



# **REVIEW OF THE NATIONAL CLIMATE CHANGE STRATEGY (NCCS)**

**A CONSULTATIVE DOCUMENT BY ENGINEERS IRELAND**

**TO**

**THE DEPARTMENT OF THE ENVIRONMENT, HERITAGE &  
LOCAL GOVERNMENT**

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## INTRODUCTION:

The world is now faced with a very uncertain outlook in relation to future oil and natural gas supply security, the increasing volatility in relation to the price of oil and gas and the risks posed by global warming. We must question the assumption that Ireland can afford to make plans based on the following factors indicated in Sustainable Energy Ireland's January 2006 Report "Energy in Ireland 1990 – 2004":

- Energy Demand: overall energy demand will increase by 38% between now and 2020
- Energy Supply: Oil and gas will in 2020 account for:
  - 87% of overall energy supplies
  - 71% of fuel use for electricity generation

Thus the Irish Academy of Engineering, in their recent report "Future Energy Policy in Ireland", recommended that we set the following targets for inclusion in national policy:

- A reduction of energy consumption per capita by a minimum of 20% over a fifteen-year period
- A simultaneous displacement of at least 15% of fossil fuels by non-fossil fuels i.e. environmentally neutral fuels

The Academy further recommended that:

- In energy matters there are good reasons, including significant fuel vulnerability, as to why Ireland should aspire to lead change rather than settle for compliance.

Engineers Ireland recommends that the Minister of the Environment, Heritage & Local Government adopts the targets, philosophy and the detailed recommendations set out by the Irish Academy of Engineering in their report. This decisive action would bring Ireland a very long way on the *Pathway to Kyoto*.

In the following sections, Engineers Ireland highlights a number of specific measures that would significantly aid Ireland's compliance with our Kyoto obligations. In all of these areas it is vital that public awareness be heightened, as an engaged and informed public will be vital to changing behaviour.

## 1. TRANSPORT SECTOR:

The consultation document shows how the transportation sector has been the fastest growing contributor to national greenhouse gas emissions levels, with a growth rate of over 144% between 1990 and 2004. Overall CO<sub>2</sub>e emissions in Ireland increased from 55.6 Mt in 1990 to 68.5 Mt in 2004 i.e. an increase of 12.9 Mt. Transport emissions increased from 5.2 Mt to 12.6 Mt in the same period, thus accounting for 7.4 Mt or 60% of the total increase. The assumption in the National Climate Change Strategy (NCCS) report that transport emissions will remain virtually unchanged between 2004 and 2008 – 2012 appears unfounded, given the projected growth in population and economic activity.

Indeed it could only be achieved if Ireland were again to raise transport fuel excise duties above those obtaining in the UK, a measure that would be extremely expensive in terms of national competitiveness and in terms of the cost/tonne of CO<sub>2</sub> abated. Thus there will be little prospect of compliance with Kyoto unless we achieve a major reduction in transport congestion in the near term.

### **Fuel Efficiency/ Vehicles**

The consultation document notes the increase in engine sizes of the national fleet as a result of our increased wealth. It is essential that measures be put in place to increase the use of smaller engine, lower emission vehicles by linking the Vehicle Registration Tax (VRT) and Motor Tax to the CO<sub>2</sub> output of vehicles. The current system does not sufficiently differentiate between smaller and larger vehicles or petrol and diesel engines.

### **Personal Transport**

The increase in public transportation provision in the Dublin region over recent years has had a significant impact on transportation use in some parts of the greater Dublin area. Unfortunately the continued construction of low-density housing in the outer suburban areas, away from these public transportation corridors, results in increased use of private cars for commuting to work. Haphazard development, without proper public transport links, has resulted in well-documented long commuting distances and durations. Effective implementation of the National Spatial Strategy is vital for the coordination of regional planning activity and the timely development of both public and private transport routes.

In terms of personal transport, the effective use of buses represents a significant opportunity to reduce overall emissions. Despite the implementation of Quality Bus Corridors (QBC) and Green Routes in cities throughout the country, there is significant concern regarding the provision of sufficient numbers of buses on these corridors. In Dublin

there are currently a number of QBC's remaining unused, after significant expenditure, as there are no buses available to run the routes. This has discredited the QBC plan and continues to do so in a very visible way. The plan to double the number of QBC's is welcomed but it is pointless unless buses are provided as part of these schemes.

