

EXECUTIVE SUMMARY

Environmentally related taxes in the OECD countries

Experience over the last decades has proven that environmentally related taxes can be effective and efficient instruments for environmental policy. They introduce a price signal that helps ensure that polluters take into account the costs of pollution on the environment when they make production and consumption decisions. Many environmentally related taxes contribute to environmental improvements by causing price increases that reduce the demand for the environmentally harmful products in question.

All OECD member countries apply several environmentally related taxes. A database operated in co-operation between OECD and the European Environment Agency (EEA), currently details about 375 such *taxes* in OECD countries – plus *i.a.* some 250 environmentally related fees and charges. The taxes raise revenues in the order of 2-2.5% of GDP. About 90% of this revenue stem from taxes on motor vehicle fuels and motor vehicles, whereas revenue-raising is not a prime motivation for many other taxes applied.

The environmental effectiveness and economic efficiency of the environmentally related taxes could, however, be improved further if existing exemptions and other special provisions were scaled back. On the other hand, that could – to a certain extent – come in conflict with the two main political concerns that currently obstruct a more general use of tax rates that fully reflect the negative environmental impacts caused by various products and services, namely the fear of loss of sectoral competitiveness and the fear of negative distributional impacts. These two concerns are the focus of most of the present report.

Implementing environmentally related taxes

When implementing environmentally related taxes, the objectives of the policy measure should be clearly stated from the outset. When deciding a particular measure, one should carefully review the range of instruments that could potentially be used to achieve those objectives. A thorough analysis of the costs and benefits of each approach and an assessment of current practices should be carried out in order to evaluate the relative merits of the alternative measures. Environmentally related taxes can often usefully be implemented in the context of instrument mixes, in combination with other policy instruments, such as command and control regulations, tradable permits and voluntary approaches.

International competitiveness

A major obstacle to the implementation of environmentally related taxes is often the fear of reduced international competitiveness in the most polluting, often energy intensive sectors of the economy. To date, environmentally related taxes have not been identified as causing significant reductions in the competitiveness of any sector. However, this is in part due to the fact that countries applying environmentally related taxes have provided for total or partial exemptions for energy intensive industries. Indeed, the OECD/EEA database (www.oecd.org/env/policies/database) shows that environmentally related taxes are levied almost

exclusively on households and the transport sector. These exemptions create inefficiencies in pollution abatement and run contrary to the idea that polluters should pay.

With the Kyoto Protocol now in force, most OECD member countries have legally binding and quantified obligations to limit emissions of greenhouse gases. This has already contributed to new policy initiatives in several OECD member countries, with, for example, the EU Member States implementing a CO₂ emissions trading scheme from 1 January 2005, with obligations for selected industries to hold emission allowances for the CO₂ emissions they cause.

Model simulations indicate that the use of economic instruments to reduce greenhouse gas emissions *is* likely to have negative impacts on the international competitiveness position of *some* industrial sectors, especially when such instruments are implemented in a non-global manner. This has, *e.g.* been demonstrated case studies of the steel and the cement sectors. However, both studies show that in spite of some element of carbon leakage, significant global reductions in carbon emissions can be achieved.

Unilateral policies by single regions or countries may lead to significantly larger production decreases in the countries and sectors concerned. The larger the group of countries that put similar policies in place, the more limited the impacts on sectoral competitiveness.

The case studies looked at some ways to limit the burden on affected firms, while maintaining the abatement incentives. One option could be to recycle (a part of) the revenues raised back to the affected firms. The case studies indicate that revenue recycling would *reduce* global emission *reductions* in the sector. In other words, protecting competitiveness through recycling revenues back to the affected sectors is likely to lower the environmental effectiveness of the policy as a whole. The report also discusses the use of border tax adjustments to reduce competitiveness impacts of taxes.

This report also describes some *ex post* case studies of the implementation of environmentally related taxes, highlighting lessons on political economy that can be drawn. One lesson is that policy makers should ensure that competitiveness pressures are adequately assessed and addressed. Countries should also strive for broadest possible tax-bases to ensure cost-efficient emission reductions. Broad tax-bases and introduction in connexion with a broader reform strategy might make it easier to get acceptance for the tax from affected parties. This strategy has been used in many countries that have introduced green tax reforms.

Income distribution

The distributional incidence of environmental policy has become a key issue in the policy debate. Most studies show that environmentally related taxes, and especially energy taxes, can have a regressive impact on the income distribution of households. However, a full assessment of the income distributional effects of levying environmental taxes should also include the indirect effects from price increases on taxed products, effects arising from the use of environmental tax revenues and/or compensational measures and also the distribution of the environmental benefits resulting from the tax.

