

JESP symposium: Climate change and social policy

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Introduction

(Ian Gough)

Climate change (CC) is surely one of the most encompassing and egregious threats in Europe today, so it is appropriate that we consider its implications for social policy in Europe. It is true that CC is a separate agenda, the preserve of a distinct academic and epistemic community, scholarly discourse, policy community, institutional structures and modes of governance; but the linkages between these two issues – CC and its policy corollaries, and the ‘traditional’ domain of social policies – seem to us so strong and salient that they should be aired in a social policy journal.

Social policy is often conceived as the public management of social risks (Esping-Andersen, 1999: 36). Some of these risks are timeless and universal, such as ill health; others are specific to certain types of society, such as unemployment or ethnic discrimination; others are more ephemeral. CC is a new risk that is big, global, long-term, persistent and uncertain (Stern, 2007: 25). It thus confronts us with a qualitatively new agenda in social policy, or so I shall argue. Its implications for, and linkages with, economic policy are now centre-stage, yet there is very little on the linkages with social policy – for example, there is no reference to ‘social policy’ in the index of the 800-page *Fourth Assessment Report* (on Mitigation of Climate Change) of the Intergovernmental Panel on Climate Change (IPCC, 2007).

The bald facts and high-consensus predictions of CC are by now well known and can be briefly stated. Most CC models predict a doubling of pre-industrial levels of greenhouse gases between 2030 and 2060, which would result in a rise of global mean temperatures by 2–5°C. The higher range would be far outside the experience of human civilization and comparable to the difference between temperatures during the last ice age and today. Whatever is done now, because of inertia in the

climate system past emissions of greenhouse gases will drive increases in global mean temperature for another several decades. Furthermore most of these models do not take account of likely positive feedbacks which will amplify the temperature rise. Alongside global warming the direct effects in the coming decades will include increasing risk of droughts and floods, more abrupt and large-scale changes in the climate systems and a rise in sea levels.

Most models predict significantly greater direct negative impacts on human habitats and livelihoods in tropical regions, which are also mainly poorer countries. This is of overwhelming importance in global debates. However, we shall restrict ourselves here to the implications for well-being, social risks and social policies in Europe. These fall into four categories.

- *Direct* risks: Mediterranean regions will see rising water stress, heat waves and forest fires, and coastal regions of Europe are vulnerable to rising sea-levels, notably the Netherlands. However, more northerly countries may benefit.
- *Indirect* risks: including greater distress migration from tropical regions, notably Africa, into Europe, recently highlighted by the EU.
- Implications of CC *adaptation* policies: there may be greater fiscal competition from necessary environmental policies to adapt to CC, such as sea defences and removing housing from flood plains.
- Implications of CC *mitigation* policies: these include carbon budgets and/or higher carbon taxes and prices in the rich world which would be necessary to stabilize carbon emissions in the second half of the century.

A new research strategy should be aware of all four. In particular, new concerns with social justice and social policy are raised by the pressures (moral and practical) to drastically curb carbon emissions in

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Europe alongside the rest of the rich world. It is the nexus between environmental and social policies that needs to be urgently explored.

This symposium begins to rehearse the implications of CC and CC policies for the established ideas and practices of social policy and welfare states. After introducing the contributors, the remainder of this Introduction considers in turn the conceptual, empirical, policy and governance implications of CC for social policy in contemporary Europe.

The contributors

We have deliberately invited short contributions to this symposium from experts in CC and environmental policy outside the field of social policy: from political science, sociology and economics.

James Meadowcroft holds the Canada Research Chair in Governance for Sustainable Development at Carleton University, Canada. He researches the ways in which governments are (or are not) adjusting their practices and policies in the face of emerging environmental problems in order to promote more sustainable patterns of societal development. His publications include *Implementing Sustainable Development: Strategies and Initiatives in High Consumption Societies* (2000a) and 'From Welfare State to Ecostate?' (2005). In this contribution he compares the emergence of the environmental state with the earlier emergence of the welfare state. He considers a range of linkages between social and environmental policies today, concluding that they have the potential to draw together and reinstate the original impulse behind the idea of 'sustainable development'.

John Dryzek is Professor of Political Science at the Australian National University. His work in environmental politics ranges from green political philosophy to studies of environmental discourses and movements. His many publications include *Green States and Social Movements: Environmentalism in the United States, United Kingdom, Germany, and Norway* (2003) and *The Politics of the Earth* (2005). In this contribution he argues that coordinated market economies with social democratic welfare states tend to see economic and ecological values as mutually reinforcing, and are best placed to navigate the challenge presented by CC to social policy. Liberal market economies with less developed welfare states tend to oppose environmental

and economic values and will face greater difficulties. Yet in the longer term, new forms of governance for CC may undermine traditionally state-centric forms of social policy.

Jürgen Gerhards is Professor of Macrosociology at the Free University of Berlin, Germany. His main research concerns the cultural aspects of European integration and the value attitudes of European citizens. His publications include *Cultural Overstretch? Differences Between Old and New Member States of the EU and Turkey* (2007). Holger Lengfeld is Professor of Sociology of Contemporary Societies at the University of Hagen, Germany. He researches social justice, social inequality and attitudes towards European integration, and his publications include *Organisierte Ungleichheit: Wie Organisationen Lebenschancen beeinflussen* (Organized Inequality: How Organizations Influence Life Chances, 2007). Here they provide an empirical study addressing two issues: the pioneering role of the EU in environmental policy, and the degree of EU citizens' support for the ideas of environmental protection.

Anil Markandya is currently Professor of Economics at the University of Bath, UK, and Director of Applied Research in FEEM, Italy, and recently served as Lead Economist at the World Bank. He has published widely in the areas of CC, environmental valuation, environmental policy, energy and environment, and green accounting. He was a lead author for Chapters of the 3rd and 4th IPCC Assessment Reports on Climate Change, which were awarded a share of the Nobel Peace Prize in 2007. Ramon Ortiz works with him as Research Officer in Environmental Economics at Bath University. They undertake an empirical survey of the impact of carbon taxation on social inequalities, concluding that these would be mildly regressive, but manageable, in the European context.

This Introduction and the following contributions are intended to sketch out some of the ways in which CC will impinge on social policy in the coming years and to suggest a framework for research. We invite readers to take up this challenge. It may provide the topic for a Special Issue in the future.

Conceptual challenges

If social policy is the public management of social risks, are the risks posed by CC qualitatively different to those addressed by conventional social policies?

There are certainly similarities, as Meadowcroft notes below:

Both are political responses to long-term societal change related to industrialization, urbanization and democratization. Both have been called into being to wrestle with issues that cannot adequately be addressed by markets and voluntary action. And both shift patterns of 'normal' economic interaction (through regulation, fiscal transfers, and so on), while operating within significant economic and political constraints.

Both also generate conflicts about the distribution of resources (witness the commitment to bio-fuels fuelling a record rise in world grain prices). These parallels may suggest that CC could be absorbed as an emerging risk into the corpus of social policies. In welfare states it could enter the political settlement as part of the collective responsibilities of governments. In existing welfare state regimes it may reconfigure the roles of states, markets and families, but it would not define a distinct new regime.

