

*The Irish Government has abandoned its plan to reduce the country's greenhouse gas emissions with an ecotax on the carbon content of fossil fuels which was to have been introduced in 2005.*

*In Germany, similar taxes created over 60,000 new jobs but reduced CO<sub>2</sub> emissions by less than 1% in the first two years. This indicates that Irish carbon tax rates would have needed to be very steep for the country to avoid paying hefty fines to the EU because it failed to keep within its Kyoto target.*

## How have ecotaxes worked in Germany?



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In 2000, Germany released 858 million tonnes of carbon dioxide into the global atmosphere, equivalent to 9.6 tonnes per head of the population<sup>1</sup> This made the Germans slightly less serious polluters than the citizens of most other industrial countries as the OECD average is 10.9 tonnes a head. The British figure was the same as the German one while the Irish one was rather worse, at 11.1 tonnes. But all three countries' per capita emissions were very much higher than those from the developing world which range from 0.1 tonnes in Nepal and Tanzania, through 0.2 tonnes in Bangladesh and 0.7 tonnes in Pakistan to 1.1 tonnes in India and 2.3 tonnes in China.

Humanity's total carbon dioxide emissions currently exceed the absorptive capacity of global eco-systems ('sinks') by at least 50% - and the

amount of the excess is rising. If we take the present world population as being around 6.1 billion, the climate-neutral release of CO<sub>2</sub> would therefore be less than 2.3 tonnes per head per year. Per capita emissions in Germany and in the rest of the industrialised world are thus more than four times the estimated climate-neutral amount. This figure not only underlines the need for urgent decisive action but also shows that it is the industrialised countries that must take it.

Ecotaxes are one of the most effective measures to speed the crucial transition from finite, climate-changing fuels like oil and coal to renewable, climate-neutral ones. Since their introduction in Germany in 1999, petrol consumption has fallen for the first time in the country's post-war history. Purchases of three- to five-litre cars increased, for example, an

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illustration of the way that ecotaxes provide incentives for investment in more environmentally-friendly technologies and, in the long run, create competitive advantages.

Nonetheless, many members of the public still have reservations about ecotaxes. Some even reject them. An ideologically-flavoured party-political debate about them is going on in Germany and we have found that the only way to get the participants to change their positions is to provide them with information about the way ecotaxes work and what they are intended to do.

The EU is slowly adopting ecotaxes. Finland introduced the first CO<sub>2</sub>-tax in the world in 1990, the Netherlands, Norway and Sweden have had ecotaxes since 1991, Denmark began in 1992 and the United Kingdom in 1993. Austria and Belgium have also incorporated ecological elements into their tax systems. What we can learn from the German experience?

### 1. Ecotaxes: the basics

People have paid taxes and dues to kings and emperors who promised protection from enemy attacks since ancient times. There have been cases of rulers greedy for power squeezing their subjects to such an extent that eventually both prince and people were faced with financial ruin; but also wise governments using their tax systems to finance pioneering social security measures. Eventually, thanks to attempts to develop a 'rational' theory of state finances, the following criteria for an optimal system of taxes and rates have emerged from the search for the royal road between economic efficiency and social justice:<sup>4</sup>

- The purpose of taxes is to finance the activities of the state. The range and scale of these activities should be freely decided by the parliament and not the other way round: In other words, the duties the state should take on must not be made primarily dependent on the volume of the overall tax intake. Consequently, taxes have to be plentiful and the tax system reasonably flexible and adaptable.
- The tax system must not put arbitrary burdens on the individual citizen. It must therefore be possible to assess someone's liability to tax on an objective basis; tax law must be transparent and drafted in commonly understandable language; and, finally, the assessment base, the tax rate and

the payment dates must be known to the taxpayer.

- The tax burden should be spread among individual citizens according to ethical criteria. As ideas on what is 'fair' often change quite rapidly in a given society,<sup>5</sup> tax theory has developed three very general principles in recent decades:

1. The principle of *Generality* implies that everyone should pay taxes.
2. The principle of *Equivalency* demands that the 'price' paid for the state's activities (i.e. the overall volume of taxes) should correspond to the benefits the citizens derive from them.
3. Finally, the principle of *Ability* means that all citizens are asked to sacrifice, as far as possible, a fair proportion of their opportunities for private consumption, a principle often used to justify progressive income tax rates.

