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Methodology for the Implementation of Ireland's Climate Change Strategy.

Submission on behalf of FEASTA, the Foundation for the Economics of Sustainability.

1. The overall impression given by the documents published so far is that the government has not yet devised a methodology for meeting this country's commitments under the Kyoto Protocol. That the attitude conveyed by the various publications and ministerial statements is "The Protocol will probably not be put into effect because the US Senate will never ratify it. If it is implemented, then we'll buy emissions permits and engage in Joint Implementation and use the Clean Development Mechanism to redeem our pledge to our EU partners not to allow our emissions to increase by more than 13% above their 1990 level." Certainly, the main methods being discussed for limiting Irish emissions are, as presented, too weak to control them sufficiently to ensure that a target is met. The main methods being discussed are:

- ◆ The introduction of greenhouse gas taxation progressively from 2002
- ◆ Switching to lower carbon fuels and increasing fuel efficiency to minimise emissions
- ◆ Using more energy from renewable sources
- ◆ Improving public transport
- ◆ Raising the energy efficiency of new houses and improving the insulation of older ones.
- ◆ Attempting to limit urban sprawl.

The problem with these ideas is that, as they stand, they represent ad-hocery run riot. Government thinking does not seem to have advanced enough to allow their use to be co-ordinated and, consequently, they cannot be guaranteed to achieve any desired level of emissions reduction. What is needed is an overall methodology, a framework for action, rather than a selection of potential policy instruments, which is all that these are. The purpose of this FEASTA paper is to suggest just such a framework.

In particular, the role that the market should play in encouraging people and companies to make emissions-saving decisions seems to have been overlooked. Appendix II of the document inviting public comment on the methodology reeks strongly of central planning - but without the means to implement it. In FEASTA's view, the government's role is to set targets and to use subsidies, taxes and quotas to ensure that the market delivers them. The state should avoid setting up any system in which it has to constantly intervene in many areas of life to achieve its goals.

2. What, then, should Ireland's emissions target be? Merely to comply with its obligation to its EU partners? Or, bearing in mind that 60-80% emissions reductions are eventually going to be required of us if the global climate crisis is to be diffused, to go much further than that? Should Ireland be a leader or a laggard? FEASTA contends that Ireland should aim to be a leader for the following reasons:

- (a) More than anything else, the business community wants certainty about the conditions within which it is going to have to operate in future. At present it is impossible for it to know the total price it is going to have to pay to use fossil energy over the next ten years. This price will, of course, be a combination of the price it has to pay for imported oil, gas and coal, plus the taxes it will have to pay to keep emissions down. Because of this uncertainty, firms cannot plan. Most of them, however, would prefer to face a high total energy price which was delivered than to expect a low one and then find that it soars.
- (b) The public is in a similar position - how much more should a couple spend to acquire a low-energy house, for example? Or one which is a shorter distance from work? The price of oil, in particular, might rise sharply because world oil output is likely to peak in the years 2005-8 and the five OPEC countries of the Middle East will control around 50% of world output by that time, giving them great power to manipulate prices in a sellers' market. Energy demand is notoriously inelastic (i.e., not responsive to price signals) in the short-term. Governments should therefore ensure that they convince everyone that prices are going to be significantly higher well in advance. The methodology FEASTA proposes will give firms and the public greater certainty about future total energy prices than any other emissions control method. It will thus allow market mechanisms to operate and adjust future demand.
- (c) Experience in other EU countries has shown that when governments anticipate trends and seek to ensure that their countries get 'ahead of the curve', businesses in their countries benefit considerably because they develop products or services which can then be sold world-wide. For example, the Danes have become world leaders in the design and manufacture of wind turbines, with over 60% of the world market. They are also world leaders in bio-gas digesters. German industry has also benefited from being ahead. As Martin Hufner wrote in *The New York Times* in February 1999:

The Greens' persistence forced German business to deal with pollution and other problems before other countries did. In fact, environmentally sensitive technologies like oil reclamation are one of the few areas where German business can claim a dominance comparable to its strong overall position as little as 15 years ago. Last year, Germany's 18.7 percent share of the world market for environmental technology was larger than that of any other country, including the United States.

