

Ecological Modernisation: A Basis for Regional Development?

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Introduction

In recent years the issue of environmental change has become a key area of debate. There is a widespread concern that the consequences of industrialisation are increasingly negative and that action needs to be taken to remedy this. Although there is no absolute consensus that major environmental changes are occurring, there is a broad agreement that these changes are in train and that some form of response is needed. Sustainability has increasingly become a central theme in development policy at all spatial scales (WCED, 1987). The United Nations Agenda 21 has provided a framework for sustainable development to be placed at the heart of national, regional and local policy making. In the UK the Sustainable Development Strategy (currently under revision after consultation) and the development of Local Agenda 21 initiatives are the most visible evidence of this process beginning to take place. In general terms the concept of sustainable development requires that human activities take place within the ecological limits of the planet. It is generally accepted that this requires consideration of inter- and intra-generational equity, greater democratic involvement in decision making and, perhaps most importantly, the integration of environmental, economic and social decision-making. Taken together these requirements represent a considerable challenge to the organization of economic activity as it currently exists. The need to address environmental problems has thus become a commonplace, at least in developed industrial nations. As Dryzek (1994, 176) states:

‘today, any credible political-economic vision must address the challenge presented by ecological problems. “The environment” can no longer be thought of as just one issue among many. Ecological problems are sufficiently widespread and serious to constitute an acid test for all actual and proposed political and economic arrangements, be they incremental or revolutionary’.

However, there is a wide diversity of opinion as to the most appropriate response to environmental change. There is a spectrum of opinion here from deep green ecologists who require a wholesale restructuring of society, through to some economists who believe that market instruments are capable of restoring the ‘environmental equilibrium’ and that the basic socio-economic form can remain intact (Torgerson, 1995). One approach to addressing the environmental crisis is that of ecological modernisation. Ecological modernisation specifically argues that economic development and ecological crisis can be reconciled to form a new model of development for capitalist economies. In this paper I explore the potential value, or otherwise, of ecological modernisation as a theoretical and practical guide to an appropriate response. While ecological modernisation has largely developed as a theory concerned with nation states, my focus here is upon the regional economy. In part this reflects the major emphasis in the policy literature placed upon the sub-national scale as a key site for the integration of economic and environmental policy and sustainable development (see for example the United Nation’s Agenda 21 programme and the European Union’s Fifth Environmental Action Programme). From a UK perspective, it reflects a recent shift in central government policies which have implicitly adopted the tenets of ecological modernisation, particularly in recent legislation on regional development policy. Following an outline of the issues raised by the widespread adoption of sustainable development as an aim of policy, I examine the arguments of ecological modernisation before turning to an investigation of the ways that ecological modernisation has been utilised in UK regional development policy.

Sustainable Development

Although the term originates before this date, the term sustainable development was popularised by the Brundtland Report (WCED, 1987). The definition used by Brundtland emphasised meeting the

needs of the present without compromising the ability of future generations to meet their own needs. In a consultation paper for the UK's revised sustainable development strategy, the Department of the Environment, Transport and the Regions (DETR, 1997) define it as 'ensuring a better quality of life for everyone, now and for generations to come' and based on four objectives:

- social progress which recognises the needs of everyone;
- effective protection of the environment;
- prudent use of natural resources;
- maintenance of high and stable levels of economic growth.

However, while definitions of sustainable development vary, most allude to the following core principles:

- quality of life (including and linking social, economic and environmental aspects)
- care for the environment
- thought for the future and the precautionary principle
- fairness and equity
- participation and partnership

However, there has also been much criticism of the notion of sustainable development and whether it has any practical meaning. As Myerson and Rydin (1994, 439) comment:

'does the discourse around the concept of "sustainable development" represent a cultural oxymoron, a conflation of policy goals from the distinct economic and environmental policy arenas, or is it an innovative step forward in policy thinking which provides new opportunities for goal achievement?'