Another fruitful way of understanding the emergence and nature of 'social policy' in Western nations is as a reaction to capitalism and the commodification of labour power. Seizing on Marx's insight, Karl Polanyi regarded labour as a 'fictitious commodity'. While it must be organized in markets, and while these markets are an absolutely vital part of the economic system, labour is not a commodity because it is not produced for sale and 'cannot be detached from the rest of life' (Polanyi, 1944/1957: 72). Thus social policies emerged in the 19th century, piecemeal and in a wide variety of forms, to cope with the unplanned, humanly harmful and system-threatening effects of the commodification of labour: 'The extension of the market organization in respect to genuine commodities was accompanied by its restriction in respect to fictitious ones' (1944/1957: 76). This has given rise to the concept of 'de-commodification' as a measure of the counter-movement of social policy, in the work of Esping-Andersen and others.

However, Polanyi identified two other fictitious commodities alongside labour: money and land. The supply and regulation of money has for centuries been a central function of national states. The ownership and regulation of land has also been central to feudalism and capitalism, but Polanyi is

concerned with something much wider, since land 'is only another name for nature, which is not produced by man' (1944/1957: 72). It is clear now that the commodification of land, natural resources, the oceans and nature generates collective 'bads' which stretch out over space and time and which 'call forth' (to use Polanyi's phrase) a variety of societal responses. CC is the latest and most egregious example. In the 21st century it is likely that this will dominate policy making in a parallel way to the 'labour question' in the 19th and 20th centuries in the West. This suggests another conceptual parallel: just as the 'social question' fostered the welfare state, now the climate threat is fostering the rise of the 'environmental state' or 'eco-state', as discussed by Dryzek and Meadowcroft.

But these parallels are weak, others argue. Typically the risks addressed by social policies are individually unpredictable but collectively predictable; those of CC are collectively unpredictable. The Stern Report (2007: 25) points out that CC is global in its causes and consequences; its impacts are long-term and persistent; and there is serious risk of major, irreversible impacts with non-marginal economic and social effects. Furthermore, the uncertainties over the probability distributions of likely outcomes are great. According to some theories of uncertainty this itself argues for an explicit 'precautionary principle' (Stern, 2007: 38): an additional 'aversion to uncertainty' in addition to standard 'aversion to risk' as a basis for public policies. This is because of the strong asymmetry between unexpectedly fortunate and unexpectedly bad outcomes (2007: 328). The implications are that the risks of CC are quantitatively and qualitatively distinct from traditional risks which in the past have fostered the emergence of social policy responses.

Furthermore, the consequences (externalities) of early industrialization were visible and directly felt by many people, which fostered collective organizations and social movements to correct them. In contrast the externalities of CC are distant in time and global in space; the material bases for collective mobilizations are weaker. These and other theoretical concerns suggest a conceptual separation between traditional social policy and the set of environmental policies addressing CC. But the linkages between the two are critical and of growing salience.

However, we may note one other conceptual parallel between the two – the distinction between

Table 1 Mapping the impacts of climate change in Europe

	<i>Predicted effects: examples</i>	<i>Social policy implications: examples</i>
Direct impact of forecast climate change up to 2050	Modest direct impact, more adverse, in coastal areas, Mediterranean regions	Precautionary policies on housing and settlements, new insurance costs, health demands of extreme climate events
Indirect impact of forecast climate change up to 2050	Climate migration from developing world	New demands for housing, jobs, education, health, services and social protection (but offsetting benefits from younger age groups?) Challenges to social integration
Impact of likely climate change <i>adaptation</i> policies	Opportunity costs of making settlements and buildings more resilient to climate change	Fiscal competition between welfare state and environmental state, unless synergies are exploited
Impact of potential climate change <i>mitigation</i> policies	Higher energy costs in production, electricity, travel, housing Restrictions on consumption patterns	Regressive effects of carbon taxes and pricing and new energy policies: implications for social protection. New social investment demands to reduce carbon emissions of housing, transport and employment. Numerous policies to change consumption behaviour

adaptive and mitigating policies. Adaptation refers to 'measures to reduce the vulnerability of natural and human systems against actual or expected climate change effects', while mitigation refers to 'policies to reduce GHG emissions and enhance sinks' (Glossary in IPCC, 2007; see also Stern Report, 2007: 346). There are certain parallels between this distinction and an earlier one between protective and productive social policy: whether to accept the quantum of human capital or to invest in increasing it, whether to accept and protect against unemployment or pursue demand and supply-side interventions to reduce it, whether to adapt to 'sink estates' and minimize their harmful effects or to invest in community development, and so on (Room, 2000). Since the 1930s the productive role of social policy has been recognized, though it took backstage during the 1980s when the 'burden' model was promulgated by neo-liberal economists and policy-makers. Meadowcroft sees a potential role for such productive social policies to mobilize societal resources to reduce greenhouse gas emissions.

Empirical questions

CC is likely to exacerbate social inequalities, lines of conflict and patterns of migration. These repercussions need to be explored empirically from a European

perspective. The table below develops a fourfold analysis of CC implications for social policy and gives examples. This suggests some of the dimensions of the future research agenda (policy implications are further considered in the next section).

These questions must also be interpreted in light of a central concern of social policy, both as practical action and academic study: the equity, fairness or justice of particular policy outcomes, the distribution of costs and burdens between social groups, and the case for redistributive public policies. I consider two dimensions of distribution here – regional and socio-economic – though many more should be considered, including gender and age.

Regional differences across Europe mainly apply to 1 and 2: direct and indirect impacts of CC itself. There is a clear North–South gradient in the impact of CC on water supplies, food production and health (Stern, 2007: ch. 5). In Europe, the burden of warming and of distress migration is likely to impact mainly the Mediterranean countries, as evidenced by the European heatwave of 2003 and the high rates of illegal immigration in countries such as Greece.

Socio-economic equity is raised by both CC impacts and policies. In the developed world, the poorest will be on average more vulnerable to CC for various reasons: lower-income households are more likely to live in higher-risk areas, marginal

lands and floodplains; they have fewer resources to cope and have much lower rates of insurance cover; they may also suffer from poorer health and resistance (Stern, 2007: 148). However, the impacts of CC mitigation policies may be still greater. It would appear at first sight that essential policies to ration carbon emissions by whatever means would hurt the richest, higher-consumption households the most. *Ceteris paribus* 'contract and converge' strategies should equalize living standards. However, the immediate overall impact of carbon taxes in the EU would be regressive, as Markandya and Ortiz show below.

The distributive consequences need careful research within policy areas, perhaps most notably in housing. For example, in the United Kingdom, 30 percent of the poorest quintile of households use more energy than the national average, mainly because they live in such fuel-inefficient houses (Ekins and Dresner, 2004; Monbiot, 2006: 47;). Thus a fair carbon-rationing scheme requires complementary social policies, both to invest in low-emission housing, transport and communities, and to protect those on low incomes. Building standards are much more stringent in Norway, Sweden and Germany: houses meeting their building codes use around one quarter of the energy of houses meeting the required standards in England and Wales (Monbiot, 2006: 66).

Policy issues

Before turning to governance, I adumbrate just three policy issues where CC mitigation policies suggest implications – and some possible synergies – for social policies. First, the move towards individual (as well as national) carbon budgets holds out potentially radical consequences for the theory and practice of redistribution and equity, as mentioned above. Strong social policies may well be necessary to address emerging inequalities and conflict. The 'Weitzman paradox' is relevant here (Weitzman, 1977). This demonstrates that the price mechanism works less well in more unequal societies, because prices that discourage carbon consumption by poorer groups will be inadequate to restrain the affluent. Thus income redistribution, a concern of traditional social policy, could facilitate the use of carbon pricing. In the absence of policies to improve social justice the pursuit of environmental justice will require more directly interventionist policies such as rationing.

