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Environmental justice and environmental inequalities: a European perspective

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Policy implications

The general recommendation stemming from this policy brief is a demanding one: European social policies can no longer disregard the impacts, in terms of health, socio-economic conditions and wellbeing, which result from environmental conditions and policies. European policymakers and stakeholders should thus contribute to a better assessment and reduction of environmental inequalities by defining and implementing true 'social-ecological policies'.

Introduction

In this policy brief, I highlight a pressing issue facing social policies in the EU, namely, the articulation between social justice and environmental concerns. European social policies have only recently integrated the notions of environmental justice and environmental inequality, which have been part of the US policy arsenal for almost two decades. Indeed, challenges to equality and fairness in the environmental field are many and growing in Europe. Social groups are unequal in their exposure to environmental risk and hazard and in their access to environmental amenities (e.g. in the extent to which they are able to adapt to climate change). By the same token, environmental policies have a differentiated social impact (e.g. the employment effect of 'green' transition policies). After defining environmental justice and characterizing contemporary forms of environmental inequality, I shall address, in the context of the different European social models, two dimensions of the challenges faced, namely, vulnerability and exposure to environmental risk, on the one hand, and social fairness in environmental taxation, on the other.

racial progress and civic activism. It served to designate both racial and ethnic inequalities in exposure to environmental risk (pollution, toxic waste, flooding) and the exclusion of racial minorities, especially African-Americans, Hispanics and Native Americans, from the definition and implementation of environmental policies in the US.

The defining episode of the environmental justice movement took place in Warren County in 1982, when African-American residents of this North Carolina district opposed the building, in the vicinity, of a toxic waste landfill. The Warren County protests triggered investigation concerning similar situations in other Southern communities and the publication of a federal report in 1987 explicitly entitled *Toxic Wastes and Race in the United States*, which was the first study to empirically document, on a national scale, the link between racial and social characteristics of the communities close to waste sites, and which concluded that non-whites were much more exposed to environmental hazards than whites.

What is environmental justice?

An American background

The notion of 'environmental justice', though it had emerged as a public concern in the United States as early as 1820, was really born there at the end of the 1970s in the context of

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From then on, not only did the concern for environmental justice grow in terms of its importance in public debate but, most importantly, it was incorporated as a general concern into all public policies at the federal level, making the US the most advanced country with respect to environmental justice. The Environmental Protection Agency today offers a clear definition of environmental justice on the basis of which the US government is able to take action. Environmental justice is:

...the fair treatment and meaningful involvement of all people regardless of race, color, national origin, or income with respect to the development, implementation, and enforcement of environmental laws, regulations, and policies... It will be achieved when everyone enjoys the same degree of protection from environmental and health hazards and equal access to the decision-making process to have a healthy environment in which to live, learn, and work.

In the light of this American background, the basic input of the environmental justice approach can be simply worded: any public policy aiming at fairness that omitted to take account of environmental issues would fail in an important dimension. The relation to social policy is also simple: it is mediated by health issues and, more generally, by the impact of environmental conditions on the wellbeing of individuals.

Conditions of a European approach

The environmental justice debate, and more generally the crossing of environmental and social perspectives, is only beginning to develop in the European Union and at the European Union level¹. The early beginnings of this approach can be dated from the drafting of the UNECE Convention on Access to Information, Public Participation in Decision-making and Access to Justice in Environmental Matters, adopted at the Fourth Ministerial Conference in the 'Environment for Europe' process on 25th June 1998 in Aarhus. In its Article 1, the convention states that one of its objectives is to 'guarantee the rights of access to information, public participation in decision-making, and access to justice in environmental matters in accordance with the provisions of this Convention.'

The true incorporation of concerns of environmental justice into social policy in the EU was achieved, first in Scotland and then in England, in the early 2000s. Two speeches marked this new orientation of public policies (Environmental Agency, 2007). The first was made, in 2002², by Jack McConnell, Scotland's first Minister who insisted that 'the people who have the most urgent environmental concerns in Scotland are those who daily cope with the consequences of a poor quality of life, and live in a rotten environment – close to industrial pollution, plagued by vehicle emissions, streets filled by litter and walls covered in graffiti.' McConnell went on to say: 'For quality of life, closing the gap demands environmental justice too. That is why I said... that environment and social justice would be

the themes driving our policies and priorities...' Tony Blair followed up on this idea, arguing in 2003 that 'by raising the standards of our local environments overall, we have the greatest impact on the poorest areas'. These ideas have now found their way into the public policy arsenal.