One response has been to see sustainable development as simply one discourse of environmentalism amongst several others, albeit increasingly the dominant one (Dryzek, 1997). Similarly, Torgerson (1995) comments on the ambiguity of the term and the way in which this allows political actors from many different backgrounds to proceed without having to agree on what action to take - a benefit to those who see the need for incremental reform rather than radical social transformations of the type advocated by 'deep greens'. Dryzek (1997, 125) argues that this is not surprising given that sustainable development 'is a discourse rather than a concept which can or should be defined with any precision'.

In spatial terms a key component of sustainable development is the adaptation of the old radical green slogan "think globally, act locally". Sustainable development is frequently predicated upon the basis of simultaneously shifting some political power up to transnational levels of political organization and down to the local scale (Dryzek, 1997). The concomitant of these power shifts is a decrease in the capacity rooted in the nation-state - in part the recognition by environmentalists of the 'hollowing-out' of the nation-state and associated globalisation tendencies. At the local scale there is a commitment to exploratory and decentralised approaches to sustainability, with a range of local experimentation (Lee, 1993). Dryzek (1997) sees this as a potential problem (how can these local experiments be harnessed together?) and as an advantage (a welcome antidote to nation-states under the sway of market-led economic approaches). It can be argued that sustainable development is thus a discourse of civil society and not nation-states:

'Sustainable development discourses can be reread as a new power/knowledge formation, aiming at accumulating power for comparatively powerless sub-national and supranational agencies through the mobilisation of new knowledges about the performance of essentially national economies and states that exert their authority to foster development at any cost. Rather than sovereign territories,

these discourses look at sub-national and transnational domains for sustainable ecosystems...to reconfigure the circuits of biopower generation and utilisation' (Luke, 1995: 29).

For the moment, though, the nation-state remains the locus of most regulatory activity. At this scale, despite the increasing acceptance of sustainable development as the basis for environmental policy, the trend in recent years in industrialised countries has been for a move towards market-led economies, the globalisation of economic activity and a system of free trade which run counter to sustainable development (Korten, 1996). Other than amongst "deep greens", there is a recognition that any future shift in society and the way in which the economy is organised is unlikely to involve radical change, at least in the short- to medium-term. Over this time scale, market mechanisms will remain dominant and perhaps the best that can be expected is a gradual shift towards a more sustainable future. Given that a market-based, capitalist economic system looks set to dominate the global economy, one response has been to argue that integrating environmental and economic policy can be both profitable for business and contribute to sustainable development through a programme of ecological modernisation.

Ecological Modernisation

The perspective of ecological modernisation is said to offer a constructive approach to deal with environmental problems, with a central role assigned to science and technology (Mol and Spaargaren, 1993). The concept was developed in the 1980s through the work of the German social scientists Joseph Huber (1982) and Martin Janicke (1985). The basic argument is that the central institutions of modern society can be transformed in order to avoid ecological crisis. Huber (1982), for example, has argued the need for an "ecological switchover" - a transition of industrial society towards an ecologically rational organization of production, based upon the theory of a changed relationship between the economy and ecology. Rather than the deep ecological position of radical restructuring of society, ecological modernisation has more in common with "strong" versions of sustainability in that it envisages a process of the progressive modernisation of the institutions of modern society, as opposed to their destruction or dismantlement (Mol and Spaargaren, 1993). Ecological modernisation proposes that structural change must occur at the macro-economic level through broad sectoral shifts in the economy and at the micro-economic level, through the use of new and clean technologies by individual firms (Gouldson and Murphy (1997). Both Hajer (1995) and Harvey (1996) link ecological modernisation and sustainable development together such that the latter is the "central story line" of the policy discourse of ecological modernisation. However, ecological modernisation has much more analytical rigour than sustainable development and 'has a much sharper focus than does sustainable development on exactly what needs to be done with the capitalist political economy, especially within the confines of the developed nation state' (Dryzek, 1997: 143).