A second area of synergy concerns housing, transport, urban policies and community development – areas of social policy relatively neglected by *JESP* in the past. Heating residential homes, and associated residential travel, are major sources of carbon emissions in Europe (though far below levels in the USA). The IPCC Report (2007: 389) shows that baseline carbon emissions could be reduced in the residential sector by 29 percent at effectively no cost – the highest scope for reductions in any sector. Countries with very inefficient houses, such as the UK, could achieve a win-win outcome by improving quality and reducing emissions, if the political will were there. Given the high efficiency of housing in some other European countries, there is great scope for policy learning and transfer within the EU. Moreover, innovative housing and urban settlements provide great scope for the strategy of 'ecological modernization' mentioned by Dryzek.

CC mitigation policies will require substantial and rapid shifts in consumer and producer behaviour, and this promises a third significant area of interaction with social policy. Four basic means are available to governments and other policymakers to shift behaviour: education and persuasion; taxation, subsidies and other monetary incentives; regulation (including rationing); and environmental engineering. Some national and EU health policies, such as discouraging smoking, utilize all four. But there is critical experience in social policy of their limits. Incentives that appeal solely to self-interest may fail when they degrade intrinsic motivations such as altruism and solidarity (Jones and Cullis, 2000; Bowles, 2007). Others recognize the limits of top-down approaches and stress the need to engage people and communities in changing behaviour. These are lessons also stressed by campaigners for CC policies: Jackson (2005), for example, argues that coproduction of policies will be necessary if fundamental shifts to a low-emission economy are to be achieved. There is scope for mutual policy learning here.

Governance: welfare state and eco-state

One might expect that a new unprecedented set of risks will generate new modes of governance, and that is what is happening at national, regional and global levels. After several decades of increasing resort to market solutions and the progressive

marginalization of the role of governments, the CC debate brings back centre stage the role of public governance in two senses. First, a recognition of the contributions to be made by a wide range of actors: government at all levels, the private sector, non-governmental actors and civil society (e.g. IPCC, 2007: 82). Second, a recognition that only governments can harness these different components into an effective strategy in a short time.

Meadowcroft and Dryzek both address these issues. Meadowcroft charts the emergence of environmental governance in the OECD world since the 1960s and identifies five major shifts. Both agree that we can now speak of the emergence of an environmental *state* or eco-state. But both contend that this is much more weakly embedded institutionally than the welfare state. Dryzek writes that 'we have gazed with envy upon social policy, wondering how environmental concerns might ever come to be taken anywhere near as seriously by governments as social policy concerns'.

Arriving much later, the eco-state is 'layered on top of' different economic systems ('forms of capitalism'), political systems and welfare state regimes (Meadowcroft). One finding here is that social democratic welfare states have been pioneers in developing comprehensive environmental policies, including CC mitigation. Using Scruggs's cross-national database, Dryzek concludes: 'social democratic welfare states and what Hall and Soskice call coordinated market economies (the two categories overlap substantially) are better placed to handle the intersection of social policy and CC than the more liberal market economies with more rudimentary welfare states'. Similarly, in their research on public support for environmental priorities, Gerhards and Lengfeld conclude: 'Denmark, Finland and the Netherlands (i.e. countries, which have developed strong welfare states) have at the same time the highest approval rating for environmental protection'.

One reason for this, according to Dryzek, is the discourse of 'ecological modernization': a strategy which recognizes that CC can be good for business but which requires the governance capacities of coordinated political economies. There are important parallels here with the earlier emergence of productive social policies in Sweden and other Nordic countries in the 1930s. This policy synergy also builds on the greater salience of equity issues in these North European countries. The IPCC Reports

and the Stern Report illustrate that the threat of global CC almost inevitably raises in stark forms questions of *equity* and *sustainable development* (IPCC, 2007: chs 2, 6, 12). North European welfare states are therefore best prepared to engage with these issues because of their more developed welfare systems. The contemporary result is the mainstreaming of both environmental and equality concerns across all areas of government in Northern Europe.

However, this rosy picture of synergy may be changing, argues Dryzek. The novelty and scale of CC risks is driving a new governance agenda. CC policies might displace social policy, providing a new focus of countervailing governance in the 21st century. There is a possibility that environmental justice may capture the political imagination, weakening the traditional concerns of social justice.

Because CC is an intrinsically global issue, all these pressures and issues are multiplied at supranational levels of governance. This alone would raise the profile of EU policies and institutions. But what was perhaps unexpected has been the pioneering role of the EU in this area. As Gerhards and Lengfeld note, the EU's record of innovations is extensive, from steering the Kyoto Protocol in 1997 through the first major Emissions Trading System (ETS) launched in 2005 to the decision in 2007 to set binding emission targets for EU member states. This was enabled, they argue, by the EU strategy of 'frame-bridging', a specific form of governance spillover. This enhanced role for European-level action further builds European governance capacity and may reshape the debate on European action in the social domain. Indeed, might one argue that the EU remit on environmental action already exceeds its still marginal social dimension?

Finally, in the longer term, carbon budgeting will likely lead to a questioning of economic growth as a meta-goal of public policy. In the past growth has been broadly perceived as a win-win means to accomplish other goals – now it may directly threaten them. This has many parallels with new thinking in social policy about non-monetary concepts of poverty, capabilities, qualitative indicators of quality of life, concepts of social inclusion and exclusion and human well-being. This more radical social agenda has never displaced the primacy of growth in European policy making and governance; maybe the threat of CC will force the issue.

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From welfare state to environmental state?

(James Meadowcroft)

Addressing the problem of human-induced climate change (CC) will require a significant transformation of existing societal practices, and the implications for economic policy and for social policy are potentially profound. In this contribution I consider the gradual accretion of the environmental functions of the modern state and the implications these may herald for its social role.

The emergence of the environmental state

Governments have long been involved in conservation, resource management, and pollution control, but it was only 40 years ago that states established national systems of environmental governance. During the late 1960s and early 1970s, across the developed world environmental ministries and agencies were founded, expert advisory panels set up, and national air and water pollution laws enacted (Hanf and Jansen, 1998; Tatenhove et al., 2001). Since that time successive waves of reform have built up highly complex systems of environmental rule that employ a diverse range of policy instruments – including regulation, fiscal policy, subsidies, negotiated agreements, and moral injunction – to manage the burdens of industrial civilization (Janicke and Weidner, 1997; Lafferty and Meadowcroft, 2000). Over the course of these four decades there has been:

- a vast extension of the range of problems environmental policy is expected to address, as new areas of concern have continued to emerge (acid rain, ozone depletion, CC, biodiversity loss, etc.);
- a significant increase in the volume of law, the size of the bureaucracy, and the scale of the social expenditure devoted to managing environmental burdens;

- a steady rise in the ‘social reach’ of environmental problems – as the sources and consequences of environmental issues are understood to involve an ever greater range of practices and actors;
- some movement from a defensive emphasis on clean-up and ‘end of pipe’ solutions, towards a more pro-active focus on avoiding environmental harm;
- a gradual internationalization of environmental issues, as states initiate various forms of cooperative action to manage transboundary, regional and global issues.

With the passage of time explicit attention to the environment has become an irreducible element of modern political life. On the one hand the management of environmental issues is understood as an essential part of what legitimate states do, while on the other hand controversy over the environment has become a staple of political argument.