In some cases, it is business that has given due consideration to the Greens' way of thinking, rather than vice versa. Take a party proposal to triple Germany's already high gasoline taxes. Many corporate and financial leaders were aghast. But then again, one cannot escape noticing that, at the very time the idea was floated, Volkswagen introduced its new 'Lupo' car that is designed to run on 78 miles per gallon. From a purely economic point of view, by the time that kind of leap forward in efficiency takes a broader hold in the marketplace, even a tripling of gasoline prices would not impose an additional burden on the average driver.

- (d) There would be widespread public support for this country's adoption of a leadership role. It would be something about which people could feel proud.

3. FEASTA therefore proposes that Ireland should work on the basis that the Contraction and Convergence (C&C) proposals¹ for dealing with the global climate crisis will be adopted within the next five years for a target concentration of carbon dioxide in the atmosphere of 400ppm. It should set itself the target of bringing its emissions down each year as if this system was already in place and it should urge its EU partners and others to do likewise.
4. Even if the above C&C emissions-reduction target is thought to be too ambitious for Ireland to adopt if others cannot be persuaded to do so simultaneously, the methodology which this country should adopt to control its emissions should be as follows:
 - a) Set a target for each year' s emissions for the next ten years. This target determines the number of emissions permits the government issues.
 - b) Require importers of fossil fuels and domestic producers to submit tenders for the number of permits they require for each quarter, based on their expected sales and the carbon content of their fuels. No fossil fuel would be permitted to be sold unless the producer/importer had emissions permits for it.

Translating emissions into fuels' carbon-unit cost	
Estimates of the global warming potential (GWP) of gases released by production and combustion of fuels. 1 kg carbon dioxide = 1 emissions permit. The GWP of methane and nitrous oxide is measured as carbon dioxide equivalents.	
Fuel	Price in emissions permits
Natural gas	0.2 per kWh
Petrol	2.3 per litre
Diesel	2.4 per litre
Coal	2.9 per kg
Peat	2.5 per kg

If the landed price of imported fossil fuel rises sharply after the quota system has been introduced- as a result of OPEC action or heavy world demand, for example - fuel importers would be able to reduce their bids for emissions permits at the next auction, thus bringing down the price of permits and moderating the rise in domestic energy prices. Even a small reduction in demand for permits could lead to a large fall in their price, thus offsetting a major part of the increase in world prices. Thus, while domestic energy prices would rise to some extent as a result of the external change, the increase would be moderated significantly.

It should be noted that the auctioning of a quota is a very much better way of ensuring that emissions targets are met than levying a carbon tax. This is because it is extraordinarily difficult to estimate how high a carbon tax should be to achieve the desired reduction in emissions, particularly as the ' right' rate varies according to strength of the economy at the time. Naturally, business and other lobby groups will

¹ Under C&C, countries agree a reviewable global greenhouse gas emissions 'contraction budget' to match a precautionary and safe future stable value for greenhouse gas concentrations in the atmosphere. The internationally tradable shares in this budget are then allocated on a basis which 'converges' from now, where shares are proportional to a country's income, to a target date in the future after which they remain proportional to each country's share of the world's population in an agreed base-year.

perpetually seek to persuade the Minister for Finance that the current rate is wrong. The rate becomes a perpetual political football. With a quota, however, the business community sets the price at which permits are sold itself and the amount can change quarter by quarter. Moreover, the quota ensures that the target is always met, spot-on. There is no way that a tax can do this, even with regular adjustments to its rate.