Mitigation practices, including exemptions or rate reductions in the environmentally related taxes, can reduce the environmental effectiveness of the taxes. Governments should seek other, and more direct, measures if low-income households are to be compensated. Compensation measures, through reductions in other taxes or through the social security system, can maintain

the price signal of the tax whilst reducing the negative impact of the tax on low-income households.

Regressive impacts from implementing environmental taxes are often softened by using the revenue to reduce other taxes *i.a.* on income. Such tax reductions can be targeted at low-income groups. In some cases the distributional concerns have not been addressed at all, or have come up late in the process and tackled in a more *ad hoc* fashion. This might lead to strong opposition and failure to implement effective environmental measures, and implies higher costs to society than necessary. In order to assure that distributional concerns are properly addressed, member countries should consider introducing mechanisms into the decision-making process whereby distributional impacts are explicitly analysed.

The use of tax revenue

Revenue from introducing environmental taxes can be used to strengthen the budget balance, finance increased spending or reduce other taxes. Several OECD member countries have reduced the tax burden on labour, by cutting non-wage labour cost in the form of employers' social security contributions. This can reduce the efficiency loss generally induced by tax collection if the taxes reduced are more distorting than the environmentally related taxes introduced. One much-debated aspect of use of revenue from environmental taxes is shifting the tax burden from labour to pollution with an expectation that this would encourage work effort and thereby contribute to increased employment, while improving the environment (the so-called "double dividend" hypothesis). A distinction is often made between a strong and a weak double dividend hypothesis. The weak double dividend hypothesis states that revenue recycling through cuts in distortionary taxes improves welfare relative to recycling through lump-sum payments. The strong double dividend suggests that substitution of an environmental tax for a representative distortionary tax will improve welfare. The weak double dividend hypothesis is not disputed, but the strong one is.

Tax revenues are sometimes earmarked to specific spending purposes, in some cases for environmental purposes. Earmarking, however, might violate the polluter pays principle. Further, earmarking fixes the use of revenue which may create an obstacle for the re-evaluation and modifications of the tax and spending programs. Therefore, the economic and environmental rationale for any earmarking should be evaluated regularly to avoid inefficient spending that would otherwise not be financed from general tax revenues.

Administrative costs

Environmentally related taxes can be designed in ways that imply relatively low administrative costs. For example, taxes on petroleum products are levied on a limited number of petroleum refineries and depots, and are relatively simple to administer and enforce. Several examples also indicate that the administrative costs of a scheme involving a large number of tax payers *can* be kept at relatively modest levels.

However, many economic instruments used for environmental policy involve several special provisions that increase the administrative costs. Such mechanisms, like for instance exemptions, are often introduced for non-environmental reasons, to address competitiveness or income distribution concerns. Often there seems to be a trade-off between the size of the administrative costs and measures to create a "fair" or "politically acceptable" scheme. Thus the design features of environmentally related taxes associated with low administrative costs are often in line with features associated with high economic efficiency.

Acceptance building

Building acceptance is a key condition for successful introduction of environmentally related taxes. The acceptance of an economic instrument among the public at large seems to be related to the degree of awareness of the environmental problem the instrument is to address. In general, political acceptance could be strengthened by creating a common understanding of the problem at hand, its causes, its impacts, and the impacts of possible instruments that could be used to address the problem. One way to build such a common understanding is to provide correct and targeted information on the environmental issues at stake. Another way is to involve relevant stakeholders in policy formulation, for example through broad formal consultations and/or in committees or working parties preparing new policy instruments.

Environmentally related taxes used in combination with other instruments

In practice, environmentally related taxes are seldom used in complete isolation. Taxes are for instance often applied in addition to regulatory instruments. In a number of cases there can be environmental and/or economic benefits from combining a tax with other types of policy instruments. A tax can relatively well affect the total amount used of a given type of product and the choice between different product varieties, but could – *inter alia* for monitoring and enforcement reasons – be less suited to address *how* a given product is used, *when* it is used, *where* it is used, etc. Hence, other instruments could in any case be needed.

On the other hand, it often seems that more environmental targets than necessary have been defined. This could be the case in the waste area, where *e.g.* specific recycling targets for a large number of products or waste streams have been established in many OECD countries, frequently without a clear documentation that the selected waste streams represent a larger threat to the environment than other waste streams. Also the targets set for landfill diversion of biodegradable waste could benefit from further cost-benefit analyses.