- A fourth criterion is that taxes should be used to steer the economy in a desirable direction. The choice of *what* is to be taxed and by *how much* should be made so that economic structures and activities and the distribution of incomes and assets develop in accordance with the government's underlying economic and social policies.<sup>6</sup> A number of approaches have been developed for use in socially-oriented market economies. They include:

1. policies aimed at redistributing wealth via property taxes, estate duties and through progressive income taxation;
2. the promotion of asset accumulation through tax rebates for certain types of income such as capital gains;
3. policies designed to alter the geographical structure of the economy by influencing the choice of investment locations through differential rates of company taxation and local property tax rates;
4. increasing or decreasing the production of certain products through the levying of special excise taxes;
5. policies intended to make the economic system more stable by giving tax rebates for investments, taxing speculative share profits or by imposing anti-cyclical levies;
6. policies to alter the exchange rate of the domestic currency through differential

taxes on foreign and domestic capital gains or through import and export taxes.

These six criteria are non-controversial – it is over their interpretation and practical application in particular circumstances that people fall out.

### Ecotaxes: The most important principles

Ecotaxes are nothing special: they are simply taxes intended to achieve an environmental steering effect, just as other taxes are designed to have effects in other areas. They are intended to influence our use of the environment by changing the price that we have to pay for doing so. A great many types of ecotaxes have been designed in the past twenty years but three central features stand out<sup>7</sup>:

- Ecotaxes aim to make the consumption of environmental goods more expensive. Through these taxes, the relative structure of prices gets changed and, it is hoped, behaviour detrimental to the environment becomes less attractive. People frequently argue that raising the price of environmental commodities could lead to 'environmental price truth'. However, whether prices including an ecotax really express the 'true' cost is irrelevant for the steering function to have an effect. Even if it is not possible to determine the exact monetary value of a specific environmental commodity such as an endangered species, the *direction* of the price change is primarily the thing that matters, not the exact amount.
- A tax aimed at raising the price paid to use the environment should be implemented step by step and should lend itself to long-term calculation. This is so that economic agents such as firms can act to reduce or avoid shortages of environmental commodities arising in future as a result of their too rapid consumption now. The changes in economic behaviour that result from the tax will, as a rule, create employment as well as benefitting the environment.
- Revenue derived from ecotaxes should not become part of the general budget but should be reserved for specific tasks. Various approaches are under debate here: most ecotax advocates prefer strict 'revenue neutrality' which means that the revenue raised by the ecotax is fully compensated for by tax reductions elsewhere. For example, social security contributions could be lowered

or income and corporate tax rates cut by the amount the ecotax brings in.<sup>8</sup> The original designs of a lot of ecotax concepts included this feature. A minority of ecotax advocates believe that the environment has already been damaged to such an extent that at least part of ecotax yield should be used for ecological investment and the promotion of nature protection measures.

## 2. The main characteristics of the German ecotaxes

Drawing on ideas discussed since the late seventies and early eighties,<sup>9</sup> Germany's red-green coalition government introduced a set of ecotaxes on 1 April 1999 designed to make energy and resource consumption more expensive while lowering the cost of labour. The taxes were introduced in five steps: the initial one raised the tax on electricity by 2 Pfennigs/kWh, the tax on mineral oil by 6 Pfennig/litre, the tax on heating oil by 4 Pfennig/litre and the tax on gas by 0.32 Pfennig/litre. (2 Pfennigs is roughly the equivalent of one euro cent.) Then, in three further steps, the tax on mineral oil was raised by 6 Pfennig/litre on 1 January 2000 and again on 1 January 2001 and the tax on electricity went up by 0.5 Pfennig/kWh on the same dates. On 1 January 2002 and again on 1 January 2003, the tax on mineral oil was raised by 3.1 Cent/litre and the tax on electricity by 0.26 Cent/kWh. That is as far as the process had got by Autumn 2003.

Labour costs were cut by reducing pension contributions. By the end of 2002, the new taxes had brought in an extra €39.3 billion, most of which was used to lower the pension contributions from their level of 20.3% of gross wages in March 1999 to 19.1% in January 2002. Employers and employees have shared the 1.2% saving equally. It was not possible to make further reductions in 2002, but without the introduction of the ecotaxes, the contributions rate would by now have reached 21%.

In addition, some of the ecotax revenue, up to €150 million a year, is used to promote renewable energy. This is roughly equivalent to the ecotax taken from renewable energy sources.

One element of the German ecotaxes that comes in for consistent criticism is the exemptions and reductions given to particular sectors. Manufacturing industries and agriculture receive an 80% reduction of their taxes on heating oil,

natural gas and electricity. Manufacturing firms are only charged the standard rate for the first €500 of their oil, gas and electricity taxes; once payments of ecotaxes rise above 120% of the amount saved by the reduction of ancillary labour costs, companies can apply for a full refund from the customs offices. Public rail transport (trains, trams, trolley buses, urban and suspension railways, metros) receives a 50% reduction of the electricity tax, i.e. it pays only 0.5 Cent per kWh. This amounts to an annual loss of ecotax revenue of around €65 million.