- c) The entire revenue from the sale of emissions permits would be used to fund a Citizens' Income. In other words, everyone in the country, regardless of their income, would receive a share of the money raised from the sale of permits, children at one rate, adults at another, and pensioners at a higher rate still. A Citizens' Income is an essential part of any action which is likely to raise energy costs as studies have shown that the poor spend a much higher proportion of their income on fuel than the rich. It could be argued that it would be better to give all the income from the sale of permits to the poor. However, the introduction of a Citizens' Income is much less socially divisive - everyone, rich and poor, is on the same side, wanting it to be as big as possible. If all the emissions permit revenue went to the poor, the better-off would feel very unhappy every time they took a delivery of home-heating oil or filled up their cars.
- d) In FEASTA's view, whatever emissions-reduction targets Ireland sets itself should exceed those that it will have to meet internationally. This is because it is impossible to produce any reliable estimate now of what the cost penalty will be if this country misses its target and has to buy emissions rights from other countries. This, in turn, means that true market signals cannot operate and move firms and consumers in the right direction. It would be better to have permits to sell abroad and to be able to treat the revenue from such sales as a windfall rather than to have to buy permits at an unexpectedly high price.
5. If Contraction and Convergence was adopted internationally, the necessity to buy permits to consume fossil fuel would mean that the amount the customer could afford to pay the energy producer for supplies would fall. Indeed, in a market in which supplies were limited by production or resource-depletion constraints, the whole of the cost of the permits would be carried by the energy producers and the revenue from the permits' sale would accrue to national governments. This is a powerful motive for backing the system, and FEASTA believes that the Irish Government should come out strongly in its support.
6. The pace at which Ireland can contract its emissions will be limited to some extent by the actions of its main trading partners. If they continue to subsidise their production by the use of excessive amounts of fossil fuel, some Irish exports would suffer and some Irish manufacturers experience unfair competition. The country ought to be prepared to accept moderate consequences of this nature in order to adjust its economy to the emerging energy-constrained environment. Not all jobs can be preserved during this transition. However, if Ireland's EU partners also adopted similar policies - and Denmark has already done so - effects on trade patterns would be very small. Moreover, the more investment that is carried out now, while energy prices are low in real terms, in making the Irish economy more fossil-energy efficient and sustainable, the less it will cost. All the capital equipment which will be required to move to a lower-fossil-energy economy requires energy to produce it. The sooner we purchase that equipment, the cheaper it will be.
7. There are two other areas in which FEASTA thinks that the Irish Government should act now. One is that it should raise energy standards for new building very rapidly. This will cost the house-purchaser nothing. The price at which new houses sell is set by the

market, not by the cost of construction. If construction costs rise because of the higher energy standards, the developer will simply be able to afford to pay less to the landowner from whom he purchases the sites. The only group to lose from raising energy standards are property owners whose windfall gains will be reduced.

The second area for action is in the supply of electricity from renewable sources. Ireland lags in this area because, like Britain with its Non Fossil Fuel Obligation, it has used irregular rounds of competitive tendering under the AER procedure to give contracts to suppliers. Experience throughout Europe shows that the countries using this system have less installed renewable electricity capacity than those, like Germany and Denmark, which have offered a generous buy-in price on an 'always available' basis to anyone prepared to supply. The advantages of this latter approach are that it enables projects to come forward when they are ready, and not to be rushed through to meet an artificial deadline. Moreover, the developers know that they will be able to sell their power if they can deliver at the required price and they will not be eliminated on some supposed technical grounds. The AER approach should therefore be abandoned. Instead, the government should require all power companies to generate a rising percentage of their production from renewable sources by certain specific dates. The companies would be required to hold 'green certificates' for the renewable electricity they sold. This would allow, say, a power company with no access to a windfarm or other renewable source to buy the necessary certificates from a company which had over-fulfilled its renewable quota. Such a system is being considered for EU-wide implementation. Ireland has far greater potential for wind energy than any other EU country apart from Britain and ought to plan to export wind electricity in the future.

Plans for converting Moneypoint to natural gas should be dropped as world natural gas supplies are likely to peak around 2020 and then decline sharply. More permanent, lower-emission ways of meeting Ireland's energy needs have to be found.

8. FEASTA is disturbed that the Economic Analysis sub-group of the Climate Change team has not yet been assembled. We feel that ideas for using market mechanisms to achieve whatever emissions target is set would have been far more advanced had such a team been active. We would be happy to help develop proposals in this area.