

The Social Dimension of Environmental Policy

What are the distributional concerns about environmental policy?

Are poorer households paying more and getting less?

How can environmental costs and benefits be shared fairly?

How does environmental policy affect employment?

What about environment and health?

For further information

For further reading

Where to contact us?

Introduction

Is it true that environmental policies hit the pockets of poorer households harder than those of wealthier ones? And that the poor receive less of the benefit of such policies as they are more likely to live closer to industry or hazardous waste treatment plants and further from parks or the countryside? This is a widespread perception, and in many cases one that is supported by the available evidence.

Concern about the social dimension of environmental policy is nothing new – indeed, the importance of considering simultaneously the economic, environmental and social dimensions of sustainable development has been stressed since the concept was spelled out in the “Brundtland Report” in 1987. And the need to analyse the social-environmental interface is one of the key priorities of the OECD’s Environmental Strategy for the First Decade of the 21st Century.

But before we can understand the links between social and environmental concerns, we need to know whether environmental policies affect households differently according to how well-off they are and other criteria such as age. Indeed, since perceived differences in effect can be a significant political barrier to introducing environmental policies, assessing these links is often a precondition for implementing environmental policy in OECD countries.

In addition to considering the distributional impacts of environmental policy, the OECD is examining the effect of environmental policy on health and employment, since these are also key areas where environmental and social concerns meet.

This *Policy Brief* looks at the OECD’s work on the relationship between environmental and social policy and how countries can ensure that the costs and benefits of environmental policies are shared fairly across society. ■

What are the distributional concerns about environmental policy?

There are two types of social concern related to environmental policy – those related to how environmental quality is distributed across different members of society, and those related to the distribution of the financial effects of environmental policies.

Uneven distribution of environmental quality arises when some people live closer to polluting manufacturing facilities, or are more exposed to noise pollution because they live under an airline flight path, or because they live further from parks or are less well-served by water, waste collection or energy services.

In most cases, it is not possible to draw a sharp distinction between the environmental and financial effects of a given policy. For environmental policies which target “local public goods” such as air quality and urban parks, the empirical evidence indicates clearly that a change in environmental quality will have a significant financial impact locally on factors such as housing prices and jobs.

But how can we measure the difference in impacts? There are basically two types of measurement: “physical” units of measurement such as emissions, exposure or risk across households and “preference-based” measures which reflect personal preferences with respect to environmental quality.

Several factors can contribute to possible inequities in the distribution of environmental quality including:

- Differences in preferences for environmental quality between different types of households, including different income classes (e.g. demand for urban parks);
- Differences in access to information which would allow low-income households to express their demand for environmental quality (e.g. air pollution concentration levels in residential areas);
- The existence of failures in associated markets which affect low-income households particularly acutely, such as split-incentives for landlords and tenants with respect to energy conservation measures; and,
- The existence of policy failures limiting the access of low-income households to political decision-making, which might arise if wealthier households are more successful in lobbying efforts.

But environmental quality is only half the story. There is also the question of who pays, and how much, to achieve this level of environmental quality. It is widely felt that the distribution of the financial effects of environmental policy can be regressive, with lower-income groups bearing a disproportionately higher share of environmental compliance costs than those that are more well-off. ■

Are poorer households paying more and getting less?

The available evidence suggests that low-income households tend to be relatively more exposed to environmental hazards than wealthier ones, but most of the studies are North American, in particular from the United States. Evidence is very limited for Europe and extremely scarce for the OECD Pacific region. Moreover, there is much less evidence on how access to environmental “goods” such as green space and environment-related public services is shared across society.

Evidence on how the costs of environmental policy affect different income groups tends to focus on the impact of economic instruments, particularly taxes. In general, lower income households spend a slightly higher proportion of their income on these taxes than higher income households, even though they will generally spend less in total.

There is little evidence on how other environmental policy instruments such as direct regulation (*e.g.* energy efficiency standards) affect lower-income and wealthier households, but what is available does suggest that the financial impact will be equally severe, even if the household is less aware of it. Moreover, since environmental taxes (and auctioned tradable permits) raise revenue, governments can use this revenue to relieve the burden on acutely affected members of society, an option which is not available for other measures. So when assessing the financial effects of environmental policy, governments need to examine the impact of a wide range of policy measures.

Measuring the cost of a given policy is not always simple. A fuel tax, for example, affects not only the price of fuel to the consumer, but also the price of goods or services which need a lot of fuel to produce. How an individual household or income group is affected by the tax depends, therefore, not only on their direct consumption of fuel but also how much they purchase of these other goods and services. At the same time, not all households will react in the same way to the introduction of a policy. A tax on residential energy use could lead people to invest in energy conservation measures such as double glazing, or more efficient water heaters and heating systems – but only if they can afford such investment.