Since January 2000, buses, taxis and other forms of short-distance public transport have only paid the mineral oil ecotax at 1.5 Cent/litre for their fuel. Storage heating systems installed before April 1st, 1999 which are only taxed at half the increased rate. Further exemptions to promote efficient technologies and renewable energy sources are also being given – for example, electricity from combined heat and power generation with an efficiency rate of more than 70% is exempt from mineral oil and electricity taxes. Electricity from renewable sources used for on-site production is also exempt.

### 3. The ecotaxes' effects

The positive effects of the ecological tax reform were highlighted by the Federal Environmental Bureau (Umweltbundesamt) in early 2002<sup>10</sup> when it stated that by the end of that year, its projections showed that ecotaxes would have reduced CO<sub>2</sub> emissions by more than 7 million tonnes while at the same time creating almost 60,000 new jobs. Other researchers<sup>11</sup> were even more positive, saying that between 176,000 and 250,000 new jobs would be created. These figures were based on the assumption that the trade unions would moderate their wage demands by linking any increases in gross pay to changes in prices and productivity.

These widely-differing estimates shows how much macro-economic models depend on political decisions, which, as a rule, do not lend themselves to adequate modelling. Calculations on the employment effects of ecotaxes consequently need to be treated with caution but our own investigations have led us to take a predominantly positive view of the ecotaxes' income-distribution effects.

There is even disagreement over the reduction in CO<sub>2</sub> emissions the taxes will bring about. The ecological tax reform movement expects

reductions of around 15 million tonnes, twice the official Umweltbundesamt figure. But if we compare this to the target the Federal Government announced in 1992, which envisaged a 25% reduction (250,000 tonne) by 2005 (see figure 3), ecotaxes can only be a first step along the way.

German reunification and the resulting changes in East Germany have substantially helped to cut the country's CO<sub>2</sub> emissions since 1990, especially in the early years. During the first half of the 1990s, CO<sub>2</sub> emissions fell by 11%; during the following years, the reductions fell at a much slower rate. The overall reduction for the period between 1990 and 2000 was 15%.

### 4. Suggestions for extending ecotaxes

The environmental movement reserved its strongest criticism of the ecotax programme for the concessions given to energy use in industry and agriculture. This indirect subsidy saved these sectors around €4.6 billion in 2002 and the European Commission has also objected to it. If these concessions are to be kept any longer, they should be reserved for companies that have implemented environmental management according to EMAS and/or DIN EN ISO 14001 improving the somewhat hesitant up-take of these schemes.

We suggest that from 2004 onwards, ecotax revenue should no longer be reserved for stabilising pension fund contributions. Only a third of ecotax-take should be used that way while a further third (around €12 billion) should be used to lower social insurance rates in view of current labour market conditions. The remaining third should be used to promote renewable energy production and energy saving measures. If energy saving was encouraged, taxes on gas and heating oil, which have not been raised since April 1999, could be increased.

Our suggested changes to the ecotax regime would dissolve its revenue neutrality to some extent but the public has not, so far, noticed the positive effects of the tax reform and subsidies for heat insulation measures could increase the taxes' popular acceptance. Friends of the Earth Germany (BUND) has been thinking on similar lines and has suggested that there should be an extra line on all pay slips showing how much money from ecotaxes is refunded to citizens through reduced pension funds contributions.<sup>12</sup>

It is also necessary to consider how low-income people, especially pensioners and those receiving unemployment benefit, social welfare or educational grants can be compensated for the losses that ecotaxes have caused them.<sup>13</sup> This could be arranged through the annual assessment and pay-off procedures.

As we have already noted, ecotaxes would have to be considerably increased to achieve the Federal Government's climate protection target – minus 25% CO<sub>2</sub> emissions by 2005 as compared to 1990. As a result, an intense debate is going on about whether and to what extent flexible economic instruments, like emissions trading, should complement ecotaxes.<sup>14</sup>

The European Union intends to open up opportunities for emissions trading from 2005, starting with an initial 5,000 companies in five sectors – energy, steel, paper, ceramics and building materials.<sup>15</sup> Chemical industries and the transport sector are excluded from this regulation. These companies will be obliged to apply to the environmental agencies of their countries for environmental certificates for their CO<sub>2</sub> emissions. From 2008 emissions trading will be opened to further companies.

