





15. Environmental taxes

policy issue	indicator	assessment
reflecting full environmental costs in market prices	revenue from environmental taxes	
introducing ecological tax reform	ratio of revenue from environmental taxes to revenue from other taxes	
use of environmental taxes	introduction of environmental taxes	
effectiveness of taxes	some indications of effectiveness	

The proportion of tax revenue derived from environmental taxes grew slowly in the decade to 1995, but has since levelled off. Pollution and resource tax revenues tend to have grown more than average, but still contribute a very small share. Revenue from transport taxes has remained more or less constant. The overall share of revenue from environmental taxes in total revenue from taxes and social contributions varies between Member States, ranging between 5 % and 10 %.

The share of total revenue from labour taxes has remained more or less constant in recent years. A shift of taxes away from labour onto the environment is one of the elements of ecological tax reform, and can benefit both environmental quality and employment. Several countries have started the process of ecological tax reform; most of these have applied carbon dioxide taxes, which now operate in half of EU Member States. While some of these taxes are effective, their impact remains relatively small. Overall, many new tax systems appeared in the second half of the 1990s.

Environmental taxes can be defined as compulsory payments levied on tax bases deemed to be of particular environmental relevance (OECD, 2001). They help ensure that the market price for a particular product or process reflects its environmental costs more closely, while at the same time creating revenue that can be used to reduce other taxes (e.g. on labour). Imposing environmental taxes can help to reduce the demand for relevant products and processes and the associated pressure on

natural resources. The revenues raised through environmental taxation may also be used to finance environmental activities such as wastewater treatment and waste collection and processing.

If the burden of taxation is shifted away from labour and other production costs towards the environmental costs of products and processes, this can reduce the distorting impact of taxation on the economy and benefit the environment (thus providing a 'double dividend'). By ensuring that environmental taxes integrate environmental concerns into sectoral policies, they can be important tools for sustainable development. This is clearly dependent on the effective implementation of the environmental tax. However, this is hindered by resistance to new and expanded taxes, mainly for reasons of competition. For example, the European Commission's proposal to increase minimum taxes on all forms of energy apart from renewable sources has not been approved by all Member States.

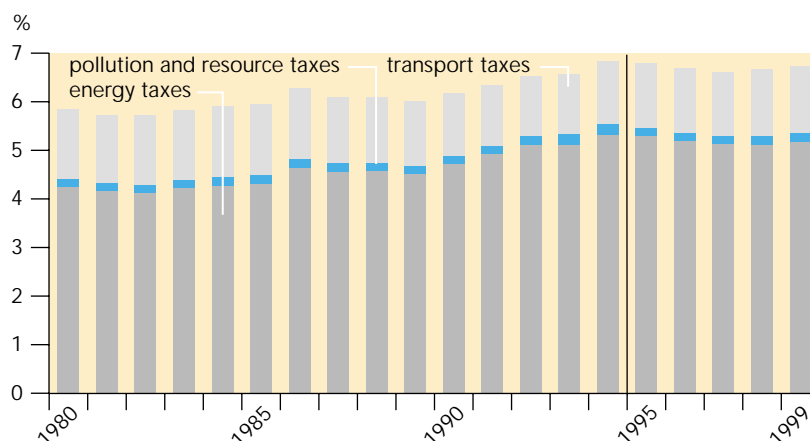
15.1. Revenue from environmental taxes

There is no comprehensive overview of the effectiveness of environmental taxes in EU Member States, however data on tax revenues are collected on an annual basis and provide an indication of the importance attached to environmental taxes and the way in which they have developed over time. Revenue from environmental taxation, expressed as a share of total tax revenue and social contributions, remained more or less constant during the 1980s, increased slightly in the first half of the 1990s, and has since levelled off. Of the three main categories of environmental taxation, energy taxes (including excise duties on car fuels and carbon dioxide taxes) contribute most revenue, followed by transport taxes. Taxes on pollution and resources continue to be of minor importance in terms of revenue raised. This trend can be recognised in most Member States, although there are some striking differences between countries.