It may be necessary to examine the effects of an environmental policy on associated markets to get a full picture. Households may accept lower environmental quality for the sake of living nearer to local employment opportunities, while houses which are close to city parks and far from polluting factories will tend to be more expensive. These impacts must be

Box 1.
**ENSURING AFFORDABLE
ACCESS TO WATER**

Water is an economic good. As such, it should be priced at a level that will ensure the necessary financing to maintain and expand water services infrastructure, and to provide incentives for water conservation.

Water is also a social good, as access to clean water is essential for human health and well-being. Most OECD countries have adopted measures to ensure affordable access by all segments of society to water supply and sanitation services. Such measures include payments on a sliding scale based on the amount of water used, or income measures such as subsidies to low-income consumers or those with large water requirements, such as for dialysis purposes. Other measures include reducing VAT or waste water taxes, use of progressive social tariffs and abolishing annual fixed fees.

Wherever possible, policies to address affordability of access to water services should target those who need it without reducing incentives to minimise inefficient water use. So increasing income support measures to those who most need it is preferable to across-the-board low water prices. Similarly, some authorities levy low per-unit charges on those using a minimum level of water, and higher per-unit charges on those using large amounts of water, for example for uses such as swimming pools and gardening. Such measures can help provide affordable access to essential water services for everyone, while still maintaining incentives for efficient water use.

included in any full assessment of how the financial impact of environmental policies is distributed across society. The importance of such trade-offs suggests the need for policy makers to examine simultaneously concerns related to the distribution of environmental quality and those related to the distribution of its financial costs. ■

How can environmental costs and benefits be shared fairly?

All public policies are likely to affect some members of society more than others, and in general these distributional impacts are managed through general adjustments to tax and social policies. OECD countries use a range of policy actions to address the possible adverse distributional impacts of environmental policies. But in such cases decision makers must ensure that the economic efficiency and environmental effectiveness of the policy remain intact.

Governments prevent low-income households from bearing a disproportionate share of the cost of environmental policies in three main ways. One is to ensure that the poor do not pay a larger share of their income than wealthier households – for instance by implementing an environmental tax and paying a lump sum to low-income households. Another is to address distributional concerns by applying different tariff structures to low-income and high-income households, and the third is to exempt some low-income groups from the measure altogether.

In terms of efficiency, the first option is the best, but may not be politically acceptable. The third option, of granting exemptions, can never be efficient or effective but is unfortunately often the method chosen by governments.

Indeed, in general it is preferable to address distributional impacts as part of an overall policy for the economy as a whole, rather than on a piecemeal basis for a particular environmental policy. However, it may be politically necessary to address social and environmental concerns together as part of a policy package. In such cases, using the revenue generated by a tax for direct financial assistance or tax refunds for vulnerable groups such as low-income households may be the best option. Other channels, such as reducing other taxes whose burden falls heavily on low-income households or providing direct financial support, may also be used.

Governments may also take measures to overcome market and political factors that can contribute to inequities in the distribution of environmental quality. For instance, if relatively poorer households are not fully aware of local environmental conditions, providing environmental information to the public can result in less inequity and greater efficiency. Similarly, if there are decisions to be made on where to place facilities with significant implications for the local environment, such as airport runways or waste management facilities, measures to make it easier for vulnerable households to take part in the decision-making process may also reduce inequity and increase efficiency.

This work has highlighted three main conclusions regarding the distributional effects of environmental policies. First, all environmental policies are likely to have distributional impacts. While these effects have a greater “visibility” in the case of economic instruments, they can also arise when using direct regulations such as performance standards. For instance, the use of

minimum energy efficiency standards for household appliances can have more significant financial impacts for lower-income households than higher-income households, as low-income households are less likely to be able to afford the initial up-front costs of more energy-efficient appliances, even if there will be savings from reduced energy use over the longer-term. Second, although the assessment of the distributional burden of environmental policies is generally focused on direct financial effects, taking into account indirect effects may have significant implications for the final assessment. Third, policy makers face important choices when considering how best to respond to these distributional concerns. In particular, they need to consider how different groups of individuals will be affected by the financial burden of environmental policies as well as any change in environmental quality; and, when introducing measures to mitigate these distributive impacts, they need to maintain the effectiveness of the environmental policy and its economic efficiency. ■

How does environmental policy affect employment?

Work on the link between the environment and employment has a long tradition at the OECD. But analysing the direct and indirect, short-term and long-term employment effects of environmental policies has become particularly relevant in the context of sustainable development.

In a situation of persistently high unemployment, policy makers have renewed their interest in the possibility of designing a strategy in which environmental policy and policies aimed at reducing unemployment could be mutually supportive. As a result, the OECD has begun work on the relationship between environment and employment as part of its work on integrating social and environmental policy.