Many German industries are not in favour of emissions trading. It is the view of the Federal Association of German Industry (Bundesverband der Deutschen Industrie - BDI) that setting an upper limit for CO<sub>2</sub> emissions would mean an "entry into the European planned economy".<sup>16</sup> Nine of Germany's biggest companies – including RWE and Eon, BASF and Bayer and also Dyckerhoff and Thyssen-Krupp – have criticised the European Commission's plans and declared them to be intolerable. The Chemical Industry Association (Verband der Chemischen Industrie - VCI) even threatened to relocate energy-intensive production abroad. Their opposition is in contrast to the positive experiences which oil companies like Shell and BP have had with emissions trading.<sup>17</sup>

Any price increases for heating oil, gas, electricity and petrol due to increased ecotaxes in future must be signalled well ahead – at least up to 2010 – so that citizens and industry can take account of them when making their plans. It would also be good to arrange for price increases only every second year.

## 5. How sustainable are ecotaxes?

Whenever the effects of an ecotax are discussed, its promoters and detractors operate with widely differing figures especially where the economic benefits such as the effect on the labour market are concerned. Here, the claims run from "jeopardizing thousands of jobs" to "creating several hundred thousand sustainable positions". On top of this, we have the ecological and social aspects of sustainability to consider.

The way in which a particular ecotax affects these three dimensions of sustainability can neither be measured nor calculated accurately even if complex computer models are used. This is because there is a whole host of factors – wage policies, global economic developments, exchange rates, the price of crude oil etc. – which can boost or reduce the effects that are being assessed. It is, however, possible to deduce certain trends, which can subsequently be related to the relevant targets of sustainable development.

In the environmental sector, the targets most improved by ecotaxes are closely linked: "environmentally and socially compatible mobility", "sparing use of non-renewable resources" and "low energy input". According to data released by the Federal Ministry for the Environment, fuel sales in the first half of 2001 were 5% lower than in the first half of 1999, petrol consumption went down by as much as 12% in this period, while the consumption of diesel fell by just 2%.

German railways registered a passenger increase of 2% in 2000 while rail freight grew by 7.9%. The popularity of agencies organising lifts in private cars (Mitfahrzentralen) was significantly higher – they saw a plus of 25% in the first half of 2000. Overall, the effects of ecotaxes in the environmental area must be regarded as positive and in some sub-sectors even as very positive.

The discussion of the effects of ecotaxes on the economy concentrates on two things: growth and the labour market. Different economic models agree that the taxes have only had a marginal influence on economic growth<sup>18</sup> and earlier fears that ecotaxes might turn out to be 'job killers' can now be taken as having been refuted. There are, however, no concrete figures yet to show whether ecotaxes in their present form actually function as a 'job booster'.

The third dimension, the social one, is concerned with a “*just distribution of incomes and assets*”. Using a micro-simulation model, the German Institute for Economic Research (Deutsches Institut für Wirtschaftsforschung, DIW) arrived at the view that the ecotaxes had meant that the net income of most households had been reduced. While these losses were small as a proportion of overall household income, low- and medium-income households fared worst. However, since the ecotaxes were only part of a far-reaching package of tax reforms, the DIW was able to conclude that most households’ finances had improved.<sup>19</sup>

Ecotaxes can therefore be judged to have made a positive contribution to all three aspects of sustainability and they would have become much

more effective if their design had been more influenced by ecological imperatives than by political and economic ones. Ecotaxes will only have a decisive impact on sustainable development in Germany if they are combined with further instruments like the Eco-Audit and greater support for renewable energy production. Moreover, all players need to realise that the taxes are an essential part of a long-term strategy. We strongly believe that ecotaxes should be continued over the coming years and that they should continue to contribute to a planned, progressive increase in the price of fossil fuel.

*Links to further information about ecotaxes in Germany are available with the online version of the article on the Feasta website.*

### Ecotaxes currently in use in Ireland

Economic Instruments	Details	Comments
<b>Charges/fines:</b>		
Derelict sites levy	3 per cent annually of an urban property's market value.	Low coverage. Revenue in 1994 was £21 000, on property worth £0.7 million.
Litter fines	Not applied very thoroughly.	No information on revenue.
Plastic bag levy	Introduced in 2002. 15 cent per plastic bag, revenue used for environmental functions.	Seemingly the most popular tax. Over 70% reduction in plastic bag use.
<b>User charges:</b>		
Domestic water and sewerage charges	Abolished in 1997.	High leakage rates, addressed by investment programme.
Domestic refuse charges	Mainly fixed charge. Some volume-based refuse charges. Costs partially covered.	Very small but strong resistance to bin charges. Local Authorities and Combat Poverty want Departmental guidance on waiver schemes.
Non-domestic water, solid waste and waste water:	Volume-based charges wide-spread for water and solid waste, less so for waste water.	
Urban parking	Meters and fines (but much free business parking).	Meters and fines revenue was £9.28 million in 1995.
<b>Product charges:</b>		
	High hydrocarbon taxes. CO <sub>2</sub> tax studied since 1991.	Mainly to raise revenue. Carbon taxes and permit trading due in 2004/5
<b>Admin./monitoring fees:</b>		
Trade effluent	Fee, increasing to cover costs.	
Integrated Pollution	Licence fee to firms.	To recover EPA costs.

