal agencies to prepare an Environmental Impact Statement before engaging in activity that would have a significant impact on the environment and the European Community's Eco-Management Audit Scheme (EMAS), which is a voluntary eco-labelling scheme.<sup>104</sup>

#### **4.2 The US: 'Beyond Compliance'**

In the US, the role of environmental protection agencies has also been re-evaluated in recent years, with a move from conflict between business and environmental goals being resolved through legal rules and enforcement<sup>105</sup> to a focus on results and innovation, continuous improvement, negotiable and collaborative relationships and multiple centres of leadership (government, business, communities and others).<sup>106</sup> Businesses are seeking to move "beyond compliance" to voluntary performance targets and internal environmental management systems, leading to a decline in environmental litigation and a shift by NGOs to collaborative solutions.<sup>107</sup>

This presents new challenges for lawyers, who have skills in advocacy, negotiation and concluding agreements, but may not have experience with open, dynamic and win-win solutions. Law may not always be the primary means of solving environmental problems (if it ever was), and lawyers must work in a collaborative way with other professionals.<sup>108</sup>

#### **4.3 The EU: 'New Governance'**

In the EU, similarly, a number of different trends are emerging. These include the integration of environmental protection with other policies; the use of "clear and consistent indicators that gauge progress against identified targets";<sup>109</sup> the commitment to the good governance values of openness and participation (including particularly Directive 2001/42/EC on funding for NGOs, the Aarhus

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<sup>104</sup> *Id.* at 127-51.

<sup>105</sup> George B. Wyeth, "Standard" and "Alternative" Environmental Protection: The Changing Role of Environmental Agencies, 31 WM. & MARY ENVTL. L. & POL'Y REV. 5, 9-10(2006).

<sup>106</sup> *Id.* at 18-22.

<sup>107</sup> Bradley C. Karkkainen, *Environmental Lawyering in the Age of Collaboration*, 2002 WIS. L. REV. 555, 559-67 (2002)

<sup>108</sup> *Id.* at 571-74.

<sup>109</sup> COM (2001) 31/final, *On the sixth environment action programme of the European Community: Environment 2010: Our future, our Choice*, at 64.

Convention on Access to Information, Public Participation in Decision-making and Access to Justice in Environmental Matters); and the use of new instruments for environmental protection, including voluntary agreements.<sup>110</sup> At European level, there is a shift to self-regulation, such as the introduction of environmental management systems, with rewards for voluntary participation.<sup>111</sup> However, while some states are willing to experiment (for example, the Netherlands in making use of voluntary agreements), most member states are slow to adopt new environmental policy instruments.<sup>112</sup>

This process is an illustration of the changing function of law in what is called 'new governance'.<sup>113</sup> Law may be becoming more concerned with establishing principles rather than rules.<sup>114</sup> Examples in European environmental law might include the evolution of the Environmental Impact Assessment Directive through a review and revision process based on implementation reports from member states; and the Common Implementation Strategy for the Water Framework Directive, which is not mentioned in the directive itself.<sup>115</sup>

#### ***4.4 Next Generation of Climate Change Policies***

Irish adoption of second generation instruments has been largely driven by the EU,<sup>116</sup> and they have not been used to any great extent. In one study of nine jurisdictions, Ireland (along with Australia) was "least innovative" with new

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<sup>110</sup> See generally Joanne Scott, *Law and Environmental Governance in the EU*, 51 I.C.L.Q. 996 (2002).

<sup>111</sup> Christoph Demmke, *Implementation of Environmental Policy and Law in the United States and the European Union* in GREEN GIANTS? ENVIRONMENTAL POLICIES OF THE UNITED STATES AND THE EUROPEAN UNION 135, 147 (Norman J. Vig and Michael G. Faure eds., 2004).

<sup>112</sup> Ian Bailey, NEW ENVIRONMENTAL POLICY INSTRUMENTS IN THE EUROPEAN UNION: POLITICS, ECONOMICS AND THE IMPLEMENTATION OF THE PACKAGING WASTE DIRECTIVE, 52-53 (2003).

<sup>113</sup> "[A] range of processes and practices that have a normative dimension but do not operate primarily or at all through the formal mechanism of traditional command-and-control-type legal institutions ... [T]he common features ... involve a shift in emphasis away from command-and-control in favour of 'regulatory' approaches which are less rigid, less prescriptive, less committed to uniform outcomes, and less hierarchical in nature." Gráinne de Búrca and Joanne Scott, *Introduction: New Governance, Law and Constitutionalism*, in LAW AND NEW GOVERNANCE IN THE EU AND THE US 1, 2 (Gráinne de Búrca and Joanne Scott eds., 2006).