There is also scope for reducing congestion by introducing a comprehensive school bus service, as the 'school-run' is widely recognised as a major source of urban congestion.

The proposed rail plan for Dublin, Cork and the West outlined in Transport 21 will provide a viable and attractive alternative to the car. The timescales outlined in Transport 21 for the rail network appear generous and consideration should be given to implementation in a shorter timescale.

Once greater public transport options are available, demand management through pricing mechanisms will become a viable option, though may be politically unpopular. Greater use of incentives or subsidies is recommended to also increase a modal shift from private to public transport. Encouraging employers to introduce tele-working for their employees could reduce traffic congestion; the pre-requisite is a broadband infrastructure that is accessible, reliable and affordable.

### **Commercial Sector**

But while the focus of public attention, and indeed the NCCS report, is on personal transport, by far the greatest contribution to the growth in transport emissions since 1990 has been as a result of the growth of diesel fuel use in the commercial sector. This was due to three factors:

- The growth of the Irish economy and its increasing openness. Indeed we now import almost everything we consume and export almost everything we produce.
- The reversal in truck bunkering practice, due to changes in road transport excise duty differentials, particularly between the UK and Ireland, though the NCCS report appears to overstate the impact of this by a considerable margin (p 44).
- The growth in construction-related traffic. The importance of the latter factor is generally not appreciated but analysis of the CSO's *Road Freight Transport Survey 2005* clearly indicated that construction now accounts for 50% of the total tonnage transported on our roads and approximately 20% of the total tonne kilometres. Its impact on urban areas is particularly acute and we recommend two measures to reduce its impact on urban congestion:

- (1) Consideration should be given to allowing HGV's to use QBC's, outside peak commuting hours, thus maximising the use of existing road infrastructure. This measure would increase overall travel speeds and reduce emissions from both HGV's and cars.
- (2) Greater use of rail for the transportation of construction raw material and waste.

## 2. THE BUILT ENVIRONMENT AND ENERGY USAGE:

While this sector has not been the cause of a significant growth in emissions since 1990, it still offers the greatest potential for emission reductions in the future, through:

- Upgrading the thermal performance of existing buildings (e.g. through grants for improved insulation etc.)
- The promotion of 'Very Low Energy Designs' for new housing
- Placing far greater attention on reducing uncontrolled air leakage in buildings. This requires a much higher level of site inspection and control than is currently the norm on residential building sites.
- Robust enforcement of building standards
- Focusing on the lifecycle costs and environmental impact when designing offices and retail outlets, for single or multi-occupancy. The OPW's recent focus in this area is a welcome development but it needs to be fully extended to the educational and healthcare sectors, as well as the commercial sector.

The Irish Academy of Engineering's report highlights many of the savings that could be achieved here.

The increase in energy prices since 2000 has refocused managerial attention on the issue of energy costs and it is essential that the required engineering resources are available to deliver the potential for improvement. In many cases good housekeeping and relatively modest capital investments produce both very significant savings with payback periods of less than three years and frequently less than one year. The SEI Energy Efficiency Awards highlight the extent to which major energy savings can be achieved in this sector.

## 3. ENERGY SECTOR:

The electricity sector provides the greatest potential for diversifying from oil and gas and it is essential for our future energy supply security and competitiveness that all the options technically available are fully exploited to achieve this end. Thus as the Academy report highlights, it is a pressing requirement that a comprehensive and unbiased report is now prepared identifying power generation technology priorities. This should take full account of total system investment requirements of the alternatives in the Irish context, including CO<sub>2</sub> abatement or acquisition costs. Support for increased research is vital for the energy sector, with

the opportunity for Ireland to lead change rather than settle for compliance.

Engineers Ireland's annual conference held in April 2006 discussed the potential role of nuclear energy in addressing some of Ireland's energy dependency and emissions issues. It is recognised that nuclear energy is currently prohibited in Ireland, and that the imminent Government Green Paper on Energy is unlikely to propose any changes to this. However, given that the lead-time for the construction of a nuclear power plant is in the region of 12 to 15 years, Engineers Ireland recommends that provision be made to actively monitor technical developments in nuclear energy, so that the necessary technical and operational expertise can be made available quickly, should this become a viable option for Ireland in the future.

*Engineers Ireland  
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