Economic Instruments	Details	Comments
<b>Tax differentiation:</b>		
Leaded/unleaded petrol	Tax difference.	Unleaded sales rose from 7% in 1989, to over 60% by 1996.
Vehicle Registration Tax	% of vehicle value, higher for vehicles > 2500 cc.	VRT revenue was £271 million in 1994.
Annual road tax	Graded by engine cc.	Revenue was £249 million in 1994.
Tax relief if scrapping 10-year-old car (now ended)	£1000 Vehicle Registration Tax relief.	Ran from 1.7.1995 to 31.12.1996. Cost is 20 % of VRT revenue.
Exemption of VAT on public transport	Ticket sales are not charged VAT.	To reduce the price of public transport, possibly discourages adoption of new technology.
Excise tax on diesel used by public transport is rebated	To reduce costs of public transport providers.	Discourages fuel efficiency and switching to cleaner fuels in public transport.
Exemption from excise duty: waste oil	On processors of waste oil.	To encourage recycling.
Urban renewal special tax rates:	10 year Rates relief, double rent allowance and other reliefs.	Effective relief is high.
Allowance for insurance bonds	Payments of insurance bonds for rehabilitation of mines is allowable against tax.	Cost to Exchequer is £1 million per year (1997)
<b>Subsidies:</b>		
Food industry	Pollution control grants from EAGGF.	8 to 10% of investment.
Industry and commerce energy audit grant and efficiency grant	40% up to £3000 for audit. Up to 40% to a value of £156 000 for investment (1997).	£2 million expenditure in first year, 1995.
Rural Environment Protection Scheme REPS	Premium to farmers of £122/ha up to max 40 ha. Extra for Natural Heritage Areas (NHAs), Environmentally Sensitive Areas (ESAs) and organic farming.	Part of CAP reform: budget of £230 m over several years. To influence farming practice on small farms in its totality.
Control of Farmyard Pollution Scheme (suspended)	Grants up to 60% to a value of £22 500 to small farms for slurry storage etc.	Under Operational Programme (OP) for Agriculture, Rural Development & Forestry.
Afforestation grant	£1300 to £3000 per ha plus 20 year premium of £130 to £300 per ha (1997).	Part of CAP reform. Also OP grants for forestry improvement and amenity, of £500 to £3000.
Explicit subsidy to public transport	Mainly to rail transport.	To reduce the price of public transport.
<b>Deposit refund schemes:</b>		
	Cans.	Isolated (e.g. Aran Islands) and very smallscale.
<b>Market creation:</b>		
	Government departments and agencies use recycled paper.	

Adapted by Sue Scott of the ESRI from an appendix to Chapter 2 in A. Barrett, J. Lawlor and S. Scott, *The fiscal system and the polluter pays principle - a case study of Ireland*. Ashgate, Aldershot, 1997

## Quotas as an alternative to carbon taxation

In October 2003, Feasta responded to a call from the Irish Department of Finance for submissions on a proposal to introduce carbon taxes. Feasta's submission can be found on the Feasta website at <http://www.feasta.org/documents/energy/dtqsoct2003.htm>. It is also with all the other submissions on the Department's website at <http://www.finance.gov.ie/viewdoc.asp?DocID=1831>

We gave two reasons for disliking carbon taxes and preferring tradable carbon quotas such as the Domestic Tradable Quotas (DTQs) advocated by David Fleming and described in *Feasta Review* No. 1. These were:

1. A carbon tax, however structured, cannot guarantee that any particular level of emissions will be achieved at any given date in the future whereas a quota can. A carbon tax rate which would bring about the required emissions reduction in a booming economy would be too high and thus have a depressing effect on a depressed one. As a result, for a carbon tax to work well, its rate would need to be adjusted regularly to conform with the stages of the business cycle. This would make setting the rate a perennial source of conflict between the government, the consumer and business interests. With a quota, however, the market automatically sets the price to be paid for permits giving the right to burn extra fossil fuel and leaves no scope for argument.
2. A quota system is much more compatible with international emissions trading arrangements, particularly if long-run ones like Contraction and Convergence (also described in *Feasta Review* No. 1) involving very deep cuts in emissions are introduced in the post-Kyoto period.