As a framework, the concept of ecological modernisation can be used at two levels. First, it can be used as a theoretical concept to analyse those changes to the central institutions in modern society deemed necessary to solve the ecological crisis. Second, ecological modernisation is used to describe a more pragmatic political programme to redirect environmental policymaking. In the sense of the first meaning, ecological modernisation stands for a major transformation, or "ecological switch", of the industrialisation process into a direction that takes account of the need to maintain the sustenance base. As with sustainable development, ecological modernisation indicates the possibility of overcoming environmental crises without leaving the path of modernisation (Mol and Spaargaren, 1993). The processes of production and consumption can be restructured on ecological terms through the institutionalisation of ecological aims (Mol, 1994). Three central projects form the heart of this ecological switchover (Gouldson and Murphy, 1996):

- the restructuring of production and consumption towards ecological goals. This involves the development and diffusion of clean production technologies and decoupling economic development from the relevant resource inputs, resource use and emissions;

- ‘economising ecology’ by placing an economic value on nature and introducing structural tax reform;
- integrating environmental policy goals into other policy areas.

The potential for doing this is illustrated by the fact that other rationalities, such as social and labour struggles, have, in the past, imposed limits on a purely economic rationale for production and consumption. However, the proponents of ecological modernisation do not wish to assert the primacy of ecological over economic rationality, merely to assert the necessity (as with sustainable development) of giving the former equal weight.

In Huber’s view, ecological modernisation offers us the only way out of ecological crisis through more industrialization, albeit with changed production and consumption. However, this view overemphasises the industrial and technological aspects and neglects the social context within which these occur - the ‘ecological switchover’ is seen as a logical, necessary and inevitable stage in the development of the industrial system. Technological developments occur largely autonomously and act to determine change in industrial systems and their relations with the social and natural environment. The propulsive force of technological change means that the state has little role in redirecting the processes of production and consumption. Indeed, while the theory of ecological modernisation proposes that institutions can be restructured on ecological lines and away from a purely economic rationale, the theory is largely silent on the extent to which such institutions can be reformed - this remains open to empirical investigation (Mol, 1994).

Hajer (1993) extends this analysis by proposing that there are two interpretations of ecological modernisation. First, a ‘techno-corporatist’ interpretation which emphasises the ‘economization of nature’ and elitist decision-making structures and a second interpretation, closer to some versions of sustainability, which not only stresses changes to production and consumption, but does so through greater democratisation, redistribution and social justice. Christoff (1996) has characterised these two ends of this spectrum as “weak” and “strong” versions of ecological modernisation (Table 1). Hajer (1995) develops this idea of “strong” ecological modernisation as reflexive ecological modernisation, whereby political and economic development proceed on the basis of critical self-awareness involving public scrutiny and democratic control, while “weak” ecological modernisation involves a lifeline for capitalist economies threatened by ecological crisis.

Table 1 Characteristics of “Weak” and “Strong” Ecological Modernisation.

“Weak” ecological modernisation	“Strong” ecological modernisation
<ul style="list-style-type: none"> • Technological solutions to environmental problems • Technocratic/corporatist styles of policy making by scientific, economic and political elites • Restricted to developed nations who use ecological modernisation to consolidate their global economic advantages • Imposes a single, closed-ended framework on political and economic 	<ul style="list-style-type: none"> • Broad changes to institutional and economic structure of society incorporating ecological concerns • Open, democratic decision making with participation and involvement • Concerned with the international dimensions of the environment and development • A more open-ended approach with no single view, but multiple possibilities with ecological modernisation

Source: Derived from Christoff (1996).

As a political programme, ecological modernisation has 3 linked programmes:

- compensation for environmental damage and the use of additional technologies to minimise the effects of growing production and consumption on the environment;
- a focus upon altering the processes of production and consumption, through the use of clean technologies and economic valuation for example;
- the dismantling and deindustrialisation of economies and a transformation towards small-scale units and a closer link between production and consumption.