<sup>114</sup> Joanne Scott and Jane Holder, *Law and New Environmental Governance in the European Union*, in *id.* 211, 234.

<sup>115</sup> See generally *id.*

<sup>116</sup> Brendan Flynn, *Much Talk But Little Action? 'New' Environmental Policy Instruments in Ireland*, 12 ENVIRONMENTAL POLITICS 137 (2003).

environmental policy instruments.<sup>117</sup> There were some experiments with voluntary agreements in waste management in the 1990s, such as REPAK, but few market-based instruments (the notable exception being the plastic bag tax).

Climate change is a complex issue which requires a cross-sectoral response working towards a comprehensive regulatory framework that connects with efforts to solve other environmental problems.<sup>118</sup> Much of the experimentation with new environmental policy instruments by member states has been in the context of meeting European climate change obligations.<sup>119</sup> Ireland should therefore be considering to what extent it can use new environmental policy instruments in its climate change strategy.

Although the new Climate Change Strategy makes some efforts in this direction, notably the levy on incandescent lightbulbs, the public awareness program and the tax incentives for biofuels, the anticipated reduction in emissions from these is quite small. There is scope for greater application of more experimental measures, even on a pilot basis. Although a full consideration of these would require input from disciplines other than law, some tentative (but not comprehensive) suggestions might include the following.

- Voluntary industry schemes, sometimes with government assistance and perhaps involving eco-labelling, can lead to large reductions in emissions at low cost.<sup>120</sup> These could be as non-coercive as an agreement that businesses, particularly energy-intensive ones, will engage in internal environmental audits or voluntary emissions reporting as a tool to raise awareness of opportunities for GHG reductions and other pollution reduction.
- As the ETS already requires that we create and manage a tradable permit scheme for heavy industry, it could be expanded beyond what is required under European law to steadily include a broader range of activities, preparing the Irish economy for more stringent emission reduction targets in the future.

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<sup>117</sup> Andrew Jordan, Rüdiger K. W. Wurzel & Anthony Zito, *The Rise of 'New' Policy Instruments in Comparative Perspective: Has Governance Eclipsed Government?*, 53 *POLITICAL STUDIES* 477, 485 (2005).

<sup>118</sup> See Stewart, *supra* note 100, at 173.

<sup>119</sup> Bailey, *supra* note 112, at 53-54.

<sup>120</sup> See Richard L. Ottinger and Mindy Jayne, *Global Climate Change Kyoto Protocol Implementation: Legal Frameworks For Implementing Clean Energy Solutions* 18 *PACE ENVTL. L. REV.* 19, 70-72 (2000).

- Public awareness campaigns are a valuable element of an overall strategy. While the existing strategy does include this, the minimum expenditure of €15 million over five years does not go far enough and should be increased greatly. Inculcating a sense of environmental ethics amongst the Irish public would be a good first step but in practice, this would be very difficult to impose from the outside and may be overcome by short-term self-interest.<sup>121</sup> Instead, there should be a public dialogue which informs the public that a problem exists, that it warrants serious action and achieves agreement on the structure of a solution, particularly how the associated burdens should be shared.<sup>122</sup>
- Similarly, product labelling which gives information on the GHG impact of individual items would bring climate change to the attention of both producers and consumers and should have a positive impact on both production methods and consumption patterns. There have been limited moves in this direction for cars and houses; these existing measures should be extended to cover, for example, second-hand cars, and into other markets, such as transport, air travel, electrical appliances and computer equipment.
- There is considerable scope for the use of financial instruments to encourage more GHG-efficient products and services. Although a carbon tax was considered and rejected in the past (and its likely impact on consumption patterns may be limited), it and similar ideas have a place in the overall policy mix. The government can use these measures, in combination with subsidies and perhaps grants, in order to influence the market and direct it towards more sustainable energy uses and sources in the long-term.

We need to work on creative solutions to regulation which fit with both local culture and market mechanisms, and we need to foster greater dialogue about the allocation of burdens so that everyone agrees that the proposed solutions are fair.<sup>123</sup>

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<sup>121</sup> See Barton H. Thompson, Jr., *Tragically Difficult: The Obstacles to Governing the Commons* 30 ENVTL. L. 241, 267-69 (2000).