Thus it makes sense today to refer to the emergence of an ‘environmental state’ or ‘ecological state’, much as we talk about the historical development of the welfare state (Lundqvist, 2001; Dryzek et al., 2003; Eckersley, 2004; Meadowcroft, 2005). Indeed there are intriguing parallels between the two formations. Both are political responses to long-term societal change related to industrialization, urbanization and democratization. Both have been called into being to wrestle with issues which cannot adequately be addressed by markets and voluntary action. And both shift patterns of ‘normal’ economic interaction (through regulation, fiscal transfers, and so on), while operating within significant economic and political constraints.

Yet in comparison to the welfare state, the environmental state is new and comparatively weakly institutionally embedded. Environmental functions have been grafted onto state structures that were developed for other purposes (security, economic management and welfare provision), and the economic interests associated with environmental protection remain less developed than those in other domains. Unsurprisingly, struggles over the distribution of the costs and benefits of environmental intervention (and non-intervention) form a central feature of environmental politics and policy.

Although there is substantial continuity across the developed world, the environmental state takes somewhat different forms in varied national contexts. At

present there is no elegant typology of environmental states equivalent to the well-known classification of welfare states (Esping-Andersen, 1990). In part this may be because the environmental state is a comparatively recent creation. And it is one that has been layered on top of well-established economic variants ('forms of capitalism'), political-institutional set-ups, and welfare state types. National environmental states are strongly coloured by what has gone before.

The four decades of modern environmental policy have been marked both by success and failure. In developed countries air and water quality have improved. Acid emissions and the release of toxic substances such as mercury and lead have fallen. Recycling rates are rising and the size of protected areas has grown (EEA, 2002). In some developed countries, over specific periods of time, economic growth has been 'decoupled' from rising environmental burdens. And on the international level there has been some progress, with the agreement to control ozone-depleting substances typically cited as a case in point. Certainly it is true that without the measures that have been taken the environment would be in even worse shape today.

Yet many of the gains brought by policy initiatives have been overwhelmed by continued growth. Production may be environmentally more efficient (less destruction per unit output), but levels of output and consumption continue to rise. Much of the improvement in the developed countries has resulted from structural change that has seen polluting industries relocated in developing countries. The 'environmental footprint' generated by rich states continues to rise, even as growth in many developing countries accelerates. Study after study confirms that human pressures on the environment outpace productive and assimilative capacities of global ecosystems (Millennium Ecosystem Assessment, 2005). Threats to sustainability are particularly clear in relation to patterns of land use, the exploitation of water resources, releases of chemicals, disruption to the nitrogen cycle, the harvest of (potentially) renewable resources, and biodiversity loss. Fisheries 'management', for example, provides a story of almost unmitigated disaster, as one species after another is fished to commercial extinction and ocean habitats are systematically destroyed.

Thus while environmental states have done something, they have not done nearly enough. Above all,

societal development trajectories have not been re-oriented so that human activity remains within ecosystem limits.

Climate change

CC poses this challenge in stark terms. To prevent continued warming, atmospheric *concentrations* of greenhouse gasses must be stabilized. To achieve this, global *emissions* must drop dramatically, ultimately to a few percent of current releases (IPPC, 2007). Many analysts suggest that to avoid serious climate impacts emissions in developed states must decline by 60–80 percent by mid-century, and continue to fall thereafter. Such reductions imply radical change to current practices – especially with respect to the energy system – and an effort to manage the global climate that will continue into the indefinite future.

Discussion of CC often focuses on the economy/environment linkage, especially with regard to the economic activities driving emission growth (combustion of fossil fuels, land clearance, and so on), the economic costs (but also opportunities) of mitigation and adaptation, and the potential costs of inaction. Internationally, arguments about relative responsibility, vulnerability, and capacity to adapt and mitigate have been central to the elaboration of a collective response. But it is also worth considering social policy/environment linkages. Four points will be made in what follows.

First, the reality of CC means that contemporary societies face emerging configurations of domestic risk, injury and inequity, with which social policy must engage. Strictly speaking, many of the issues are not new: floods, droughts, storms, crop failures, novel pests and diseases, and so on, have always been with us; and such shocks have always pressed hardest on the socially disadvantaged. But the scale and combination of the problems, and the attendant societal adjustments, will be different from those welfare states have been organized to manage. The changing climate, adaptive responses to the changing climate (whether spontaneous or planned), and efforts at mitigation will create 'winners' and 'losers', and an array of policy measures may be needed to cushion shocks imposed on specific social sectors – regions, industries, communities, occupations, and social groups. For example, an increased frequency of drought may exert down-

ward pressure on farm incomes, pushing marginal operations towards failure. Houses built in vulnerable areas (flood plains, coastlines, on permafrost) may become uninsurable in commercial markets. Infrastructure in some regions may be degraded. Then, if we consider policy responses, an aggressive switch from carbon intensive fuels might impose economic hardship on communities whose livelihoods depend on mining coal, while a carbon tax weighs particularly on less affluent households.

In these and many other cases, social policy will need to be closely connected with climate policy. Indeed, it is only with such a connection that climate policy will be seen as *fair*. Thus an active adjustment of social policy to include climate dimensions (or the careful structuring of climate measures to include social welfare dimensions) is functional to the success of action taken to adapt to, or prevent further, CC. Of course, there is nothing to say that societies must collectivize risks and burdens. It is possible to deliberately offload certain costs onto particular groups, or to let the 'chips fall where they may', without unduly disrupting society as a whole, as the case of the run-down of the UK coal industry and the 'dash for gas' illustrate.

Second, in addition to providing a climate 'safety net', by socializing associated risks, and ensuring policy responses do not aggravate existing inequities or create new ones, social policy can contribute directly to the mobilization of societal resources to confront CC. Here we are referring to the 'productive' rather than the 'protective' dimensions of the welfare state (Gough, 2007). Welfare institutions can help create a well-educated and healthy population which is equipped for productive activity and social citizenship. In this regard, social policy is not just concerned with transferring material resources from one group to another, but also with defining the content of programmes and services delivered to the public. And here fields such as education and community development appear critical to organizing the societal adjustments associated with CC.

Third, the 'opposite' is also true: by responding to problems related to CC, social policy may be able to advance other objectives related to welfare and equity. Just as some analysts talk of the policy response to CC representing an 'economic opportunity agenda' (rather than just an economic cost agenda), so it can also be considered a 'social opportunity agenda'. In economic terms the reference is to

gains in efficiency, improvement in products, process and services, and the opening-up of new markets, associated with the technological and social innovation required to come to grips with CC. In social policy terms the link is to opportunities for improving welfare and welfare delivery as climate risks are integrated into the system. For example, upgrading housing to reduce carbon dioxide emissions provides an occasion to improve living conditions for the socially disadvantaged. The extension of public transit systems also helps the poor and elderly. Improving urban air quality particularly benefits vulnerable groups. And so on. Rather than seeing CC policy as a distraction from urgent social issues (ageing, growing income inequalities, immigration, and so on), those in the social policy area should see it as an emerging reality which opens up possibilities for change in places which had proven resistant.

