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New Instruments for Environmental Policy in the EU

New Instruments for Environmental Policy  
in the EU: An Overview

**JONATHAN GOLUB**

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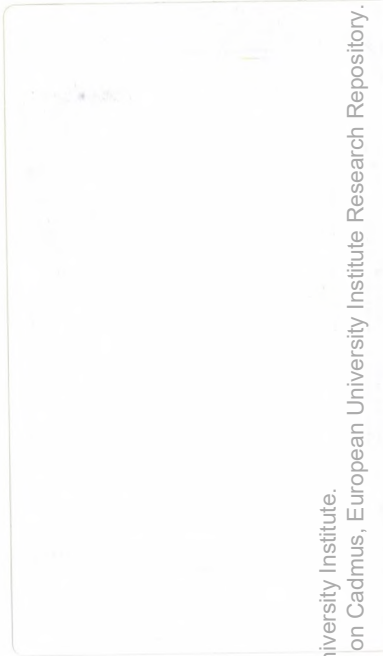


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**Golub: *New Instruments for Environmental Policy in the EU.***  
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***An Overview***



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**ROBERT SCHUMAN CENTRE**

**New Instruments for Environmental Policy in the EU**  
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**in the EU: An Overview**

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European environmental policy is currently undergoing a major transition. At the supranational level, both the Maastricht Treaty and the Fifth Environmental Action Programme herald a new era dominated by the search for more flexible and efficient instruments to replace traditional forms of regulation. At the national level, this search has been underway for some time in many of the respective member states of the European Union (EU).

This paper introduces the main issues surrounding the use of new instruments, and offers an overview of their successes and failures. The first section briefly reviews the dominance and shortcomings of the traditional command and control approach in European environmental policy. Section two has two parts, the first identifies the various types of new instrument considered throughout this volume and discusses their reputed advantages over command and control; the second identifies the domestic and international forces which have been instrumental in getting new instruments put into practice. The third section opens with a discussion of various criteria for gauging the effectiveness of new instruments. A comparative analysis of member state experience then highlights factors which facilitated successful application of each type of instrument, as well as those which have undermined their effectiveness. To gain a better perspective on developments within the EU, this section concludes with a brief examination of how new instruments have been used in the United States and Japan. The final section draws out some of the broader implications this volume's findings hold for the future of environmental policy design, the nature of governance within the EU, and the prospects for maintaining global free trade.

## **Command and Control**

Originating in the late 1960s, the first generation of environmental policies throughout the member states of the EC primarily followed the so-called "command and control" approach. Command and control is characterised by direct regulation: the government prescribes uniform environmental standards across large regions, mandates the abatement methods required to meet such standards, licenses production sites which adopt the required methods, and assures compliance through monitoring and sanctions.

The papers in this series make clear that the prevalence of command and control instruments built up throughout the 1970s generally reflected a north-south "green" divide (see also Collier and Golub 1997). Germany and the Netherlands boast particularly strong environmental records, and had extensive direct regulation covering air, water, waste, and noise in place by the mid-

1970s. Over the years each of these states set and tightened multitudes of emission standards based on what could be achieved by using the “best available technology” (BAT).

The first generation of British environmental policy incorporated greater discretion and flexibility, but the corpus of legislation built up since the nineteenth century was grounded firmly in the command and control tradition. Although less demanding than BAT, British regulation to control air pollution set emission limits according to the “best practicable means” and periodically tightened these limits in line with technological developments (McCormick 1991, Golub 1996a). For water, direct regulation made authorities responsible for ensuring the “wholesomeness” of rivers, frequently taken to be World Health Organisation (WHO) standards. Industrial discharge consents were then generally structured so that overall pollution levels would not exceed WHO recommendations. Command and control also pervaded Belgian environmental policy prior to the early 1980s. While these laws did not require the use of BAT, a variety of direct regulations set national and regional quality objectives in each sector (air, water, waste etc.).