In the UK for instance, the new national sustainable development strategy, 'Securing the future – delivering UK sustainable development strategy' (2005), states that one of its goals is to 'ensure a decent environment for all' and makes clear the executive's will to address environmental inequality (Environmental Agency, 2007). The UK Environmental Agency (EA), after noting that 'environmental injustice is a real and substantive problem within the UK', went on, in a series of reports published in 2007, to give operational definitions to environmental justice and environmental inequality. The EA proposes to define environmental justice in three different respects:

- Distributive justice, concerned with how environmental 'goods' (e.g. access to green space) and environmental 'bads' (e.g. pollution and risk) are distributed among different groups and the fairness or equity of this distribution;
- Procedural justice, concerned with the fairness or equity of access to environmental decision-making processes and to rights and recourse in environmental law;
- Policy justice, concerned with the principles and outcomes of environmental policy decisions and how these affect different social groups.

The similarities and differences between the US and European approaches are quite obvious: while distributional and procedural aspects are distinguished in both cases, Europeans highlight the social conditions that produce injustices while Americans insist on the racial dimension of discrimination and exclusion from decision-making processes suffered by ethnic groups.

The general difference in the philosophies underlying public policy is not surprising: whereas the US approach traditionally recognizes the universality of natural rights granted to individuals and aims to curb discrimination faced by them in exercising those rights, continental European countries usually focus on correcting the social processes that produce situations of inequality (see Laigle, 2006). There thus exists a 'European way' to environmental justice, but three conditions are required for this to come to life:

- The first is that European countries acknowledge that, just like the US, they are confronted with the challenge of environmental justice, that European social policies can no longer ignore the health, socio-economic and wellbeing impacts resulting from environmental conditions and policies. The only distinctly European feature here is that Europe is lagging behind and must catch up. This situation is all the more surprising in that Europeans and Americans do differ in relation to their concern to redress inequalities, with Europeans supposed to be keener on correcting them than Americans;

1 See for instance the conference 'Social Fairness in Sustainable Development – A Green and Social Europe' organized in February 2009 by the European Commission.

2 McConnell, J., 2002. Speech of 18 February 2002 given at Our Dynamic Earth, available from: <http://www.scotland.gov.uk/News/News-Extras/57>

- The second condition requires true adaptation. In Europe, environmental justice issues are unlikely to be perceived, framed and dealt with in racial and ethnic terms but, instead, in terms of social categories. Yet this does not mean that environmental inequalities have no racial dimension in Europe – they naturally do, like all social inequalities in racially diverse societies – but it does mean that the cultural and legal background of public policy in the US and the EU differ on this issue, as on many others. There is an explanation for this difference that is both historical and institutional. As already mentioned, environmental justice was born in the context of the civil rights movement in the US and was thus 'racialized' from the outset. Furthermore, only racial minorities, and not social categories, are recognized as 'groups' by US federal law, so that race represents a basis for legal action in courts, while income level does not (see Pastor, 2007);
- The third condition is that the European Union's institutions should embrace this new and challenging issue. In other words, there should be not only a European approach, distinct from the US approach, but also an integrated European approach, i.e. a European Union approach to environmental justice, bringing together the different national traditions in this new field of public action.

What are environmental inequalities?

These historical and theoretical developments naturally raise the question of the definition of the forms of environmental inequality which are the tangible outcomes of environmental injustice but also the instruments of its redressing. Crossing recent work by the OECD (2006), the EA (2007) and Pye et al. (2008), it is possible to seek to define environmental inequality as a fourfold problem:

- *Inequality of exposure and access:* The unequal distribution of environmental quality between individuals and groups (defined in racial, ethnic or social terms), whether negatively (exposure to environmental risk and hazard) or positively (access to environmental amenities); in this category are included the issue of vulnerability to ecological disaster – the patent form of latent inequality in terms of exposure and sensitivity – and the risk of the multiple and cumulative impact of social and environmental inequality;
- *Inequality of policy effect:* The unequal effect of environmental policies, i.e. the unequal distribution, not of environmental 'goods' or 'bads', but of the effect – in terms, for instance, of the impact on the income of individuals and groups – of environmental regulatory or tax policies;
- *Inequality of impact:* The unequal environmental impact of different individuals and groups as a result of their income and/or lifestyles ; some scholars point to the

notion of 'ecological inequalities' to characterize this specific type of inequality (see Emelianoff, 2006);

- *Policy-making inequality:* The unequal access to environmental policy-making, i.e. the unequal involvement and empowerment of individuals and groups in relation to decisions regarding their immediate environment.