Feasta would like to see Ireland reducing its CO<sub>2</sub> emissions by introducing a system under which whatever level of CO<sub>2</sub> emissions was set for the country in a particular year was shared out equally amongst all residents. Under the simplest version of this arrangement, everyone would receive a permit entitling them to burn whatever quantity of fossil fuels contained their year's allocation of carbon. The recipients would take their permits to their bank and sell them for cash. The banks would then sell the permits on to importers of fossil fuels who would be required to surrender them to Customs to cover the carbon content of whatever coal, oil or gas they were bringing in. Similar arrangements would be worked out for Irish fossil fuel producers such as the commercial peat firms.

The advantage of this system is that the proceeds from the permit sales would provide everyone with enough extra purchasing power to cover the higher costs of the fuels and (because of the higher energy prices) the other goods and services they bought in the year, provided that their purchases were consistent with their emissions share. If some individuals could cut their direct and indirect fuel use below their entitlement, they would be better off. But if they continued to drive around a lot in their SUV, they would have to pay more frugal people for the privilege. Overall, of course, fossil fuels themselves and goods made with significant amounts of fossil energy would cost more but this would encourage people to find lower-fossil-energy alternatives and enable the transition to renewable energy sources to gather pace.

David Fleming's proposal for DTQs is rather more sophisticated. He would like to see emissions permits covering about 55% of a country's allowable level of emissions being auctioned off to industry and transport companies because that percentage is roughly the proportion of a country's total fossil energy use taken up by these sectors. The income from these permit sales would go to the government, which could pass some of it on to the less-well-off to compensate them for the higher prices they would have to pay for almost everything they bought. Part of the remaining permit sales income could be spent on developing renewable energy sources.

The remaining 45% of emissions would be shared equally amongst the country's residents. Each person might receive their carbon emissions allocation in units on a chip-card which they would use, along with cash, whenever they were buying electricity, petrol or some other fuel. The required

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number of carbon units would be deducted electronically from the amount on the card, which would act as a purse. They would also be able to sell units from the card for cash, or buy additional ones in exactly the same way that you can top up the call units on a pre-paid mobile phone.

However, there would only be any point in issuing emissions permits on chip cards, with all the expense and trouble involved, if it caused people to behave differently from the way they would if they simply got their allocation as a voucher which they then sold to their bank. Fleming expects that many chip card recipients would set out to live within their allocation and make it a matter of pride not to have to buy extra units during the course of the year. If so, they would become very fossil-energy-use conscious, which ought to accelerate the transition away from such fuels, thus justifying the expense of setting up the system and running it. Feasta member and sociologist Mark Garavan is hoping to conduct an attitudinal study to see whether this might be the case.

It seems unlikely that it was Feasta's advice that led the Irish government to abandon its plans to put a carbon tax into effect. Concerns had already been expressed about the effect that the tax would have on the poor, who spend a higher proportion of their income on fuels than do the better-off. For example, in a report<sup>2</sup> published by the Environmental Protection Agency in July 2004, Sue Scott and John Eakins, both of the ESRI, found that the average low-income household would need to receive compensation of €246 a year through the Social Welfare system or in reduced income tax if it was not to be worse off as a result of a carbon tax set at €20 per tonne. The €246 estimate covers just the first-round price increases – that is, the immediate effects of the carbon tax. When the knock-on effects of the first round price increases had been reflected in a second round of price rises, and those in turn had been used to justify a third, and so on, the compensation would have to be higher still.

Now that the tax has been dropped, the only emissions control system in operation in Ireland will be a rudimentary emissions quota system imposed on the country by the EU. A more deeply-flawed system is hard to imagine. Under it, major industrial emitters such as the ESB and the cement companies are to be given permits for 5.8 % more emissions than they are currently releasing – presumably to allow them to grow. It is therefore hard to see how Ireland will get its emissions down.

The EU insisted that 95% of the emissions permits be given to the companies rather than auctioned, but the Irish government is doing better than that and is giving over 96%, leaving it with less to give away to start-up companies or to auction itself to bring in revenue. Quite why the EU insisted on the permits being given away is unclear as no economist, conventional or otherwise, would recommend that course. Presumably, naïve politicians were persuaded by corporate lobbyists to believe that, if the permits were given out rather than sold, it would enable electricity and cement to be cheaper. Not so. The fact is that the permits will acquire a market value if the industries covered by the scheme increase their output faster than they restrict their greenhouse emissions. And once the permits can be sold, firms will factor in the price they could have obtained by selling them as the cost of using them in their production process. In other words, even though the necessary permits came free, the price of electricity and cement will still go up by just as much as would have been the case if the permits had been sold to them by the state. The only difference is that the companies receiving the permits make a big windfall gain, while the state will not have the revenue it will need to compensate the less-well-off for the higher prices they will have to pay. Fortunately, this scheme runs for only three years and there is some chance – not a big one because it has already been announced that 90% of the permits will be given away in the next three-year period – of changing it after that.