Drawing on previous work, the OECD has expanded its analysis with a particular emphasis on the economy-wide employment impacts of environmental policies in general, and of climate change policies in particular.

The main objectives of the new work were to:

- update information on employment in environmentally-related sectors in OECD member countries;
- examine the contribution of environment-related local initiatives to sustainable development through their impact on employment;
- discuss economy-wide employment impacts of environmental policies in more depth; and
- assess in particular the potential impact of climate change policies on employment.

The results indicate that environmentally-related activities in the private, public and tertiary sector have become a significant source of employment in a number of OECD member countries. Existing data show that the direct employment effects in the environmental goods and services (EGS) sector alone vary between 0.4% and 3.0% of total employment in OECD countries; and between 1% and 1.5% in the majority of countries. However, in spite of progress made in the quality of data on environment-related employment in OECD countries, in areas such as wider coverage and improved methods of

collecting information, the new analysis also highlights gaps in availability, reliability and comparability of data.

Moreover, when considering these figures, one must not ignore the so-called displacement effects. Some jobs may have substituted for the creation of other jobs elsewhere in the economy. The importance of this displacement effect will depend, for instance, on how the programmes are financed, the effects of the policies introduced on profitability and growth, and the effects of any employment creation on the job market in general.

Choice of policy instrument and how it is implemented clearly matters. Most governments that have implemented environmental taxes have chosen to do so in a revenue neutral context, offsetting the revenues generated through the environmental tax by reductions in other distortionary taxes, such as labour taxes. Many have questioned whether this shift in tax from labour to environmental damage can result in a so-called “double dividend” by simultaneously helping to reduce pollution and increase employment. However, there is little empirical evidence to support this hypothesis. The potential for a positive impact on employment appears to be greatest if payroll tax reductions are concentrated on unskilled workers – but the impact would in any case be small. These findings are conditional on the possibility of lowering non-wage labour costs and the elasticity of demand for labour.

Overall, the economy-wide employment effects resulting from environmental policies are very limited. But environmental policy can have some effect on employment in the short-term and in specific sectors – possibly at the detriment of employment in other sectors. Transition problems that are likely to arise in some sectors or regions need to be given attention and should be duly addressed. ■

What about environment and health?

Environment and health are closely linked, and concern over environment-related health effects, particularly in children, has been growing over the past decade. Many OECD countries are reporting asthma epidemics exacerbated by air pollution. For example, in the United States nearly 1 in 13 school-age

Box 2.

OECD WORK ON CHEMICAL SAFETY

The OECD has an extensive programme to help countries develop harmonised policies and practical instruments to protect human health and the environment from the risks caused by toxic chemicals. A cornerstone of the OECD’s work on chemical safety is the Mutual Acceptance of Data (MAD) for the assessment of chemicals. Under MAD, test data generated in one adhering country are accepted in other countries, saving time and money for governments and the industry. An increasing number of non-OECD countries are adhering to MAD – South Africa, Slovenia and Israel are already full participants; India and Argentina are provisional adherents.

Great strides were made in 2005 in the relatively new area of using computer models rather than toxicological testing to estimate certain safety data. OECD principles for validating such models for regulatory purposes were agreed. The safety aspects of manufactured nanomaterials are also attracting increased interest. The OECD is addressing possible testing and assessment needs for these materials at an early stage so that potentially useful applications can be considered together with the possible corresponding challenges to human health and the environment.

children (approximately 4.8 million in total) has asthma, and the rate is increasing more rapidly in school-age children than in any other group. The importance of this issue has resulted in a growing number of epidemiological studies aiming at better understanding and better characterising the relationship between environmental pollution and the health of children.

However, calculating the economic costs of such health problems is particularly challenging, for analysts and decision makers, since in many respects, the valuation of children's health strongly differs from the valuation of adults' health. To try to resolve these problems, the OECD has proposed an in-depth analysis of the main methodological difficulties associated with estimating the social value of a reduction in risk to children. Questions such as what valuation methodology and benefit measure to choose, how to discount benefits to children's health, and how to account for economic uncertainties are systematically examined in order to define key policy implications and to pave the way for further research. To this end the OECD is carrying out a series of valuation surveys in three OECD countries (United Kingdom, Italy and the Czech Republic). This will provide estimates of willingness-to-pay for immediate and latent risk reductions to adults and children. It will allow cross-country comparisons and will provide a considerable input into the valuation of environmental health risks for children.

In addition, the OECD has initiated work to look at the differences between how health economists and environmental economists assess environmental health impacts. In health economics, analysts often use a valuation framework to analyse cost-effectiveness in which costs and benefits are not directly commensurable, while in environmental economics analysts usually use a valuation framework which can be applied in a cost-benefit analysis.