In the remainder of this policy brief, I will try to illustrate what kind of challenges environmental issues pose to social policies in the EU by taking examples from the fields of exposure and access inequalities (exposure to disaster and risk) and policy effect inequalities (social fairness in environmental taxation).

Vulnerability to socio-ecological disasters, exposure to environmental risk

In the context of the growing concern about climate change, the notions of vulnerability, exposure, and adaptation have gained momentum. The United Nations Environmental Programme (UNEP) has defined vulnerability as 'a function of exposure, sensitivity to impacts and the ability or lack of ability to cope or adapt' and adds that 'the exposure can be to hazards such as drought, conflict or extreme price fluctuations, and also to underlying socio-economic, institutional and environmental conditions. The impacts depend not only on the exposure, but also on the sensitivity of the specific unit exposed (such as a watershed, island, household, village, city or country) and the ability to cope or adapt.' A key distinction is made here between inequalities in exposure and inequalities in sensitivity: environmental inequalities among individuals and groups indeed depend on a combination of exposure (socio-economic context, geographical context, behaviour, etc.) and sensitivity (age, health, etc.).

This essentially means that different people are differently exposed to environmental hazards resulting from extreme natural events. According to the 'new political ecology' approach (Fitoussi and Laurent, 2008), the very notion of 'natural' disasters (in terms of cause and consequence) should thus be questioned and the notion of 'socio-ecological disaster' might prove more relevant (see Laurent, 2009). As proven by the dramatic aftermath of hurricane Katrina landfall in Louisiana in 2005, this approach is not only relevant for developing countries but also directly of interest for rich countries.

Actually, the EU itself experienced, in 2003, a major socio-ecological disaster in the form of one of the ten most deadly heat-waves – and the 8th most deadly 'natural' disaster – of the last 30 years (according to data from the Centre for Research on the Epidemiology of Disasters). In the late summer of 2003, the heat caused at least 30,000 deaths in Europe, according to the most consensual figures³. The case of France is particularly interesting, since its health care system is ranked as one of the best in the world and should thus have prevented the worst of the human impact of the heat-wave. But because of the duration, intensity⁴, and geographical reach of the 2003 heat-wave, it resulted in the deaths of 14,800 people in France (2,000 people died on 12 August alone).

In the context of the Chicago heat-wave of July 1995, Klinenberg (2002) sought to show that the 739 people killed did not enjoy equality with their fellow citizens, given their social isolation, and that therefore social inequality played an important role in exposing individuals to environmental risk. The same kind of analysis can be developed in relation to the 2003 heat-wave in France, by focussing on the demographic and socio-economic factors in exposure to the risk of death. Thus, 90% of the victims were older than 65, with 67 persons killed under the age of 35, 1,254 between the ages of 35 and 65 and 13,407 aged above 65. But a socio-economic divide also appears within the age inequality, with socio-professional category and degree of autonomy strongly related to the probability of death (INVS, 2004).

While climate change cannot be directly related to the 2003 heat-wave, the number and intensity of hot days and heat-waves exhibit a clear and disturbing upward trend in Europe from 1880 to 2005 (e.g. Della-Marta et al., 2007). There is accordingly every reason to believe that such disasters will become more frequent in the EU in the future, a situation which calls for adaptation policy on top of mitigation efforts. Social policies are key instruments in this adaptation. As a matter of fact, France was hit by another heat-wave only three years after 2003, between 11 and 28 July 2006. Second only to that of August 2003 in intensity, albeit geographically much more limited, it was responsible for some 2,000 deaths.

There is little doubt that extreme events resulting from climate change will increase inequality among individuals and groups – between rich and poor and between vulnerable and resilient people, even in rich countries. In this respect, we are only just entering the era of environmental inequality.

If disasters represent the materialization of environmental risk and the release of the destructive power of environmental hazard that affect people differently according to their social conditions, environmental inequalities also take the form of 'passive inequalities' that nonetheless affect the health and wellbeing of individuals and groups on a day to day basis and also alter their ability to cope with extreme events.

The UK is probably today the European country most advanced in its efforts to assess exposure to environmental risk. But the UK has also developed empirical tools to assess 'passive' forms of environmental inequality. With regard to exposure to risk there are eight times more people among the most deprived 10% of the population living in tidal floodplains than among the least deprived 10% (Walker et al. 2003). But the Environment Agency also found that river water quality is worse in the most deprived areas in England, where up to 50% of watercourses are extensively modified, providing less natural habitats for wildlife. Similarly, Walker et al. (2003) have ascertained that people

3 Some recent estimates put the death toll as high as 70,000 people due to lack of initial adequate reporting of deaths especially in Italy and Spain.