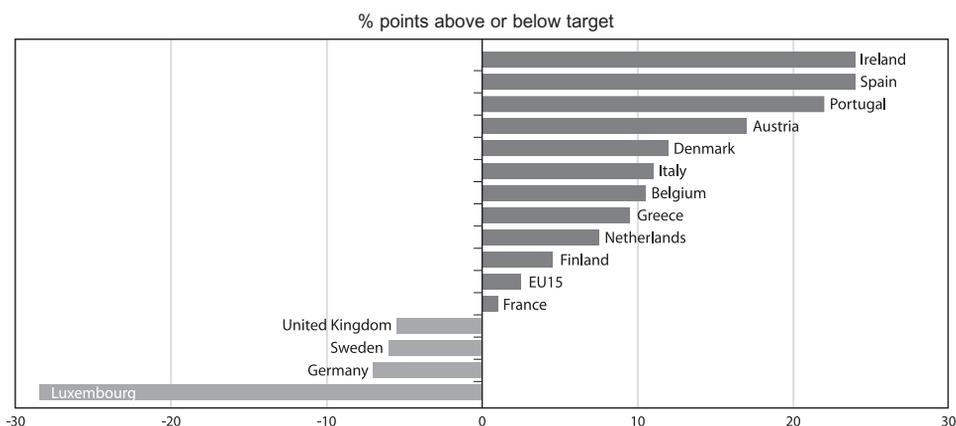
The free permits constitute a massive subsidy to the industries concerned. John Fitz Gerald of the ESRI, in a strong attack<sup>3</sup> on the arrangement, estimates that they would be worth €1, 350 million if the price being put on the right to emit a tonne of CO<sub>2</sub> rises to €20. This is money lost to Irish residents. Moreover, the fact that it has been announced that the permits will be given away next time encourages the owners of polluting plants to keep them open so that they can benefit from the subsidy again. If the plants had had to buy the permits, however, the dirtiest ones would have had to close.

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The permits will also encourage the construction of more fossil-fuel power plants rather than the development of renewable energy sources. This is because, although wind farms will benefit from the higher electricity prices that will result from the permit scheme, so will the promoters of, say, new gas-fired power stations, because they will be given the permits they require to buy their fuel. This will, effectively, reduce the costs of constructing their new power station. “For a new combined cycle gas turbine electricity generator, the subsidy in the period 2005-2012 could amount to at least 50% of the capital cost of the new plant” Fitz Gerald says.

Eco-taxes can be useful in reducing demand for such things as road space, plastic bags, chewing gum and non-returnable bottles. However, whenever it is critical that the pressure being put on a resource stays below a particular limit, quotas have to be used instead because of the greater certainty they provide that the limit will not be breached. The proposed carbon tax was not even a suitable tool to use to reliably keep the Ireland’s emissions of carbon dioxide below the level needed to avoid paying €100 per tonne fines to the EU because the country has overshot its emissions target. The fine is explained in the caption to the bar chart below. – **The Editors**

## Europe’s Progress on Meeting its Kyoto Greenhouse Gas Emissions Targets



Source: European Environment Agency 2003

Ireland agreed with its EU partners to allow its greenhouse gas emissions to rise by no more than 13% above their 1990 level so that the EU-15 as a whole could honour its commitment under the Kyoto Protocol and reduce its total emissions by 7%. If Ireland fails to keep its emissions below the target, it will be able to cover some of the over-run by buying emissions permits from Britain, Sweden, Luxembourg and Germany which, as the chart shows, have some to spare because they have cut back more than they promised. However, these permits are likely to be expensive given that other EU countries are having problems meeting their commitments too. Moreover, European Commission restrictions mean that permits can only be bought to cover emissions up to 10 per cent above the target. After that, the country will be fined €40 per tonne for every tonne of carbon dioxide in excess of the limit between 2005 and 2008, and €100 a tonne from then until 2012.

A €100 per tonne fine would increase the cost of a kilowatt-hour of electricity from Ireland’s two new peat stations by 14.3 cents, from Moneypoint, a coal-burning station by 9.2 cents, and by 4.6 cents from a typical gas-fired station.