Finally, the CC/social policy linkage points to major questions about economic development, the nature of social welfare, and the management of environmental burdens. Welfare states, as we know them today, are predicated on a kind of growth economy that we now understand to be environmentally unsustainable. But if we are to have a new kind of economy – one that flourishes within an essentially finite environmental envelope – will we not also need new forms of welfare state? An advanced industrial society that continues to develop, and yet transfers no net environmental burdens to posterity, appears possible in principle. But we are a long way from seeing one in practice. And thinking about how to get there draws one back towards issues discussed from the earliest origins of the welfare state: issues relating to the character of individual and collective welfare; to wants, needs and entitlements; to population, production and consumption; and to the role of the public power in regulating the conditions of social life.

For example, in the context of CC, population size and rates of growth matter – because greenhouse gas emissions are to some extent proportional to human numbers. And so social policy debates about family planning, reproductive politics, ageing populations and immigration need to be linked to discussion of environmental impacts, the well-being of humans and of nature, and long-term population trajectories. In a similar vein, patterns of individual and collective consumption matter – because some

ways of living generate higher climate emissions than others. And so social policy concerns about consumer protection, income inequalities, and quality of life should be linked to the consideration of environmental loadings, desirable forms of individual and collective being, and the future of material consumption.

What these four points have in common is the drawing together of social policy and environmental policy, of the institutions and preoccupations of the welfare state and those of the 'environmental' state. To some extent, this was the original impulse behind the idea of 'sustainable development' – that economic, social and environmental considerations must be integrated when tracing a path for authentic human progress (WCED, 1987; Meadowcroft, 2000). But experience suggests that we have a great deal further to go if we are to pass from a comforting idiom to concrete practice.

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The ecological crisis of the welfare state

(John S. Dryzek)

For almost four decades, those of us who have worked on the political challenge of environmental crisis have gazed with envy upon social policy, wondering how environmental concerns might ever come to be taken anywhere near as seriously as social policy concerns by governments. The welfare state is a reality; the ecological state remains a distant dream. The appearance of this debate in *JESP* suggests the shoe may now be on the other foot, as defenders of social policy worry about how the welfare state might fare in an era where the issue of climate change (CC) in particular looks as though it may come to dominate the policy agenda. The ecological crisis of the welfare state is a new development, one that has not yet been addressed by environmental thinkers – unlike the ecological crises of capitalism, liberal democracy, or the administrative state, which have been recognized and analysed at length (e.g. Paehlke and Torgerson, 2005).

CC may indeed present social policy with some challenges. It may demand a re-allocation of government expenditure to compensate its victims, to

finance projects to offset the effects of CC (dams, flood and sea defences, irrigation systems) or develop low-polluting forms of energy production. Climate refugees may impose additional burdens on social expenditures. Responding painlessly by using the dividend of economic growth to finance environmental expenditures may not work to the extent that CC and other environmental limits call into question the viability of continued economic growth in an ecologically finite world. To make matters worse, many policies that make sense from an environmental perspective, such as heavy taxes on fossil fuels, hurt the poor disproportionately. Thus a clash between environmental policy and social policy looms. This clash has not been felt to date because of the limited resources devoted by most governments to environmental policy, and the fact that no government has seriously begun to address the challenge of CC, especially when it comes to reducing greenhouse gas emissions.

I will argue that while substantial uncertainties remain, coordinated market economies with social democratic welfare states that have adopted a discourse which sees economic and ecological values as mutually reinforcing are best placed to navigate the challenge presented by CC to social policy. Liberal market economies with less developed welfare states face much greater difficulties. In the longer term, the development of forms of governance for CC issues that undermine state sovereignty may have substantial implications for social policy which has traditionally been tied to the idea of an autonomous state.

Empirical evidence

Before framing the question as one of a looming clash between environmental and social policy, we might pause to consider some empirical evidence. In recent years attempts have been made to compile indicators of sustainable development and environmental policy performance (Jahn, 1998). Scruggs (1999) finds a strong link between degree of corporatism and environmental policy performance. In the (conceptually challenged) sustainability index rankings done for the World Economic Forum in 2005, Finland comes first, with other North European states in close attendance (see: [www.yale.edu/esij]). These are also the countries with the most highly developed welfare states. Conversely, the more liberal, market-oriented countries of the Anglo-American

world in particular have both lower social policy effort and weaker environmental policy performance. On a comparative cross-national basis it seems that the relationship between environmental policy effort and social policy effort does not have to be conflictual.

Paradoxically, then, the ecological crisis of the welfare state looks likely to be most profound for liberal political economies with relatively underdeveloped welfare states and historically poor environmental performance. In relative terms, these states currently feature low energy prices, low levels of environmental regulation, a reliance on private cars as the main means of transport, suburban sprawl, and welfare states more likely to be seen in terms of safety nets than universal entitlements.

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How have the countries of Northern Europe – notably, the Nordic states, Germany, and the Netherlands – been able to position themselves better? If Korpi (1980) is correct in his contention that working-class mobilization in Northern Europe has produced states strong enough to change the distributional consequences of capitalism, then these states might also be able to manage capitalism's environmental consequences. However, environmental damage is not a consequence of capitalism alone, and can be produced equally well by state activity, or individuals acting in non-market contexts. And the fact that strong states could choose to be active on environmental issues does not mean that they will choose to be active. Thus structural explanation has to be supplemented by ideational explanation. A discourse of 'ecological modernization' has been widely adopted in Northern Europe (see the special issue of *Environmental Politics* 9 [1], Spring 2000, on 'Ecological Modernisation Around the World'). The main tenet of ecological modernization is that 'pollution prevention pays' in economic terms. The reason is that pollution indicates inefficient materials use. Moreover, the economy benefits from a clean environment with happy and healthy workers. Thus environmentalism is not positioned as anti-economic growth. This is a discourse rather than a material achievement, but the power of this presumption is strong and does lead to public policy effort to find solutions that meet both criteria.

Ecological modernization requires this kind of conscious and coordinated effort, the invisible hand of the market is not expected to do the trick (though by the lights of neo-classical micro-economics it should, if producers can gain a competitive advantage by reducing pollution). However, it should be stressed that whatever the environmental achievements of the ecological modernizers, they are not necessarily adequate by any absolute environmental standard and may fall short of the kinds of measures made urgent by CC.

This positive sum environment–economy relationship only gets us a small way towards seeing environmental policy and social policy as mutually reinforcing. When it comes to discourse, sustainable development goes one step further than ecological modernization in asserting that social justice can be added to the mutually reinforcing economics–environment mix – especially in Brundtland's classic 1987 formulation in the *Our Common Future* report to the United Nations. But this kind of rhetoric has fewer discernible consequences than does that of ecological modernization.

Are there ways to achieve positive sum synergy between basic ecological and social policy concerns? We might begin by noting that it is likely to be the poor who are hurt most severely and immediately by the consequences of CC. If so, then CC policy could be interpreted as an aspect of social policy, as both benefit the relatively poor. It is the poor who lack adequate insurance against flood or fire, who live in substandard housing more likely to be damaged by extreme weather events, who are more likely to live on flood plains, who have fewer resources to make good their escape from extreme weather. The experience of Hurricane Katrina in the United States is illustrative here. Thus, at least when it comes to adaptation to the risks of CC, a redistributive social policy ought to be beneficial. In the United States, the Katrina experience and the vulnerability of the poor it reveals provide further ammunition to the environmental justice movement. But despite local successes in preventing particular developments (toxic waste incinerators, etc.), this movement has not changed the basic conflictual way in which issues are framed in United States public policy, especially at the federal level (social justice versus economic growth versus environment). Arguably social movements will have a greater part to play in responding to the distributive

effects of CC in market-oriented liberal states such as the US than in more consensual and coordinated political economies.