Mol and Spaargaren (1993) cite the example of Dutch environmental policies, which have shifted from the first approach to the second. This has involved moves to: close substance cycles and the chain from raw materials through to the production process and waste and recycling; conserving energy and improving the efficiency and utilisation of renewable energy sources; and improving the quality of production processes and resultant products. One basic tenet of ecological modernisation is that it will be supported by business as it involves financial advantage - it responds to environmental issues through notions of profitable enterprise (Harvey, 1996; Weale, 1992). This comes about through five forms. First, through reduced pollution and waste production resulting in greater business efficiency. Second, through avoiding future financial liabilities, such as the potential future cost of clearing up contaminated land. Third, creating a better environment has benefits for, and attractions to, a company's workforce. Fourth, through the sale of "environmentally-friendly" products and services and fifth, through the sale of pollution prevention and abatement technologies (Dryzek, 1997). While this may raise the possibility of the transformation of capitalist economies, ecological modernisation is also liable, as a discourse, to be 'corrupted into yet another discursive representation of dominant forms of economic power' (Harvey, 1996, 382) resulting in greater dominance of global resources by transnational industry, national governments and "big science" in the name of sustainability.

To date, ecological modernisation has concentrated on the potential for environmental reform at the 'meso-level of national governments, environmental movements, enterprises and labour organisations' (Mol and Spaargaren, 1993, 454). While sustainable development envisages the devolution of power up to the international scale and down to the local, ecological modernisation does not necessarily require de-emphasising the nation-state. From the perspective of this paper, ecological modernisation has not been utilised to address the problems of regional or local areas. Indeed, Spaargaren and Mol (1992) explicitly criticise the works of "counterproductivity theorists" (such as Commoner, Illich, Gorz and Bahro) for their emphasis on the need for greater local autonomy and severing links with world market and political relations as a prerequisite of a response to ecological crisis. Instead (following Giddens, 1990) they propose that such insulae cannot exist within a globalized world economy which interlinks and networks different social contexts and localities. Thus while they recognise that localisation may be desirable, 'the intensification of international social relations and the increasing level of time-space distancing within modern societies make the realisation of these goals in the context of local experiments, which are thought to be exempt from power relations and market forces operating on a world-wide basis, less plausible and realistic' (Spaargaren and Mol, 1992, 331).

Given the largely national focus, the role ascribed to the sub-national scale and the local state is circumscribed. Any analysis is confined to the nation-state. In some accounts (Huber, 1982) the state should play no role in the switch to ecological modernisation as it will only hinder the

development and diffusion of clean technologies. Mol and Spaargaren (1993) criticise this overly technical view and argue that it is difficult to imagine an ecological switchover without state intervention at various levels. This may not involve a role for a strong bureaucratic state in ecological modernisation (although Harvey (1996) appears to equate ecological modernisation with the politics of corporate and state managerialism). 'Rather the role of the state in environmental policy [will have to] change from curative and reactive to preventive, from "closed" policy-making to participative policy-making, from centralised to decentralised and from dirigistic to contextually "steering"' (Mol, 1994: 17). Ecological modernisation will require political commitment to a longer-term, more holistic approach to economic development and the environment.

Thus Janicke (1992) argues that the capacity of an individual nation state to undertake the 'ecological switch' is determined by its economic performance, innovative capacity, strategic capacity and consensual capacity. Janicke (1992, 1997) uses the concept of environmental capacity to determine the conditions that encourage nation-states to address environmental problems and to determine the conditions that can result in both successful policy forms and implementation. It has been argued that those nation-states which conform most closely to the ideas of (albeit weak) ecological modernisation (the Netherlands, Germany, Norway, Sweden, Japan) are those which have consensual forms of government (Dryzek, 1997, although see Andersen (1994, 1997) for a critique of this view). Ecological modernisation could therefore usefully be deployed to inform theory relating to the sub-national scale. The same capacities will exist at the sub-national scale and a key area for investigation may be the strategic capacity that exists within regions where:

'strategic capacity means that environmental protection really becomes a "cross-section function" of the administrative authorities. Generally speaking, strategic capacity must include the capacity to integrate partial sectors of the state with a view to new objectives, and to dismantle contradictions and deduce conflicts about objectives' (Janicke, 1992: 84).