Four countries, Denmark, Ireland, The Netherlands and Portugal, raise around 9-10 % of their total tax revenue from environmental taxes. In contrast to other Member States, energy taxes do not dominate and significant revenues are generated through taxes on transport. Only in The Netherlands does more than 1 % of total tax revenue and social contributions come from pollution and resource taxation, although the share is also relatively high in Belgium and Denmark. The share of total revenue derived from environmental taxes is less than 6 % in Belgium, Germany, France, Austria and Sweden.

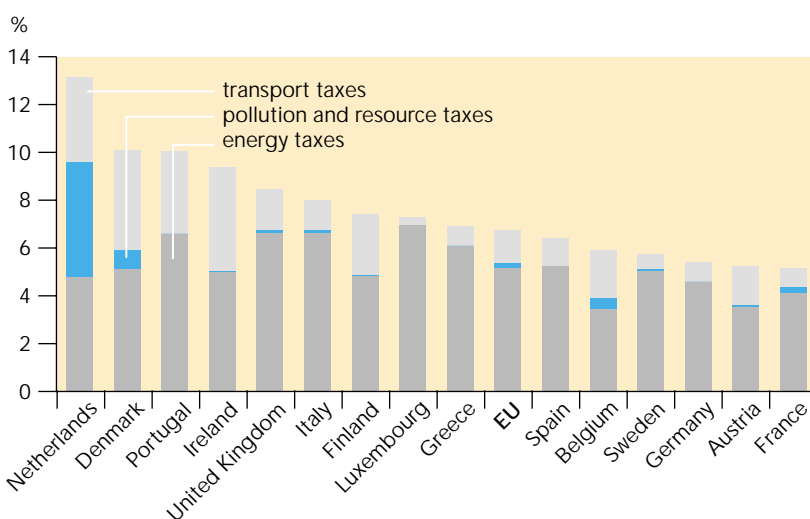
It is important to note however that only environmental taxes (defined as unrequited payments) and not environmental user charges (defined as payments for which a service is returned, such as fees for waste collection) are included in these graphs. Revenues from environmental charges can be significant and might alter the overall picture but unfortunately sufficient data are currently unavailable.

Revenue from environmental taxes, EU15 Figure 15.1.



Note: Percentage of total revenue from taxes and social contributions. The vertical line indicates a change of definitions used.
Source: Eurostat

Revenue from environmental taxes by country, 1999, EU15 Figure 15.2.

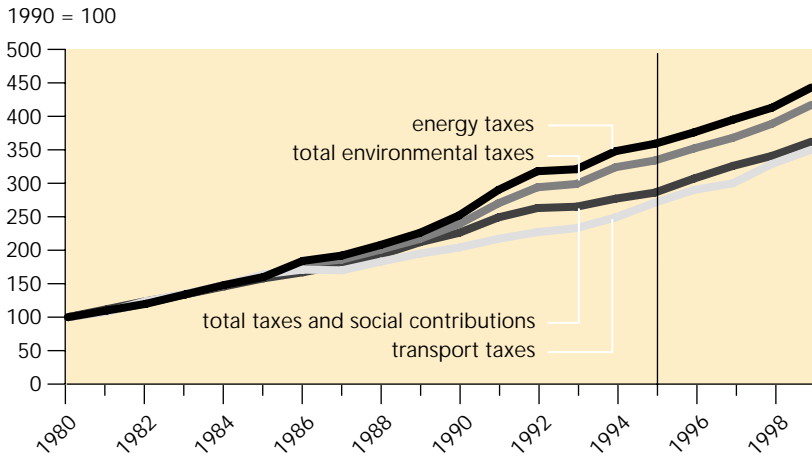


Note: Percentage of total revenue from taxes and social contributions.
Source: Eurostat

☹ Environmental taxation generates between 5 % and 10 % of total tax revenues in the EU Member States. Its share has not increased further in the second half of the 1990s.