A second pointer toward synthesis comes with the degree to which the social democratic welfare states of Sweden and the Netherlands in particular have achieved a high level of integration of environmental policy concerns across the whole range of governmental activities (Lundqvist, 2004). That is, environmental policy is not just the preserve of an environmental ministry (which has to fight for resources and commitments against other ministries). Rather, environmental concerns are integrated into the operations of all government agencies. Of course the integration is imperfect and resisted; its relative success is only brought into perspective in comparison with other countries. This sort of integration was behind the 1970 National Environmental Policy Act in the United States. But implementation of the Act was formal, legalistic, and procedural; it came to mean only that departments had to prepare adequate environmental impact statements for some of their activities. Here and elsewhere, the US was a pioneer that quickly fell behind other developed states.

The Netherlands has embarked upon serious national energy policy planning. In some ways this will be a crucial case: its topography means that the Netherlands is the Western European state most vulnerable to CC. Of course any changes it makes to its energy system will have but a tiny impact on global emissions, and so on the risks to which it is subject. But the issue has an immediacy for the Netherlands which it does not for, say, Sweden.

My provisional conclusion is that social democratic welfare states and what Hall and Soskice (2001) call coordinated market economies (the two categories overlap substantially) are better placed to handle the intersection of social policy and CC than the more liberal market economies with more rudimentary welfare states.

New modes of governance?

But there is one additional complication, highlighted when we look at the kinds of risks that CC entails. As Gough points out (above), social policy deals with risks that are individually unpredictable but collectively predictable. CC introduces risks that are collectively unpredictable. It is possible that new

governance arrangements come into being in response to the latter sorts of risks. This is actually the conjecture of Ulrich Beck's (1992) 'risk society' scenario. While Beck may have got it wrong about the particular sorts of political innovations to be expected, the basic idea that new sorts of risks call forth new sorts of governance may be correct. If we look at the past few decades in most developed societies, in the area of social policy we see essentially no institutional innovation. In environmental policy, we see an explosion of participatory, deliberative, paragonmental, multilevel and networked forms of governance, coming in such variety that it is impossible to keep track.

If social policy is tied to the welfare *state*, it is even possible that the associated attenuation of state control may contain bad news for social policy. This attenuation is already happening on another front due to economic globalization. The CC issue may accelerate non-economic globalization due to the need for coordinated global action. The whole paradigm of governance may shift away from central government by the sovereign state. Quite what it will shift towards in terms of the character, locus, and level of governance remains uncertain. This may sound far-fetched, but all this has been happening while environmental concerns have constituted a small and peripheral part of government. If CC really does come to dominate political agendas, and as environment moves from periphery to core, will the kind of state that has so far been able to organize effective social policy still be available? If it is not, could alternative institutional arrangements deliver social policy equally well?

The migration of political authority to supranational levels may be accompanied by the migration of social policy, in order to facilitate both economic integration (Wilding, 1997) and environmental coordination (at least if the connections between environmental and social policy that I have intimated hold). However, the analysis of Swank (2002) suggests that this migration may be limited, if states respond to the pressures of globalization in divergent ways. According to Swank, coordinated market economies with social democratic welfare states have resisted the pressures emanating from economic globalization that in more liberal states lead to downward movement in social policy commitments. This divergence presumably obstructs the degree to which states are willing to sacrifice autonomy

in social policy. Thus any reduction in state autonomy resulting from new governance arrangements in CC policy may yet collide with the stronger state autonomy that characterizes social policy.

Social policy is, however, already found at the level of the European Union. Any increased governance capacity developed by the European Union in response to CC issues might spill over into the area of social policy. In an earlier era, the European Union's developing governance capacity on economic issues eventually led it to take on issues in areas such as human rights, foreign policy, security, and environment, so this sort of spillover has historical precedents. It is harder to envisage parallel developments producing much in the way of social policy at the global level, though de Swaan (1992, 45–6) speculates that redistributive pressures may accompany the marginal increase in the bargaining power of poor countries associated with global environmental issues.

Conclusion

Any conclusions we might reach about relationships between CC and social policy can for the moment only be highly tentative and speculative. No state has yet made the sort of commitment to acting on CC in a way that would yield compelling evidence on the potential conflicts and compatibilities between environmental and social policy. It is also entirely possible that the state may not in the end be where the action is on CC: that international regimes, transnational governance networks, paragovernmental activity steered by the giant reinsurance companies, civil society, and various local and regional arrangements will loom larger. This very development may have profound implications for social policy that remains tied to the idea of a sovereign and autonomous state.

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The growing remit of the EU in climate change policy and citizens' support across the Union

(Jürgen Gerhards and Holger Lengfeld)

The European Union's environmental and climate change (CC) policy has developed remarkably since

the 1970s. Environmental protection was not on the political agenda when the EC was launched in 1957, and only isolated environmental guidelines appeared until the early 1970s. However, environmental protection has become increasingly important since the 1970s (Barnes and Barnes, 1999; McCormick, 1999; Bailey, 2003). Since then the breadth of environmental regulations has increased substantially, and environmental protection has worked its way up the policy agenda and into the EU's primary law. Nowadays, environmental protection and policies on CC are as important as freedom of movement, the social market economy, and gender equality rights.

In this article, we first give a brief description of the emergence of EU environmental policy from the early 1970s until 2007. Second, using 2006 survey data, we analyse to what extent EU citizens support the idea of environmental protection and then explain attitudinal differences at the individual and country levels. We thus broach the way that citizen support may legitimize CC policies as part of a new political settlement, raised in the Introduction.

The emergence of the European Union's environmental policy

From its beginnings until 1985, environmental protection was neither included in the European Treaties nor defined in primary legislation as a European task (Gerhards and Lengfeld, 2008). The EU expanded its responsibility for environmental questions, however, by a strategy known as 'frame-bridging' (a concept developed by Snow in researching social movements; Snow et al., 1986). In the preamble of the Treaty of Rome, the EU states its objective to improve life and employment conditions for its citizens. The Treaty's creators intended the term 'life conditions' to be viewed in a strictly economic light. However, the 'frame-bridging' strategy enabled EU institutions to include, step-by-step, ecological 'living standards' as a relevant mission (cf. Johnson and Corcelle, 1989: 2ff.; Knill, 2003: 19 ff.). With the Single European Act of 1987, the Treaty for the European Economic Community expanded and separated environmental policy from other fields. Consequently environmental policy was given its own Directorate General, which served to underscore the important institutional position of the environment. The Maastricht and Amsterdam

Treaties (1993 and 1999, respectively) further strengthened this delineation between environmental policy and other political arenas. These institutional developments culminated in the Reform Treaty of Lisbon 2007. The Reform Treaty incorporates further agreements regarding climate change and the fight against global warming, which have been added as targets for the European Union. In addition, several provisions of the treaties have been amended to include solidarity in matters of energy supply and changes to the energy policy within the European Union.

One of the most important aspects of EU environmental policy concerns the community's enlargement. The EU has created a contingency between membership and investment in comprehensive environmental protection. The 1993 Copenhagen criteria insist that every acceding state has to accept the *Acquis Communautaire* before joining the Union. Chapter 21 of the *Acquis* covers environmental protection which provides the basis for examining acceding states' compliance with EU environmental policy.