However, this theory of strategic capacity has been formulated at a national level - it fails to consider developments either at supra-national or sub-national levels. Some guidance as to how this could be developed to deal with sub-national levels comes through the work of Janicke (1997) which builds upon the theory of strategic capacity to produce a model of policy explanation. Capacity for action on environmental issues for Janicke (1997, 9) 'defines the necessary structural conditions for successful environmental policy as well as the upper limit beyond which policy failure sets in even in the case of skilful, highly motivated and situatively well-placed proponents'. In this instance capacity defines both opportunities and barriers (Murphy, 1998). In this model, solutions to environmental problems are developed within structural framework conditions and within situative contexts, involving actors and strategies, together with institutional, economic and informational factors (Murphy, 1998). Strategies are the general approach taken to a problem - using environmental policies to address problems and achieve goals, for example - actors (including individuals, pressure groups, third parties etc.) are the opponents and proponents of special issues. The latter have relatively stable general interests and core beliefs and their capacity for action depends largely upon their strengths and competencies. An important dimension to this model is that the ability of actors to develop strategies can be significantly influenced by the situative context, such as economic recession, public awareness or a major pollution incident. The other component of the model is the structural framework conditions, which provide the backdrop to the situative context, actors and strategies. These form the broad conditions of environmental action and give rise to an opportunity structure for actors consisting of:

- the cognitive-informational framework - i.e. the conditions under which environmental knowledge is produced, distributed, interpreted and applied;

- the political-institutional framework comprising the institutional and legal structures and institutionalised rules and norms in a society;
- the economic-technological framework including economic performance, technology levels and sectoral composition.

The resultant capacity of actors to act (and the success of their actions) will be influenced by the interplay of these frameworks in any given situation. In utilising this model to understand the implementation of environmental policy at the local scale (and its integration with economic development activities), we begin to move away from the notion that implementing such policies and devolving policy to lower levels is a relatively problem-free process. Much will depend upon local situative contexts and structural frameworks, as well as upon the composition of local actors and form of local strategies. While ecological modernisation is thus useful in helping us to think through some of the changes that need to be made to current economies, it is thus only beginning to address the social processes involved through notions of situative contexts and local actors. I return to this theme and assess the potential usefulness of ecological modernisation as a theory after a consideration of ecological modernisation in practice.

New Labour and Ecological Modernisation

In the United Kingdom, the election of a (New) Labour government in 1997 has led to a flurry of policy and consultation documents which implicitly utilise concepts and language drawn from ecological modernisation. It has been argued that ecological modernisation has a wide appeal for the Labour administration as a “modern” concept, with its focus on both the market economy and a “stakeholder society” (Blowers, 1997). Ecological modernisation chimes neatly with the government’s vision of a modernised, forward looking society, appearing to allow a better environment and a modernised economy. This is clearly stated in the Department of the Environment, Transport and the Regions (1998) consultation document on the UK’s revised sustainable development strategy:

‘sustainable development is concerned with achieving economic growth, in the form of higher living standards, while protecting and where possible enhancing the environment – not just for its own sake but because a damaged environment will sooner or later hold back economic growth and lower the quality of life’ (DETR, 1998a, 5).

Macro-economic policies that create a successful business climate are seen as fundamental to achieving sustainable development. Moreover, sustainable development is perceived as an opportunity for business to produce new goods and services and thus to gain a competitive edge in world markets. New technologies are viewed as having a key role to play in improving the efficiency of resource use. Achieving these market transformations is predominantly a task for partnership between government and business through negotiated agreements (DETR, 1998a). Similar themes are developed in a consultation document specifically aimed at business (DETR, 1998b). In this document, sustainable development is also seen as providing opportunities for business through creating new markets and new products, increasing competitiveness, building customer trust and the development of new technologies. Again, business and government are the proactive elements in this “ecological switch”, while consumers are essentially passive elements who must be given appropriate information in order to make correct choices. While these documents await implementation, similar ecological modernisation themes are already enshrined in regional policy legislation.