While the four papers exploring environmental instruments in northern Europe highlight variations within a group of states sharing strong green traditions and extensive bodies of command and control regulation, the papers on Italy and Spain reaffirm the north-south dichotomy, illustrating that environmental protection has always occupied a less auspicious position in the highly fragmented policymaking of Mediterranean states (see also Collier and Golub 1997, La Spina and Sciortino 1993). Nevertheless, while regulation devised in the 1960s and 1970s was extremely patchy in southern Europe, amounting to no more than a handful of air and water laws, it too reflected a command and control approach.

In many cases the direct regulation found within European states arose from external constraints, as the expanding corpus of environmental policy adopted at the EC level since 1973 also relied heavily on command and control. EC regulations included many provisions requiring existing industrial installations to curtail pollution in accordance with uniform emissions standards, and requiring all new plants to apply Best Available Technology.<sup>1</sup>

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<sup>1</sup> BAT was included, for example, in Directive 83/513 on cadmium, and Directive 82/176 on mercury discharges. In other cases, EC law required only the application of best available technology not entailing excessive costs (BATNEEC), for example Directive 84/360 on air pollution. While many EC laws reflected this type of command and control approach, it would be an overstatement to suggest that they produced complete regulatory convergence across



Particularly in Spain and Italy, first generation national command and control instruments were put in place to satisfy the requirements of EC law, filling a pre-existing regulatory void. But even in the north, EC environmental legislation sometimes reshaped or solidified previous national measures. Prescribing uniform emissions standards and abatement technology throughout a state or throughout the EC, with attendant economic costs, was considered by many an equitable response to problems of upstream-downstream pollution, preferable to simply setting quality targets which privileged those states, regions or firms fortunate enough to avoid cross-border effluent problems. Closely bound up with the emphasis on uniformity and technical solutions was the perception that allowing industry in peripheral, isolated or sparsely populated regions to meet environmental objectives at relatively less cost than those in other parts of the EC would constitute an unfair competitive advantage which would distort the common market.

Two decades of experience revealed a number of regulatory failures associated with the traditional command and control approach. These shortcomings fall into three categories: economic inefficiency, environmental ineffectiveness, and democratic illegitimacy (see Tietenberg 1988, Eckersley 1995a).

By its very nature, command and control tends towards economic inefficiency by imposing uniform reduction targets and technologies which ignore the variable pollution abatement costs facing individual firms. In practice, marginal costs of pollution reduction vary widely amongst industries, depending on factors such as age and location of plant. From an efficiency perspective, the result is that some firms regulate too much, others not enough. Installing state of the art equipment or cutting emissions by a specified amount (for example, by three tonnes of sulphur per month) will necessarily be easier and cheaper for some plants than for others. While a designated overall level of pollution reduction could thus be achieved at less overall cost if abatement efforts were concentrated where marginal costs were lowest, command and control discourages such efficiency.

In some cases, command and control also introduces inefficiency by eschewing environmental quality objectives in favour of uniform emission standards. Consider the case of two identical firms, one located in a sparsely populated area, the other in a city. Because of the differing capacities of their local ecosystems to absorb additional units of pollution, the firms face variable

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member states. The nature of EC directives as well as certain political considerations has provided states with a measure of discretion when setting BAT and BATNEEC standards.

abatement costs and would therefore have to make drastically different reductions in their emissions to meet the same quality targets. Uniform emissions standards and BAT produce inefficiency by imposing identical costs—not allowed to take advantage of its favourable location, the rural firm is forced to overregulate and jeopardise its economic performance; at the same time, even tougher standards and penalties beyond BAT might actually be required for the urban firm to meet acceptable pollution levels or compensate for environmental damage.

Finally, command and control contributes to inefficiency because it stifles incentives to reduce emissions beyond mandated levels and to develop innovative pollution control technology. Rather, the prescription, license and monitor approach generates a static situation where, having installed a designated technology or achieved a certain level of emissions, polluters would only incur unilateral costs and competitive disadvantages from further reductions. BAT rules are particularly effective in stifling innovation, because firms are forced to adopt expensive equipment regardless of whether other, and sometimes more radical, solutions might be found at less cost (von Weizacker 1990:202).