Within recent years, climate policy has become an integral part of EU environmental policy (Anderson et al., 2007; European Commission, 2007a). The European Union has played a key role in the development of the two major treaties, the 1992 United Nations Framework Convention on Climate Change and its Kyoto Protocol, agreed in 1997. In 2000, the Commission launched the European Climate Change Programme (ECCP). The ECCP has led to the adoption of a wide range of new policies and measures. In its March 2007 meeting, the European Council made another far-reaching decision regarding the combat against CC. The European Council emphasized the EU's commitment to transform Europe into a highly energy-efficient, low greenhouse-gas-emitting economy. The Council defined binding targets by 2020 to: (a) reduce EU emissions by 20 percent regardless of progress made in post-Kyoto Protocol international negotiations; (b) make 20 percent of the EU's overall energy consumption come from renewable energy sources; and (c) decrease EU energy consumption by 20 percent as compared to projections.

In sum, environmental protection and climate policy have become permanent components of EU policies over the past 20 years. This does not imply that the EU has transformed into a community devoted to ecologically sound policies. Nevertheless, economic criteria have been increasingly supple-

mented by ecological standards that at times contradict the former. This interaction of ecological and economic objectives has taken the EU's ecological concept beyond abstract ideology into a number of concrete decisions.

Environmental attitudes of EU citizens

For every policy, however, it is important to question its support among citizens. To what extent do citizens from different EU countries support the idea of an EU with a high level of environmental and climate protection that may constrain purely economic criteria? Unfortunately there is no data set available which allows us to analyse attitudes towards EU climate policy. Cognitive dissonance theory (Festinger, 1957) has shown, however, that more specific attitudes – like attitudes toward climate policy – are strongly consistent with more general attitudes – such as attitudes towards environmental policy. This argument allows us to analyse a survey in which attitudes towards environmental protection have been asked, and to interpret the findings in the light of the EU's policy.

We have analysed the Eurobarometer (EB) 66.1 conducted in Autumn 2006, an up-to-date survey containing environmental questions conducted in all EU countries, the 2007 acceded states Romania and Bulgaria, and the candidate countries Turkey and Croatia (see European Commission, 2007b). To measure how European citizens accept the EU's normative idea of climate protection, we have chosen the following question posed to the respondents: 'Economic growth must be a priority for our (name of country), even if it affects the environment.' Respondents could choose from four answers: 'totally agree', 'tend to agree', 'tend to disagree', and 'totally disagree'. This item has two advantages. First, the respondents clearly have to speak out against the priority of ecological over economic claims. Compared with questions which solely ask for the acceptance of environmental protection, the item avoids answers biased by social desirability. Second, agreement or disagreement with the statement is connected with ecological or, alternatively, economic costs for which the individual or the community must pay. To measure the level of support for the EU's environmental policy, we combined the 'totally disagree' and 'tend to disagree' responses.

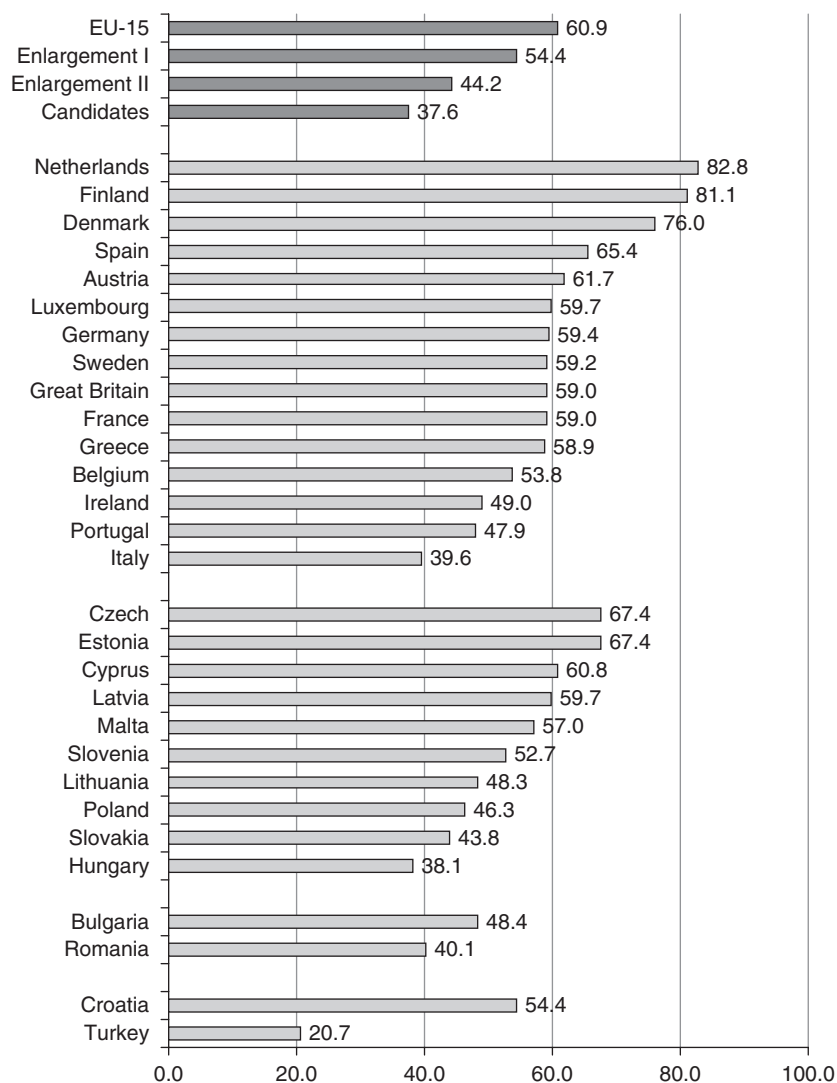


Figure 1 Percentage of citizens who *disagree* that economic growth must be a priority over environmental protection

Source: Eurobarometer 66.1.

In 18 of the 29 countries the majority of citizens agree to restrict economic growth in favour of environmental protection. There are, however, distinctions in the level of support between the four country groups. Some 60 percent of EU-15 citizens give precedence to environmental protection over economic growth; in the Accession I and II coun-

tries, the approval rating is 54 and 44 percent, respectively, and 37 percent in the two candidate countries. The Netherlands and the Scandinavian countries Denmark and Finland have the highest approval rating for environmental protection, whereas Romania, Italy, Hungary, and Turkey are at the end of the scale. In Turkey, only slightly more

Table 2 Explaining attitudes towards the environment: priority for economic growth over environmental protection (linear regression)

	<i>Model 1</i>	<i>Model 2^b</i>	<i>Model 3^b</i>	<i>Model 4</i>
Individual level				
Age (in years)	.053 ^c (2.37)	.060 ^d (3.13)	.068 ^e (4.53)	.070 ^e (4.91)
Education ^a	-.097 ^b (-4.44)	-.082 ^c (-4.04)	-.078 ^c (-6.28)	-.072 ^c (-5.58)
Political orientation (0 = Left; 10 = Right)	.060 ^c (2.48)	.062 ^c (2.43)	.046 ^c (2.19)	.049 ^c (2.23)
Country level				
Environmental quality (Environmental Sustainability Index ESI)		-.120 ^c (-2.63)		-.061 (-1.45)
Degree of wealth and modernization (Human Development Index)			-.193 ^c (-4.01)	-.172 ^d (3.51)
R²	.014	.028	.050	.053

Notes:

N = 10,011; stepwise extended linear regression models with robust standard errors in consideration of clusters depending on country membership (26 countries); without Luxembourg, Cyprus and Malta because of missing ESI-data. Standardized regression co-efficients are indicated; t-values in brackets.