Ecological Modernisation and Regional Policy

The election of a Labour government in the United Kingdom in 1997 put the issues of regions and regionalism back on the UK agenda after a period of neglect by previous Conservative governments. There will be devolution to Scotland and Wales, in the form of a Scottish parliament and a Welsh Assembly, and the creation of an elected mayor and the Greater London Authority for

London. Policies for the English regions are based upon around the establishment of Regional Development Agencies (RDAs) and, potentially, elected regional assemblies. In the run-up to the General Election a Regional Policy Commission (RPC) had been established by the Labour Party, chaired by Bruce Millan. Given that the Labour Party had a manifesto commitment to RDAs and regional government, the RPC was established to examine, and make recommendations on, the form and content of regional policy. The Commission produced its report in 1996 (RPC, 1996) and, once in office, the Labour Government subsequently published a White Paper on 3 December 1997 (DETR, 1997) followed by the Regional Development Agencies Bill on 10 December. From 1 April 1999 there will be eight new agencies (one in each of the English regions) in operation, which will absorb the existing bodies of the Rural Development Commission and English Partnerships. The model for these RDAs is largely drawn from the experiences of Scottish Enterprise, the Welsh Development Agency and the Northern Development Corporation (the latter in North East England).

Not surprisingly, given the growing importance of the environment and sustainable development within policy making, the Regional Policy Commission saw clear benefits to be gained from integrating environmental and regional development policies.

‘There is a growing awareness that the pursuit of environmental objectives could actually stimulate new economic activity and jobs in environment-related sectors, and also in other sectors, such as tourism and leisure, which stand to benefit from a cleaner environment. Moreover, the implementation of higher environmental standards can be seen as a means of encouraging firms to adapt to cleaner technologies and to move into new environmentally-friendly product areas in advance of those in other countries, and so attain a competitive edge and a stronger market position in the longer term’ (RPC, 1996, 187).

As this quote shows, much of the environmental agenda for the RDAs is a direct reflection, albeit implicitly, of arguments for ecological modernisation. The RPC took the view that regional level action was required, in conjunction with action at other spatial scales, to implement sustainable development and environmental improvement. In this it recommended that a Labour government should provide a regional dimension to Local Agenda 21, working with the regional chambers and RDAs to establish partnerships for effective sub-national action. It also recommended that regional economic strategies contain details of the environmental situation (as is the case for EU Structural Funds) and an assessment of the environmental impact of the strategies. In relation to jobs, the RPC drew upon research that suggested that there is substantial potential for job creation in environmental activities and industries, but that without increased effort the UK could lose out compared to other countries. Energy conservation and ‘green engineering technologies’ were highlighted as two examples where regional policy could help with creating jobs.

The White Paper takes up several of the themes identified by the RPC and states that sustainable development will form one of the RDAs’ five specific objectives (the other four being economic development and social and physical regeneration; business support, investment and competitiveness; enhancing skills; and promoting employment). One of the key stated aims of the RDAs will be ‘to promote sustainable economic development’ (DETR, 1997, 9) and to integrate economic, social, democratic and environmental agendas. In a separate section of the White Paper devoted to ‘Environment and Sustainable Development’ it is claimed that:

‘RDAs will place the principle of sustainable development at the heart of their programmes. To ensure this, the Government will give them a specific statutory objective of furthering the achievement of sustainable development which we will monitor closely. They will integrate environmental, economic and social objectives’ (DETR, 1997, 39).