The above chart is based on 2001 data. Irish economic growth will have worsened the situation since then.

## Endnotes:

- 1 These emissions figures are all taken from the UNDP's 2004 Human Development Report. They differ slightly from the federal government's data.
- 2 *Carbon Taxes: Which Households Gain or Lose?* Environmental Protection Agency, PO Box 3000, Johnstown Castle, Co. Wexford, Ireland.
- 3 'An Expensive Way to Combat Global Warming: Reform Needed in the EU Emissions Trading Regime', special article in the ESRI's *Quarterly Economic Commentary*, April, 2004. Can be downloaded from [http://www.esri.ie/pdf/QEC0404\\_FitzGerald.pdf](http://www.esri.ie/pdf/QEC0404_FitzGerald.pdf)
- 4 Cf. Neumark, Fritz (1970): Grundsätze gerechter und ökonomisch rationaler Steuerpolitik. Tübingen: J.C.B. Mohr; Haller, Heinrich (1971): Die Steuern. Tübingen, J.C.B. Mohr, 2. Aufl.
- 5 Cf. Diefenbacher, Hans (2001): Gerechtigkeit und Nachhaltigkeit. Darmstadt: WBG, Kap. 4.
- 6 Cf. Streit, Manfred/Umbach, Dieter (1976): –Besteuerungsgrundsätze“, in: diess. (Hrsg.): Die Wirtschaft heute. Mannheim: Bibliographisches Institut, 316ff.
- 7 Cf. Priewe, Jan (1998): Die Öko-Steuer-Diskussion. Positionen und Kontroversen einer Bilanz. Berlin: edition sigma; Deutsches Institut für Wirtschaftsforschung Berlin/Finanzwissenschaftliches Forschungsinstitut an der Universität zu Köln (1999): Anforderungen an und Anknüpfungspunkte für eine Reform des Steuersystems unter ökologischen Aspekten. Berlin: Erich Schmidt Verlag; zum folgenden vgl. Reiche, Danyel /Krebs, Carsten (1999): Der Einstieg in die ökologische Steuerreform. Frankfurt u.a.: Peter Lang, 25ff.
- 8 On this see: Binswanger, Hans Christoph/Nutzinger, Hans G./Frisch, Heinz et al. (1983): Arbeit ohne Umweltzerstörung. Frankfurt: S. Fischer.
- 9 For overviews of the discussion of eco taxes so far see Reiche/Krebs (1999).
- 10 Cf. –Positive Effekte der ökologischen Steuerreform, in: Umwelt, Heft 2, 2002, 94 – 97.
- 11 Cf. Bach, Stefan u.a. (2001a): Die ökologische Steuerreform in Deutschland. Eine modellgestützte Analyse ihrer Wirkungen auf Wirtschaft und Umwelt. Heidelberg: Physica Verlag; Bach, Stefan u.a. (2001b): Wirkungen der ökologischen Steuerreform in Deutschland, in: Wochenbericht des DIW, Heft 14, 220-225; Lutz, Christian/Meyer, Bernd (2001): Wirkungen der ökologischen Steuerreform auf Wirtschaft und Umwelt in Deutschland – Ergebnisse von Simulationsrechnungen mit dem umweltökonomischen Modell PANTA RHEI. GWS Discussion Paper 2001/1. Osnabrück: Gesellschaft für Wirtschaftliche Strukturforschung.
- 12 Cf. BUND (o.J.; 2002): Eckpunkte zur Weiterentwicklung der ökologischen Steuerreform. o.O.: hekt. Manuskript.
- 13 Meyer, Bettina (1998): –Sozialer Ausgleich erforderlich“, in: Politische Ökologie, Heft 56, 62-65.
- 14 See: Ministerium für Umwelt und Verkehr Baden-Württemberg (Hrsg.) (2001): Flexible Instrumente im Klimaschutz. Eine Anleitung für Unternehmen. Guidelines on CD-ROM or on the web at: <http://www.isi.fhg.de>.
- 15 See <http://www.foes-ev.de/GBNnews3/Zartikel4.html>.
- 16 Quote from: Wille, Joachim (2002): Der Streit über die Lizenz zum Klima-Vergiften, in: Frankfurter Rundschau, 26. January 2002, 9.
- 17 Interview mit BP-Vorstand Peter Knoedel über den Emissionshandel in dem Ölkonzern, in: Frankfurter Rundschau vom 26. January 2002, 9.
- 18 See the calculation in the models PANTA RHEI and LEAN in Bach u.a. (2001b).
- 19 Cf. Bach u.a. (2001b), 222.