The OECD database on instruments used for environmental policy and natural resources management

This database, which is freely available to anyone at www.oecd.org/env/policies/database, contains information about a large number of environmental policy instruments in both OECD countries and about 20 selected non-OECD countries, including Argentina, Brazil, Colombia, China, India and South Africa. The following table shows the numbers of instruments in current use, as of early March 2013:

<table>
<thead>
<tr>
<th>Instrument Category</th>
<th>OECD</th>
<th>Non-OECD</th>
</tr>
</thead>
<tbody>
<tr>
<td>Taxes</td>
<td>680</td>
<td>110</td>
</tr>
<tr>
<td>Fees and charges</td>
<td>286</td>
<td>208</td>
</tr>
<tr>
<td>Tradable permit systems</td>
<td>67</td>
<td>0</td>
</tr>
<tr>
<td>Deposit refund systems</td>
<td>50</td>
<td>14</td>
</tr>
<tr>
<td>Environmentally motivated subsidies</td>
<td>743</td>
<td>23</td>
</tr>
<tr>
<td>Voluntary approaches</td>
<td>117</td>
<td>3</td>
</tr>
</tbody>
</table>

As the table shows, the database covers a range of environmental policy instruments, mostly economic instruments. The compiled information allows in-depth comparisons of important environmental policy instruments across the countries covered. For example, it provides information not only about the amount of revenues raised via environmentally related taxes, fees and charges, but also about the tax-bases countries use and the tax rates applied, major exemptions, refund mechanisms, and any upper ceilings on tax payments from different sources.

The database also provides much information on the other instrument categories covered, such as the deposit and refund rates of deposit refund systems; the target groups, supported activity, subsidy category (grant, soft loan, tax reduction, etc.) and environmental domains of environmentally motivated subsidies; any legal underpinning and sanctions linked to voluntary policy approaches, etc.

Some of the findings produced by the database

Figure 1 illustrates the amount of revenue raised through environmentally related taxes in selected countries in 2011 in per cent of GDP. It shows that, on this measure, only a few OECD countries raise more revenue from this source than Brazil does. Denmark, Turkey and the Netherlands are the three OECD countries that raises the most revenue from such taxes. The negative revenue amount shown for Mexico is linked to a system they apply to keep end-user prices of motor fuels relatively stable over time. In years when international oil prices are high, their motor fuel tax turns into a subsidy instead.

Figure 1 also indicates that the largest part of the revenue is raised via taxes on energy products – more specifically on motor vehicle fuels. A significant amount of revenue is also raised via either annual or one-off taxes on motor vehicles. In most of the countries covered, the amounts raised on other environmentally related tax-bases (waste, measured air or water pollution, hazardous chemicals, etc.) are very modest.
Figure 1: Revenue from environmentally related taxes in per cent of GDP (2011)

Figure 2 illustrates the information available in the database regarding tax rates – in this case the tax rates on petrol and diesel in OECD countries. The graph shows that by far the highest tax rate on petrol is applied in a relatively low-income OECD country, namely Turkey. One can also notice that almost all OECD countries apply a lower tax rate on diesel than on petrol – in spite of the much larger negative environmental impacts caused by diesel use.

Figure 2. Tax rates per litre of petrol and diesel
OECD countries, nominal rates, 01.01.12 and 01.01.02
Figure 3 illustrates the CO₂-related tax rate differentiation of one-off and annual motor vehicle taxes that OECD countries and South Africa apply. Assuming that each vehicle is driven 200,000 km over its lifetime, the graph uses information in the database to illustrate tax rates per tonne CO₂ emitted over the lifetime of the vehicle at different (and here, quite high) levels of emissions per km driven. Compared to incentives given for CO₂ abatement in other parts of the economy, the abatement incentives provided by the tax rate differentiation applied for such vehicles in some of the countries can seem very strong – in the hundreds of Euro per tonne CO₂ abated.

**Figure 3. Tax rates per tonne CO₂ emitted over a vehicle’s lifetime in recurrent and one-off motor vehicle taxes**

Assuming that each vehicle is driven 200,000 km over a lifetime of 15 years, 01.01.2012

![Graph showing tax rates per tonne CO₂ emitted over a vehicle’s lifetime in recurrent and one-off motor vehicle taxes](image)

Figure 4 shows the distribution of supported activities across various target groups for environmentally motivated tax preferences in OECD countries. None of the tax preferences target the fisheries sector or NGOs. Activities that are frequently supported across all target groups include investment in physical capital, energy saving and market penetration of clean products. Tax preferences for research and development are targeted on producers of environmental protection equipment, car manufacturers and renewable energy producers. The operation of public treatment facilities is given preferential tax treatment among water suppliers and waste handlers. In manufacturing, tax preferences supporting clean-up of past pollution are also significant.
Use of the database and collection of information

The database is used extensively by civil servants, students and academics, industry organisations, and the general public, all around the World – as well as by the OECD and other international organisations to inform analysis and as a basis for elaborating policy advice to member countries. It provides inspiration for how policy instruments might be designed, and allows comparisons of the relative ‘strictness’ of the policies applied, across countries as well as across economic sectors.

The information in the database is generally provided by contacts in relevant ministries in the respective countries, via a separate password-protected web-site. The information that is provided is validated by the OECD before it ‘goes live’ on the Internet.

The OECD is seeking to broaden country coverage further, for example to South-East Asia and Latin America. This requires the establishment of contacts in the relevant countries in order to undertake a first-time collection of information regarding the relevant policy instruments, and then to secure annual updates of the information. Country contacts are given personal log-in IDs to the password-protected website and detailed information on how the information is to be entered.

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