4 According to Météo France, the French climate institute, overall, the summer of 2003 was two degrees hotter in France than in previous record years, 1976, 1983, and 1994.

in the most deprived 10% of areas in England experience the worst air quality, and 41% higher than average concentrations of nitrogen dioxide from transport and industry⁵.

Exposure to industrial risk is also found to be much higher for French cities that comprise a 'sensitive urban area' or ZUS (*zones urbaines sensibles*) than for those which do not. Data indicate that 60% of people exposed to industrial risk live in a municipality comprising a ZUS. In this case, there is a clear cumulative pattern of environmental and social inequalities, as poor social conditions make people more vulnerable to environmental risk, while exposure to environmental risk can further affect their health and wellbeing.

For the purpose of assessing environmental inequality, the UK's Environmental Agency has developed empirical instruments, especially the Index of Multiple Deprivation (IMD). This is a composite index which includes measures of income, employment, educational attainment, standard of housing and health and allows areas to be ranked and compared across a range of social deprivation measures. Other instruments, such as the EQI (Ecological Quality Index), examine environmental deprivation by looking in more detail at the environmental indicators in the IMD and add to these using other environmental quality datasets at local regional and national scales. With regard to the IMD results, the Environmental Agency notes that data show that 'around 0.3 per cent of populations in the least deprived areas experience 4 or more environmental conditions that are "least favourable". This rises to around 20 per cent of populations in the most deprived areas.'

Fairness in environmental taxation

The second type of environmental inequality examined here concerns the income effect of environmental policies. In fact, climate-change mitigation requires the mobilization of all available economic instruments (regulation, cap-and-trade, carbon taxation) in order to first put a price on carbon, and then increase it gradually so as to phase out the use of fossil fuels and foster the transition to low-carbon economic growth and sustainable development. In this respect, carbon taxes are an under-used but quite efficient economic instrument able to curb so-called 'diffuse pollutions'. These decentralized greenhouse gas (GHG) emissions stem from transport and housing depending on hundreds of millions of users and are thus extremely hard to monitor and reduce through cap-and-trade markets (which are better suited to curbing centralized pollution by energy and energy-intensive industrial sectors). This 'division of labour' between cap-and-trade and carbon taxes is particularly relevant in the EU, where the EU ETS covers only about 40% of centralized greenhouse gas emissions from around 11,000 participating installations, leaving

5 Source: Environmental Agency website section devoted to environmental inequality. To confirm initial findings for the UK and assess more broadly the situation, the EA commissioned a team around Gordon Walker 'to understand patterns of unequal social impact and environmental inequality for the following topics: Flooding, Waste Management, Water Quality and Cumulative Impacts'. The result was a series of reports, accessible on line, that give a precise view of the state of environmental inequality in the UK.

60% of mostly diffuse forms of pollution to be treated by other instruments (Laurent and Le Cacheux, 2009).

For historical and policy reasons, the EU countries display, among OECD countries, relatively high levels of environmental taxation – in particular when compared with the United States, Japan, Canada and Australia. Yet the overall level of their environmental taxes remains low in terms both of percentage of GDP (of which it never exceeded 3%) and of total tax revenues (of which it never exceeded 7%). Within overall environmental taxation, the taxation of energy has followed a pattern of increasing from 1.8% of GDP in 1980 to 2.1% in 1993, before falling to 1.8% in 2007 (between 1995 and 2007, the ratio for the EU 25 fell by 0.4 points). Environmental taxation is thus still, contrary to a common perception, embryonic in the EU.

Indeed, the political economy of environmental policies in general makes environmental taxes somewhat difficult to implement (Serret and Johnstone, 2006). Such taxes are generally perceived to be socially regressive insofar as the poorest households are considered to bear a disproportionate financial burden while rich households receive the most benefits from them. In the case of climate-change-related tax policies, this may not be true in terms of benefits (since poor households benefit from climate-change mitigation more than rich households that are more easily able to adapt to it), but it is certainly true in terms of *prima facie* burden on income.

The question of compensation of carbon taxes (not to be confused with the issue of exemption) is thus of primary importance, especially from the standpoint of their political acceptability. If designed properly, carbon taxes are able to generate a 'double dividend' – that is, a reduction in GHG emissions and a positive effect on growth and jobs, if tax revenues collected are used for instance to reduce social contributions on labour. The increased tax on households and businesses' energy consumption is compensated by lighter labour costs, a particularly attractive option in a context of high unemployment.