As well as assessing the valuation methods applied in the two areas, the OECD is examining the measures used to ensure that there is co-ordination in the establishment of policy priorities in environment and health policies. Through an analysis of case studies in three OECD countries (Canada, France, the United Kingdom), lessons for effective and efficient co-ordination of environmental health policy will be drawn. ■

For further information

For more information about the OECD's work on the social and environmental policy interface, please contact:

Distributional effects of environmental policy: Ysé Serret; tel.: +33 1 45 24 13 83; e-mail: yse.serret@oecd.org or see www.oecd.org/env/social/.

Environmental policy and employment: Ysé Serret; tel.: +33 1 45 24 13 83; e-mail: yse.serret@oecd.org or see www.oecd.org/env/social/.

Environment and health: Pascale Scapecchi; tel.: +33 1 45 24 14 87; e-mail: pascale.scapecchi@oecd.org or see www.oecd.org/env/social/envhealth.

Chemical safety: Dian Turnheim; tel.: +33 1 45 24 93 15; e-mail: dian.turnheim@oecd.org or see www.oecd.org/env/health.



For further reading

OECD (2006), **The Distributional Effects of Environmental Policy**. Edited by Ysé Serret and Nick Johnstone. Edward Elgar, UK. ISBN: 18-45-42315-1, £65, 336 p. (Note: available at: www.e-elgar-environment.com/Bookentry_Main.lasso?id=3800)

OECD (2006), **Cost-Benefit Analysis and the Environment: Recent Developments**. Paris, OECD. ISBN: 92-64-01004-1, € 50, 314 p.

OECD (2006), **Economic Valuation of Environmental Health Risks to Children**. Paris, OECD. ISBN Number: 92-64-01397-0, € 57, 310 p.

OECD (2006), **The Political Economy of Environmentally Related Taxes**. Paris, OECD. ISBN: 92-64-02552-9, € 40, 165 p.

OECD (2004), **Environment and Employment: An Assessment**. Paris, OECD. ENV/EPOC/WPNEP(2003)11/FINAL, www.oecd.org/env/social/employment.

OECD (2004), **Tradeable Permits: Policy Evaluation, Design and Reform**. Paris, OECD. ISBN: 92-64-01502-7, € 48, 119 p.

OECD (2003), **Social Issues in the Provision and Pricing of Water Services**. Paris, OECD. ISBN: 92-64-09991-3, € 44, 212 p.

OECD (2002), **Implementing Environmental Fiscal Reform: Income Distribution and Sectoral Competitiveness Issues**. [COM/ENV/EPOC/DAFFE/CFA(2002)76/FINAL]. Proceedings of a Conference held in Berlin, Germany, 27 June 2002. www.oecd.org/env/taxes/.

OECD (2001), **Environmentally Related Taxes in OECD Countries: Issues and Strategies**. Paris, OECD. ISBN: 92-64-18731-6, € 36, 100 p.

OECD (2001), **Environmental Information in OECD Countries: Progress and Challenges**. Paris, OECD. ENV/EPOC/SE(2001)1. www.oecd.org/env/indicators/.

OECD publications can be purchased from our online bookshop:

www.oecd.org/bookshop

OECD publications and statistical databases are also available via our online library:

www.SourceOECD.org

Where to contact us?

OECD HEADQUARTERS

2, rue André-Pascal
75775 PARIS Cedex 16
Tel.: (33) 01 45 24 81 67
Fax: (33) 01 45 24 19 50
E-mail: sales@oecd.org
Internet: www.oecd.org

GERMANY

OECD Berlin Centre
Schumannstrasse 10
D-10117 BERLIN
Tel.: (49-30) 288 8353
Fax: (49-30) 288 83545
E-mail:
berlin.contact@oecd.org
Internet:
www.oecd.org/deutschland

JAPAN

OECD Tokyo Centre
Nippon Press Center Bldg
2-2-1 Uchisaiwaicho,
Chiyoda-ku
TOKYO 100-0011
Tel.: (81-3) 5532 0021
Fax: (81-3) 5532 0035
E-mail: center@oecdtokyo.org
Internet: www.oecdtokyo.org

MEXICO

OECD Mexico Centre
Av. Presidente Mazaryk 526
Colonia: Polanco
C.P. 11560 MEXICO, D.F.
Tel.: (00.52.55) 9138 6233
Fax: (00.52.55) 5280 0480
E-mail:
mexico.contact@oecd.org
Internet:
www.oedemexico.org.mx

UNITED STATES

OECD Washington Center
2001 L Street N.W., Suite 650
WASHINGTON DC. 20036-4922
Tel.: (1-202) 785 6323
Fax: (1-202) 785 0350
E-mail:
washington.contact@oecd.org
Internet: www.oecdwash.org
Toll free: (1-800) 456 6323

The OECD Policy Briefs are prepared by the Public Affairs Division, Public Affairs and Communications Directorate. They are published under the responsibility of the Secretary-General.