Quality of information ☆☆☆

Figure 15.3. Revenue of environmental taxes, compared with total taxes and social contributions, EU15



Note: the vertical line indicates a change of definitions used.
Source: Eurostat

15.2. Ratio of revenue from environmental taxes to revenue from other taxes

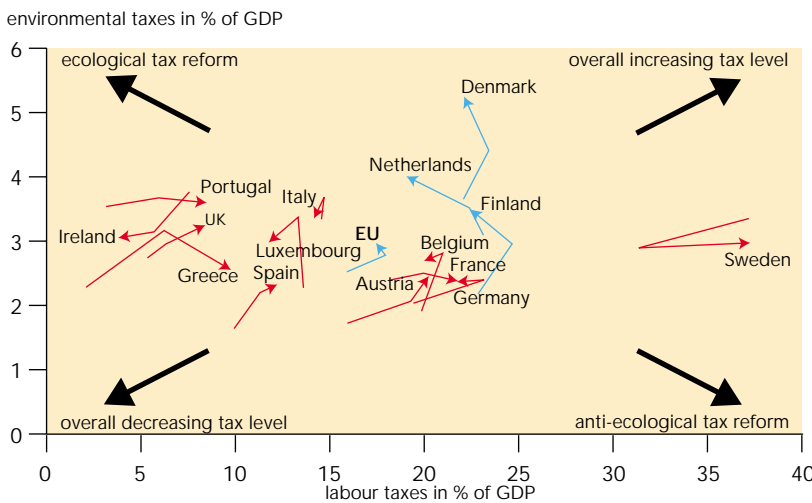
The 1990s witnessed a general trend towards reducing the cost of labour in order to reduce unemployment. Moreover, the European Commission has proposed a further reduction of taxation of 1 % of GDP by 2005. The Commission has also urged the Council of the European Union and the European Parliament to adopt the existing proposal on energy taxation in the near future. Increased revenue from environmental taxes could replace revenue lost from other taxes.

Ecological tax reform (ETR) covers three main components:

- a shift in the fiscal burden away from labour costs towards environment and natural resource costs;
- an increase in the number of taxes and charges and an adaptation of existing schemes to better internalise external environmental costs and cover the costs of environmental services;
- the removal of tax advantages that give rise to environmental degradation.

The revenues from environmental, particularly energy, taxes grew faster than the revenues of all taxes and social contributions in the period 1985 to 1999. Since 1995 labour taxes in the EU have decreased from 23.8 to 23.0 % of GDP. Environmental taxes show a tiny increase from 2.77 to 2.84 % of GDP. This may indicate the start of an overall ecological tax reform. This trend is most evident in Denmark, Finland and The Netherlands. Some of the other Member States show increasing environmental tax revenues but coupled with increasing labour taxes.

Figure 15.4. Ecological tax reform in EU Member States



Source: Eurostat, European Commission, EEA

☺ Indications of ecological tax reform have recently begun to emerge in the EU, although this is limited to certain Member States.

Quality of information ☆☆☆

15.3. Introduction of environmental taxes and some indicators of their effectiveness

Environmental tax bases in European countries

Table 15.1.

	A	B	DK	FI	FR	GE	GR	ICL	IRL	IT	L	NL	NO	P	SP	SW	UK
Air/Energy																	
Carbon dioxide*			1992	1990		1999				1999		1992	1991			1991	2001
Sulphur dioxide																	
Nitrogenoxides																	
Fuels																	
Sulphur in fuels																	
Transport																	
Car sales and use																	
Diff. annual car tax																	
Water																	
Water effluent																	
Waste																	
Waste-end																	
Dangerous waste																	
Noise																	
Aviation noise																	
Products																	
Tyres																	
Disp. razors																	
Beverage cont																	
Disp. Cameras																	
Packaging																	
Bags																	
Disp. Tableware																	
Pesticides																	
CFCS																	
Batteries																	
Light bulbs																	
PVC/phtalates																	
Lubrication oil																	
Fertilisers																	
Paper, board																	
Polyethene																	
Solvents																	
Minerals (P, N)																	
Resources																	
Raw materials																	

existing in 1996 new in 2000 * Year of introduction

Source: EEA; OECD/EU



An increasing number of environmental taxation systems are being introduced throughout the EU with the aim of improving environmental quality in an efficient way and reducing the burden of taxation on labour and other production costs.