<sup>122</sup> See *id.* at 269-70.

<sup>123</sup> See *id.* at 271-77.

## 5 The Policy Context

Much of this discussion should focus on what the most appropriate environmental policies might be, particularly the proper place of “second generation” policy instruments. In addition, a through implementation of climate change policy in Ireland must be founded on a proper understanding of the broader policy context. This includes elements of human psychology, the possible economic advantages of innovation, the reality of decreasing oil supplies and the inevitability of further international agreements on climate change.

### ***5.1 Need for Leadership***

First, climate change is an example of a commons problem – a dilemma which is extremely difficult to regulate – because it requires sacrificing the use of resources now to preserve them for the future, in the context of scientific and social uncertainty. This has a number of consequences: people find it difficult to give up something that they already have (and feel that they have earned); uncertainty leads to over-optimism and complex questions of fair burden sharing; and sacrifices to avoid uncertain future losses are difficult to make.<sup>124</sup>

Because of the limited cognitive ability of humans, societies may fall into a social trap, making decisions that produce unwanted outcomes. Climate changes may be an example of one such trap. Given the human tendency to interpret information to reinforce rather than question existing opinions, it is likely that society as a whole will not act to prevent climate change. This, therefore, calls for government leadership to deal with the problem.<sup>125</sup>

### ***5.2 Competitive Advantage Through Innovation***

Second, although it may seem that taking action to reduce emissions now may be economically damaging, there are strong indications that this is not in fact the case.<sup>126</sup> This may result from direct cost savings resulting from reducing the level of inputs, but competitive advantage can also be gained through other means: “enhancing brand equity and product differentiation, improving risk management calculations, redefining markets, and being able to lead and

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<sup>124</sup> *Id.* at 256-65.

<sup>125</sup> Rachlinski, *supra* note 6, at 306-18.

<sup>126</sup> Michael Northrop, *Leading By Example: Profitable Corporate Strategies And Successful Public Policies For Reducing Greenhouse Gas Emissions*, 14 WIDENER L.J. 21 (2004).

influence the drafting of impending regulatory standards.”<sup>127</sup> The increasing number of examples of firms embracing greenhouse gas emission reduction as a corporate strategy indicates that such initiatives bring real value for shareholders.<sup>128</sup> Prominent examples of such successful projects include BP, which saved \$650 million in return for an expenditure of \$20 million;<sup>129</sup> Swiss Re, which is acquiring climate change expertise so that it can better manage the risks that it will bring;<sup>130</sup> and IBM, which has saved \$791 million since 1990 by reducing emissions.<sup>131</sup> Citigroup estimates it reduced its electricity and natural gas use by 15 per cent by centralising control of lighting, heating, ventilation and air conditioning systems.<sup>132</sup> Staples undertook to reduce its energy usage and saved \$6.5 million from 2001 to 2004.<sup>133</sup> ABN AMRO projects savings of €3.5 million during 2004-2008 due to energy savings measures. Sky Broadcasting has used climate change policies to build brand differentiation. BT has saved £119 million since 1991 due to its GHG reduction programmes. Du Pont has saved \$2 billion through energy efficiency. Intel saves over \$10 million per year by reducing energy use.<sup>134</sup>

While individual states with the United States of America seem to be developing climate change and environmental policies as a source of competitive advantage, despite the lack of interest at the federal level,<sup>135</sup> the European concept that the union strengthens member states may inhibit inter-state competition, weakening climate change mitigation efforts.<sup>136</sup> We should not allow these structural difficulties to dissuade us from taking independent action.

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<sup>127</sup> *Id.* at 23.

<sup>128</sup> *Id.* at 24.

<sup>129</sup> *Id.* at 30.

<sup>130</sup> *Id.* at 31-34.

<sup>131</sup> *Id.* at 34.

<sup>132</sup> Andrew Aulisi, Jennifer Layke & Samantha Putt Del Pino, *A Climate of Innovation: Northeast Business Action to Reduce Greenhouse Gases*, 8-9, available at [http://www.wri.org/climate/pubs\\_description.cfm?pid=4031](http://www.wri.org/climate/pubs_description.cfm?pid=4031) (2004).

<sup>133</sup> *Id.* at 2.