Command and control is not only an expensive approach to pollution reduction, but one which, according to many analysts, has also reached the limits of its environmental effectiveness. To a large extent the two are related, as adoption of new and increasingly stringent emissions limits and technologies intended to safeguard the environment encounter intense political resistance when seen as excessively costly. But regulatory failures also plague current policies, for instance when fiscal austerity forces governments to curtail the expensive oversight and enforcement mechanisms vital to command and control, resulting in rampant non-compliance.

A third criticism levelled at the command and control approach is that it lacks democratic legitimacy (Eckersley 1995b, Dryzek 1995). Regulatory bodies responsible to the public for identifying environmental problems, standard setting, determining what constitutes the best available technology, and enforcing compliance develop close and often dependent relationships with industry because of the latter's detailed knowledge of, and direct interest in, polluting activities and potential abatement options. As currently constructed, command and control instruments fail to alleviate the information asymmetries which effectively exclude the general public and environmental interest groups from the decisionmaking process and allow polluters to “capture” regulators,



thereby shaping or blocking environmental policies in accordance with their own economic self-interests.<sup>2</sup>

## **The shift towards new instruments**

### *An arsenal of new instruments*

The limitations and regulatory failures of the traditional command and control approach have sparked a search at both the national and EU level for a second generation of instruments which promise greater flexibility, efficiency and effectiveness.<sup>3</sup> States have experimented with an impressive range of new tools, some of which might be classified as “economic” and “suasive” instruments (OECD 1994b:16). The former category includes several types of environmental taxes and charges, comprehensive “green tax reform”, tradable pollution permit systems, government subsidies for environmental improvement, and deposit/refund schemes. The latter group consists of ecolabels, ecoaudits, and voluntary environmental agreements. A third class of new instruments which receives less attention in this volume focuses primarily on altering liability and insurance rules in a manner which benefits the environment. An extensive literature discusses the economic theory underpinning this wide range of potential new tools, as well as their individual merits (Tietenberg 1988, Helm and Pearce 1990, Hahn 1993, Teubner et al 1994, HoL 1993).<sup>4</sup>

New instruments are intended to provide the efficiency and positive incentives which command and control lacks. Taxes and charges levied on each unit of emission force firms to internalise the costs of their pollution, thereby better achieving the Polluter Pays Principle, but they also allow industry the freedom to optimise its reduction methods. Tradable permits and voluntary agreements achieve the same end by setting long-term environmental goals without prescribing specific abatement technology. Latitude to find the most

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<sup>2</sup> The theoretical underpinnings of the capture model were developed by Stigler (1971) and generalised by Peltzman (1976). For evidence of capture in various policy sectors, including the environment, see Francis (1993), Bishop, Kay and Mayer (1995), McCormick (1991).

<sup>3</sup> The deregulation debate in Europe and the US, and its relation to environmental policy, is also discussed in the two accompanying volumes of this series (Golub 1998b, Collier 1997).

<sup>4</sup> Many aspects of the debate over new environmental instruments stem from the seminal work of economists such as Coase (1960) and Pigou (1952).

cost-effective means of reducing pollution improves static efficiency, but more importantly it yields dynamic efficiency by providing incentives for firms to pursue constant pollution reduction and technological innovation (Carraro and Siniscalco 1993, Eckersley 1995b:9, EC 1992, 1993, 1994). Each successive reduction in emissions saves the firm from paying tax, allows it to sell its tradable permits to “dirtier” competitors, or allows it to meet future targets at lower cost.

Compared to command and control, ecolabels and ecoaudits also substantially reduce the regulatory burden on firms because they prescribe neither targets nor technologies. Rather, these instruments generate incentives for pollution reduction by harnessing the market power of “green consumerism”. Armed with the information which labels and audits provide about the content and manufacturing process of products, and about the internal environmental performance of firms, consumers will be able to express their preference for environmentally friendly behaviour, and firms will be forced to respond accordingly or else lose market share.