There are some indications of the effectiveness of environmental taxes, but evaluative studies are generally lacking.

Quality of information ☆☆☆



http://reports.eea.eu.int/Environmental_Issues_No_18

Following a shift away from labour taxation towards the taxation of environmental costs, the second component of ecological tax reform is to increase the use of environmental taxes. Several Member States, including Denmark, Finland, Germany, Italy, The Netherlands, Sweden, and the United Kingdom, have begun to introduce fiscal measures with the aim of improving the quality of the environment and an additional aim of starting to reduce the burden of distorting taxation on the economy. Note that this table also includes environmental charges, defined as required payments for services rendered.

Most Member States have introduced taxes on carbon dioxide into the framework of ecological tax reform. Other taxes developed post-1996 include taxes on waste destined for landfill and incineration, and on products such as batteries, packaging, ethylene, pesticides, tyres and solvents.

The use of environmental taxes varies considerably across Member States, for example Ireland, The Netherlands, Portugal and the UK operate few pollution and resource taxes, but are among the countries with the highest share of environmental tax revenue originating from the energy and transport sectors.

Environmental taxes may be introduced with accompanying subsidies or tax exemptions that are environmentally beneficial. The UK introduced the Climate Change Levy scheme in 2001, drawing on the experience of others. The scheme includes climate change agreements with energy-intensive sectors, which provide for an 80 % discount of the levy if commitments are being made to improve energy efficiency and reduce environmental impact. Similar provisions can be found in the Danish system of carbon dioxide taxation that has been in operation since the early 1990s. Another tool applied in connection with the climate change levy in the UK is the system of enhanced capital allowances for machinery and plant. This enables businesses to take relief on the full costs of relevant investments in the first year, which results in a cash flow boost. Such a scheme has been run successfully in The Netherlands since the early 1990s.

The environmental effectiveness of taxation is the subject of increasing study (EEA, 2001). Retrospective evaluations of existing tax systems sometimes show positive impacts, but are not always decisive, due to data and methodological problems. Studies have demonstrated the effectiveness of carbon dioxide taxes in Scandinavia and The Netherlands.

Insufficient data are currently available on the third component of ecological tax reform, reducing the use of environmentally harmful subsidies.

Ireland introduces plastic bag levy

It is conservatively estimated that some 1.2 billion plastic shopping bags were provided free of charge to Irish consumers at retail outlets annually (approximately 325 bags per person per year). These are a visible and persistent component of litter and can impact on habitats and wildlife. In the light of this, on 4 March 2002 an environmental levy charged at 15 cents per bag on plastic shopping bags (also known as the 'plastax') was introduced. The levy is the first of its kind and the Irish Government hopes that consumers will respond to the measure by significantly reducing consumption of plastic bags dispensed at retail outlets. The levy will apply at the point of sale in supermarkets, shops, service stations and all sales outlets. Retailers will be obliged under law to pass on the full amount of the levy as a charge to customers at the check-out. The levy will apply to all plastic bags except smaller bags that are used to contain non-packaged goods (e.g. fruit and vegetables) and, for food safety reasons, smaller bags which are used to contain fresh meat, fish and poultry. Reusable bags costing more than 70 cents will also be exempt as will bags supplied to passengers in ports and airports as well as on board commercial ships and aircraft. Revenues raised from the plastic shopping bag levy will be assigned to a new Environment Fund - which will also receive funding from the proposed landfill levy. This fund will be used for supporting appropriate waste management, litter and other environmental initiatives.