<sup>134</sup> The Climate Group: Case Studies, available at [http://theclimategroup.org/index.php/reducing\\_emissions/case\\_study/](http://theclimategroup.org/index.php/reducing_emissions/case_study/).

<sup>135</sup> Barry G. Rabe, Mikael Román & Arthur N. Dobelis, *State Competition as a Source Driving Climate Change Mitigation*, 14 N.Y.U. ENVTL. L.J. 1, 7-12 (2005).

<sup>136</sup> *Id.* at 46-49.

If the Irish government adopted public policies that focused the attention of business decision-makers on emissions reduction, it would bring two advantages: the clear targets would provide a proper benchmark for effective planning and the change in the rules of the market would create possibilities for new initiatives that would otherwise not be feasible.<sup>137</sup>

### ***5.3 Preparing for 'Peak Oil'***

Third, if world oil supplies begin to contract, the need to reduce our reliance on energy sources that emit carbon becomes more urgent. Whether, and when, world oil supplies will run out is a question which is hotly debated, with predictions of peak world oil production ranging from 2005 to 2030 and considerable disagreement over whether new technologies will enable humanity to extract oil from currently unusable sources such as tar sands.<sup>138</sup> Sooner or later, though, the day will come when oil will no longer be our primary source of energy.<sup>139</sup> Preliminary steps towards the use of sustainable, renewable and domestically available energy sources would be wise in the medium-term, particularly with an economy as oil-dependent as Ireland's. (These will not be easy to implement; wind, in particular, raises many difficult environmental questions.<sup>140</sup>)

### ***5.4 Future International Obligations***

Fourth, there will clearly be a need to make further reductions in greenhouse gas emissions in the future.<sup>141</sup> The Kyoto Protocol is not a sufficient solution to the problem of climate change. A reduction to 1990 levels of emissions will not halt global warming. In the long term, we may need to reduce emissions as low as 10% of 1990 levels.<sup>142</sup>

As a member state of the European Union, we will find it very difficult, if not impossible, to avoid international obligations for emissions reductions. At the

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<sup>137</sup> See *id.* at 27.

<sup>138</sup> Jacqueline Lang Weaver, *The Traditional Petroleum-Based Economy: An "Eventful" Future*, 36 CUMB. L. REV. 505, 509-12. (2006).

<sup>139</sup> See *id.* at 513.

<sup>140</sup> See Alan P. Newman, *Small Scale Wind and Solar Energy Systems: Access to Resources Under Irish and English Law*, 7 IRISH PLAN. & ENVTL. L. J. 139 (2000).

<sup>141</sup> See *Strategy 2007-2012*, *supra* note 74, at 14.

<sup>142</sup> R. T. Watson, *Climate Change: The Political Situation* 302 SCI. 1925 (2003), cited in Environmental Protection Agency, *Ireland's Environment 2004*, at 242 (2004).

European Council in Spring 2007, environment ministers committed the Union to a unilateral reduction of 20% in carbon emissions by 2020 and a reduction of 30% by all developed countries.<sup>143</sup> If we have not begun to prepare for these requirements now, the adjustment is likely to be all the more painful in the future.

## 6 Conclusion

As the science becomes more certain, it is clearer that climate change is becoming a very important issue, both internationally and nationally. The international community has negotiated the UN Framework Convention on Climate Change and the Kyoto Protocol, which impose clear obligations on Ireland. Although we were able to get a better deal under the EU 'bubble', we still have some way to go before we comply with these obligations.

The recently launched Climate Change Strategy sets out the Irish government's policies in this area for the next 5 years. These rely heavily on the purchase of emissions credits on the global market, a policy which is risky and short-sighted. The government should be taking a leadership role in stimulating debate and discussion on climate change policy. In the longer term, a need to build competitive advantage, prepare for peak oil and be ready for further, more stringent international emission reduction obligations mean that we should be taking more innovative steps now, rather than being forced into them later.

These steps should be based on an understanding and application of new environmental protection instruments, such as voluntary industry schemes, market-based incentives and greater public awareness. These instruments should be applied as far upstream as possible, flexible, transparent, and cooperative. Above all, they should be based less on static, rule-based solutions and more on dynamic, open-ended processes.

16 April 2007

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<sup>143</sup> Jamie Smyth, *EU agrees to 20% emissions cut by 2020*, IRISH TIMES, Mar. 10, 2007; Jamie Smyth, *EU agrees climate change deal to cut CO2 emissions*, IRISH TIMES, Mar. 10, 2007.