Waste minimisation, energy efficiency and encouraging environmental technology developments are also seen as a role for the RDAs, as is the support of Local Agenda 21 initiatives. In order to implement these objectives, a key factor will be the development of a regional economic strategy for each region, which will integrate economic and social aims. These will also be the means to 'promote sustainable development and sustainable communities' (DETR, 1997, 22), although exactly how is not made clear, except that it will involve the RDAs working with local and regional partners for "environmental improvements". The main developments are left to the future publication of a new sustainable development strategy for the UK sometime in 1998 which 'will seek to identify the main themes of sustainable development policy, and show how the various strands - such as regional policy - fit together' (DETR, 1997, 40).

However, while policy statements imply that the RDAs will adopt ecological modernisation as the basis for their regional strategies, there is evidence that the environment remains peripheral to more conventional views of development. Policy reflects the adoption of "weak", or narrowly technical, forms of ecological modernisation. First, the Bill is a watered-down form of the White Paper and only calls on RDAs to take "the environment and sustainable development" into account "where appropriate". Second, despite being one of the five objectives for RDAs, sustainable development does not feature in the list of 12 RDA core functions. This is a fairly conventional list of economic development policy areas and it is simply claimed that the environment and sustainable development is merely an area where 'RDAs will also contribute to policies and programmes' (DETR, 1997, 44). Third, there appears to be a narrow equation of sustainable development with issues of the physical built environment such as reclaiming derelict or contaminated land, reusing redundant buildings and "promoting quality" in new developments. This narrow view may be encouraged by the central role that staff from English Partnerships, with their past focus on infrastructural developments, are likely to play in the new RDAs.

Overall, the impression is that environmental protection is relevant to development because high quality natural environments are a prerequisite to attract inward investment, high value employment and tourist activity. These attitudes are given added weight by the opinion that a lack of good economic performance in the regions has led to environmental degradation through a failure to invest in pollution reduction measures by firms with a poor economic performance, and business failure leading to derelict or degraded land. The implicit message is that regions need a growing economy to create the resources needed to address environmental problems. Growth must come before environmental problems are tackled, reflecting Huber's arguments for more industrialisation as the solution to ecological crisis. This view that social and environmental goals are a function of achieving economic goals conflicts with the aim of sustainable development. The reliance is upon improved competitiveness (through conventional measures) which will then enable regions to turn to addressing environmental and social problems (Gibbs, 1997).

There is also little explicit linkage made within official documentation between the RDAs and the changing criteria for the use of EU Structural Funds. While the RDAs are seen as taking a leading role in the use of the Structural Funds, there is no explicit recognition of recent EU concerns about the failure to meet environmental requirements within the Structural Fund programme at the regional level (Keller, 1997), nor of recent proposals to 'green' the Structural Funds by developing a set of environmental indicators to assess the impact of projects and strategies (European Commission, 1997). There are proposals for the RDAs to track the state and development of the regions through Regional Competitiveness Indicators 'showing the performance of each region on areas such as skills, business activity, employment, infrastructure and transport' (DETR, 1997, 13), but environmental and social indicators, that together with economic indicators can provide an assessment of sustainable development, are not mentioned. How the environmental objectives of

regional policy are to be measured is not stated, which casts doubt on how RDAs will be able to “monitor closely” the achievement of sustainable development.

While there has been a shift in thinking about the need to incorporate sustainability issues into regional policy it is not clear what this will mean in operational terms (Friends of the Earth, 1997). The White Paper is vague on the delivery of policy integration and in places equates this with a narrow view of the economic benefits to be gained and, even more narrowly, with infrastructural developments. Issues such as greater democratic involvement, equity and community involvement, which are central to the concept of sustainable development, rarely feature in the RDA proposals. Concern has been expressed that “the agencies may become forces for environmental destruction...heightened by the apparent exclusion of environmental interests from their boards and the regional chambers to which they will be accountable, and by the absence of any duty to carry out environmental appraisals of their economic development strategies” (ENDS, 1997, 39).

Ecological Modernisation: A Basis for Regional Development?