^a In EB 66.1, education is measured by the year of stopping full-time education.

^b Because the macro factor ESI and HDI are correlated ($r = .36$), we have calculated two separate models.

^c $p_t < .05$.

^d $p_t < .01$.

^e $p_t < .001$.

Source: Eurobarometer 66.1

than 20 percent of the respondents disagreed that economic growth should have priority. Italy stands out in the EU-15 group for its lack of support for this sentiment.

Explaining attitudes towards the environment

We consider five factors affecting attitudinal differences at the individual and country levels (for more detailed information see Gerhards and Lengfeld, 2008):

- Income and modernization, as measured by the Human Development Index (HDI) (Diekmann and Franzen, 1999; Franzen, 2003);
- Ideology and beliefs, on a left/right continuum (Preisendörfer, 1999);
- Existing environmental conditions (Dunlap, 1994);
- Citizen cohort groups, measured by age (Buttel, 1979; Mohai and Twight, 1987; Greenbaum, 1995);
- Education level (Dietz et al., 1998).

Table 2 shows results of a linear regression analysis based on the Eurobarometer data described above. The results confirm most of our hypotheses

The younger the respondent, the longer their time in the educational system, and the more they hold leftist political orientations, the more they speak out against the domination of economic over ecological claims. Additionally, Table 2 shows that support for economic growth is greater the lower the level of a country's wealth, measured by HDI, and its level of environmental quality; the latter effect is not significant in the last model, however. Furthermore, a comparison of the independent variables' standardized coefficients shows that the level of wealth and modernization of a country has the strongest effect on the respective citizens' support for environmental protection.

Conclusion

One can conclude from our findings that new EU initiatives regarding environmental protection and combating CC will find support from a majority of the citizens of the European Union. Citizens of

EU-15 countries, excepting Italy, show on average higher levels of support for the environment to take precedence over economic claims than citizens in Accession I and II country groups and in Turkey. If our causal analysis is correct, in the long run this difference could decrease if the expected economic modernization in the new member states proceeds (Gerhards, 2007; 2008). There is an implicit relationship here between support for social policy and environmental protection. The wealthier countries in Europe exhibit higher social expenditure rates. In addition, we have seen that Denmark, Finland and the Netherlands (i.e. countries with strong welfare states) exhibit the highest approval rating for environmental protection. These results support the suggestion made by Meadowcroft and Dryzek (above) who state that there might be no principle contradiction between environmentalism and welfare state attitudes.

There is thus evidence that the recent astonishing surge in the European Union's environmental and CC policy has legitimacy with the European public. Which is cause and effect, however, is a further research question we do not address here.

A note on the distributional effects of carbon taxes in the EU

(Anil Markandya and Ramon Arigoni Ortiz)

As outlined in the Introduction, climate change (CC) may exacerbate social inequalities. Carbon taxation, for example, may affect certain social groups more than others; for instance, lower-income households are likely to suffer a higher burden in their budgets when energy prices increase due to taxation. However, such negative impact of taxation can be reduced if the revenue generated by the energy taxes is efficiently applied by the government in order to simultaneously compensate those more vulnerable groups (i.e. neutral tax reform).

Distributional impacts of carbon taxation in Europe

The distributional impacts of a carbon tax will depend essentially on three factors: (a) how much of the tax is passed on in the form of higher energy and other prices; (b) how the revenues are used by the government to reduce other taxes or to support

compensatory programmes to help those facing fuel poverty, for example; and (c) the existing arrangements in the welfare systems to address concerns of fuel poverty.

Several studies have investigated, in the context of the European regulation, whether energy/carbon taxes are regressive; that is, whether households with lower (disposable) income pay a higher share of their budget than those with higher income. For example, Barker and Kohler (1998) considered the distributional effects of imposing additional excise duty on energy products according to carbon content in 11 EU member states, which would enable the EU to achieve the target of reducing 10 percent of carbon emissions by 2010. The authors concluded that the changes in the economies would be weakly regressive for nearly all the member states in the study (EU-15 without Greece, Austria, Sweden and Finland) if revenues were used to reduce employers' taxes; but they would be strongly progressive if they were given back as lump-sum payments to households. Similar results were found by Smith (1992) and Symons et al. (1997), who examined the income distributional impacts of carbon taxes in Germany, Italy, Spain and the UK.

A recent study by Wier et al. (2005) examined the direct (taxes imposed on households) and indirect (taxes imposed on the industry indirectly affecting households as increases in prices) distributional consequences of Danish CO₂ taxes on industry and households. It differs from other studies by using an input-output analysis combined with a tax matrix and information about household characteristics, estimating the actual direct and indirect tax payments by households for different types of commodities. The distributional effect of energy taxes were examined as the tax payments relative to annual disposable income. The authors concluded that tax payments increased with income, but constituted a smaller share of the disposable income as income grew, characterizing a regressive tax.

Speck (1999) reviewed several studies which analysed the distributional implications of implementing energy/carbon taxes and concluded that the effects tend to be at least mildly regressive in many OECD countries, although there was some evidence that such effects could be progressive in developing countries. Repetto and Austin (1997) claimed that '... the disproportionate impact of a carbon tax on

low-income households appears to be less than first thought and could be easily offset by other tax reductions or cost-of-living adjustments in social security and other transfer programmes' (Repetto and Austin, 1997). It is widely accepted that an increase in energy taxes can cause greater impact for low-income groups, but 'it is not at all obvious that the size of the impact is such as to justify the use of terms like "fuel poverty" or arguments for the subsidization of fuels purchased by those on low incomes' (Common, 1985). Additionally, some authors claim that the environmental benefits reduce the regressive effect of energy/carbon taxes on expenditures since low-income households tend to be located in more polluted areas and benefit more than higher-income households from pollution reduction due to energy/carbon taxation.

Another important distinction to be taken into consideration while investigating the distributional effects of energy taxes is the urban/rural location of households. For example, Wier et al. (2005) found that rural Danish households have higher energy consumption due to higher transport and heating needs.

One general criticism of studies aiming to investigate the distributional effect of energy taxes is the fact that most studies compare (among social groups) tax payments as a share of the household annual income, while it might be preferable to compare tax payments as shares of total household expenditure. It is relevant to measure the regressive characteristic relative to expenditures since the tax base is expenditure and households tend to seek to smooth consumption over the lifetime. This change of focus in general produces results showing that energy taxes are less regressive when measured against total expenditure, instead of against disposable income, suggesting that a compensation scheme should focus on those groups that will not be able to equalize low income in part of their lives with higher incomes in other parts such as single parents with a low level of education (Wier et al., 2005)

Conclusions

Studies to date suggest that carbon taxation implemented without any special redistributive measures is probably mildly regressive in the European context. Most carbon taxes proposals involve some redistribution in the form of lower social security taxes, and this combination does turn out to be

regressive. The size of the effect, however, is small, and it is even smaller when regressivity is measured relative to expenditure. Furthermore it should not be difficult for existing policy measures that address fuel poverty to deal with the more serious cases of increased hardship. These are more likely to be in rural areas and a differentiated approach along these lines is likely to be needed to address such cases.

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