Environmental taxation may be only modest in the EU, but the countries that have recently engaged in environmental or ecological taxation reforms (sometimes referred to as ETR or 'green shift'), especially Nordic countries (Table 1), opted for the double-dividend strategy, giving life to the idea that modern taxation systems can shift the burden from labour to pollution (or from 'goods to bads'). In other words, most – if not all – environmental tax reforms in the EU have explicitly acknowledged the need to reconcile environmental and social concerns.

This compatibility issue is all the more important in that the OECD review of environmental taxes (OECD, 2007) shows that the ecological efficiency of environmental taxes is generally strong and that the countries that chose to acknowledge the potential contradiction between social justice and environmental concerns have at least partially succeeded in overcoming the problem of the socially regressive nature of carbon taxation. Even more importantly, the intuition of the 'double dividend' is confirmed empirically in a majority of cases, provided that a distinction is made between the 'weak' and 'strong' form of the argument.

Table 1. Forms of compensation for Nordic countries that have implemented carbon taxes

Finland	1990	Reduced income tax (since 1996). Since 2009, abolition of social contributions by employers
Norway	1991	Allowances for households
Sweden	1991	Reduction of income tax, reduction of employers' social contributions (since 2001)
Denmark	1992	Reduction of employers' social contributions, family allowances, reduced income taxes on low incomes

Source: Laurent and Le Cacheux (2009).

Even so, the OECD acknowledges that, in many instances, 'the distributional concerns either have not been addressed at all, or have come up late in the process and tackled in a somewhat ad hoc fashion.' The OECD adds that this might lead to strong opposition and failure to implement effective environmental measures, thereby entailing higher than necessary costs to society. 'In order to ensure that distributional concerns are properly addressed... countries should consider introducing mechanisms into the decision-making process whereby distributional impacts are explicitly analysed.'

Countries can indeed opt for different forms of compensation that might be less efficient economically than the lowering of social contributions on labour and yet still manage to address the problem of the socially regressive nature of carbon taxation. The case of France illustrates this. The French government, which tried to introduce a carbon tax in 2009 but whose proposal was censored at the last minute by the Constitutional Council, had opted for the direct redistribution of tax revenues to households. The socially regressive effect of the tax was clear: the poorest French households pay out a higher share of their income on energy (2.5 times more for the bottom 20% compared with the top 20%). But computations by ADEME, the French agency for environment and energy efficiency, showed that, with transfers of 94 euros for people living in the country and 76 euros for people living in urban areas, the tax actually benefits French citizens up to the third decile of income distribution. Environmental taxation can thus be socially progressive.

Success stories of environmental taxation in the EU demonstrate that it is possible to preserve ecological efficiency of carbon taxes by not allowing any exemption and yet compensate households financially to ease and even overcome the socially regressive effects of energy taxation. In other words, it is perfectly possible to reconcile social justice with sustainability through intelligent policy design.

Conclusion: Policies, behaviour and attitudes

How to better measure and eventually reduce environmental inequality in the European Union? Pye *et al.* (2008) make a

number of useful recommendations in this direction that should inspire European policymakers to make progress and catch up not only with the US but also with best European practices:

1. The concept of environmental justice should be adopted as a guiding principle for policy development at the European level and across all Member States as a means of addressing social concerns within environmental policy;
2. Environmental inequalities should be considered in the design and implementation of policy through the impact assessment process at the European, national and local levels;
3. The above recommendation requires good spatial data that can be accessed at reasonable cost, and guidance on methods to assess environmental inequalities.

More fundamentally, environmental policies should be embedded in social policies, so that true 'social-ecological policies' can emerge (Laurent, 2009). Approaching environmental issues not only through the logic of efficiency, but also by way of the logic of justice may help to change *attitudes* and not only *behaviour* towards the environment, according to the distinction made by Dobson (2003). Behaviour, in a market economy, depends on the price system. Attitudes, in a democracy, depend on the system of values. If public authorities wish to change not only citizens' behavior but also their attitudes, it is necessary to move beyond the sole principle of efficiency. It might be thought that this will not be necessary: by changing prices, and thus modifying behaviour, the state could progressively transform values, and eventually affect attitudes. But this is rather unlikely: values determine prices, not the other way around. Likewise, attitudes determine behaviour. The question thus becomes: how to change attitudes? Our answer is: by affirming the centrality of the principle of justice in all ecological debates.

The laws of Nature, the Darwinian laws of natural selection and adaptation, are, in a way, already laws of efficiency. The added value of humans in environmental debates consists in formulating the complex problems they face in terms of justice and injustice. The essential and too often neglected link in these debates is therefore the link between ecology and inequality, between ecological and social issues (Laurent, 2009). This link may be the key to a move, in environmental matters, from attempts to change behaviour to success in changing attitudes.

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