While few policy makers would perhaps recognise the term, approaches based upon ecological modernisation are increasingly becoming utilised within policy which seeks to integrate economic development and the environment. The attraction is that ecological modernisation appears to offer a solution to the problematic implementation of sustainable development. Ecological modernisation, at least in its narrow forms, allows us “to have it all” – not only does it deliver environmental improvement, but also it does so without seriously challenging existing economic practices. Indeed, insofar as it is based upon innovation, technological change and greater competitiveness, it would appear to fit closely with other attempts to modernise developed economies. It is this seeming compatibility with mainstream economic activity, if only we can be forward thinking and “modern” enough to make the ecological switch, which explains the appearance of ecological modernisation in policy. In this form ecological modernisation appears in its guise of a pragmatic programme for business and government. As Christoff (1996, 497) points out: ‘there is a danger that the term may serve to legitimise the continuing instrumental domination and destruction of the environment, and the promotion of less democratic forms of government, foregrounding modernity’s industrial and technocratic discourses over its more recent, resistant and critical ecological components’.

As a basis for sustainable development, therefore, ecological modernisation as currently conceived has a number of shortcomings. There is little or no attempt to address issues of equity or democratic participation, which are central to sustainable development. It is also weak on the potential for policy integration. Thus ecological modernisation has little to say about the form of institutional adaptation or change required to inaugurate sustainable development. Work on ecological modernisation also has relatively little to say about barriers to implementing ecological modernisation, other than seeing it as “state failure”, whereby ‘policy becomes “locked-in” to a reactive and standardised approach even though more proactive policies are available and might offer economic and environmental advantages (Gouldson and Murphy, 1997, 80). The role of the state, whether central, regional or local, is seen in some accounts as minimal (Huber, 1982) and in others as performing an “enabling” function. Again in the UK this ties in closely with New Labour’s view of the role of the state. ‘Ecological modernisation sublimates the “enabling state” as the institutional response that will secure the efficient functioning of the market economy within a framework of state regulation (Blowers, 1997). This enabling state will deliver ecological modernisation through corporatist relationships between government and industry, although co-opting environmental movements where necessary, thus ignoring issues of participation and

reducing the rest of society to passive consumers to be provided with enough information to make informed (but market-based) choices.

Indeed, ecological modernisation largely ignores the major institutional changes needed, despite being based on the notion that the necessary changes to institutions can be made (Christoff, 1996). One criticism of ecological modernisation from a theoretical approach is therefore that it fails to take account of the social processes at work, such that it relies upon a narrow technocratic and instrumental approach rather than being integrative and communicative. This approach will not lead to the type of embedded cultural transformations that will sustain factors such as environmental improvements, reduced consumption and greater equity. If ecological modernisation is to offer any useful theoretical or practical guidelines, then a more fruitful avenue would be to explore Janicke's (1992, 1997) notions of the capacity for action through investigations of strategic capacities, structural frameworks and the role of actors. This would assist in moving away from the idea that implementing policy and devolving it to lower spatial scales is a largely problem-free experience. Evidence shows that this is far from the case with regard to integrating economic and environmental policy (Gibbs et al., 1996, 1998). The implementation of policy is about the exercise of political and economic power and, while this is rarely made explicit by its proponents, sustainable development is a concept that is fundamentally political (Owens, 1994). Its realisation lies in answers to such questions as who is in control, who sets agendas, who allocates resources, who mediates disputes, who sets the rules of the game' (Wilbanks, 1994, 544). Sustainability is thus an ideological and political question, rather than simply an ecological and economic one (O'Connor, 1994). Notions of the capacity for action would highlight the processes of experimentation, struggle and conflict involved in sustainable development as opposed its objective promotion as ecological modernisation. Sustainability can only be built around value and institutional shifts in society. This said, it can not simply be the values placed on the environment which must change, but also the values and institutions which prioritise the value of capital and the maintenance of existing patterns of social relations

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