Ecoaudits also provide several other potential advantages over command and control. First, industry expects to improve relations with green consumers banks and insurance companies by publicising official certification of their environmental commitment. Environmental audits can also reveal new knowledge about a firm’s production process, and they often illuminate means of improving efficiency and curtailing consumption of natural resources, both of which result in substantial savings. Compared with traditional forms of direct regulation and BAT rules, ecoaudits can also introduce a desirable dynamic element, providing even the worst polluters with positive incentives for future environmental improvement.

Proponents of new instruments suggest that governments also stand to profit by reducing their reliance on command and control, because market-based and suasive tools require less expenditure on implementation and oversight. Furthermore, green taxes might represent a politically popular and lucrative source of government revenue.

Another important advantage attributed to new instruments is that they decrease regulatory capture and lend legitimacy to environmental policy by substituting direct public involvement for command and control’s infamous “poacher and gamekeeper” relationship between industry and regulatory bodies. Labels, audits and ecotaxes allow consumers to decide for themselves the value they place on environmental improvement. Voluntary agreements also have the potential to improve the legitimacy of environmental policy by involving



industry in close consultation rather than open confrontation with government. Widening the range of parties participating in the consultation process to include green groups and local community officials further enhances the legitimacy of eventual decisions. Japanese experience with voluntary agreements suggests that industry is willing to disclose important information necessary to set ambitious targets because they consider them economically feasible, and also because they benefit from the trust developed with local communities (Rehbinder 1994).

### *The widespread appeal of new instruments*

The use of new instruments varies widely amongst member states, as do the reasons for their introduction. This working papers series illustrate the range of domestic and international pressures animating the shift away from command and control: the ascendance of new economic paradigms and political ideologies, demands from industrial groups, the agendas of certain political parties, pressure from environmental or academic organisations, and the requirements of EC law. While in most cases all three of the above considerations (cost, effectiveness and legitimacy) influenced policy change, each author has attempted to identify more precisely the timing of reform and the interplay of domestic and international politics which yielded new tools. For example, academics and think tanks have played a particularly important role in Britain and Belgium, while EC law has been the driving force in Spain and Italy.

Industry groups have been instrumental in placing new instruments on the political agenda. Their primary concern, not surprisingly, is that the ability of EC firms to compete in the global economy requires lightening the “burden of regulation” (EC 1995:10 part 2) which poses unnecessary “costs, rigidities and obstacles to innovation” (EC 1995:ii). Industry supports most alternatives to direct regulation, arguing that they will improve environmental protection while reducing compliance costs, but has expressed a strong preference for suasive instruments (information schemes and voluntary programmes) over other types of new tools (EC 1995:2,52 part 2, UNICE 1993, but see Hahn 1995:151-2).

But industry has also exhibited some ambivalence towards the shift, in part through sheer hypocrisy, but also because of the uncertainty and transaction costs they face by abandoning what is often a well understood regulatory approach over which they exercise considerable influence. In some cases, discussed below, the industry perspective on new instruments involves mixed

motives, for instance when dealing with free-rider problems or when the interests of large and small firms diverge.<sup>5</sup>

An interesting theme which recurs throughout the country studies is the gradual conversion of environmental NGOs and Green Parties, from an initial position of scepticism regarding new instruments towards one of guarded enthusiasm. In Germany, the Green Party was split in the late 1970s and early 1980s between pragmatic and fundamentalist factions, only the former of which supported gradual reform and experimentation with new tools. Over time, this group and their agenda gained control of the Green Party as fundamentalist objectors were marginalised (WP RSC 98/14). Italian NGOs resisted new tools in the 1970s, fearing that they would provide insufficient environmental protection and objecting on ethical grounds to what they viewed as a "right to pollute", but have since given full support to new instruments as a means of overcoming regulatory failures of command and control (WP RSC 98/18). UK NGOs have consistently opposed new instruments, but seem recently to have accepted them as inevitable and turned their attention towards ways in which the regressive effects of green taxes might be alleviated.

But enthusiasm has its limits, and a number of NGOs have cautioned that a rush towards new instruments should not lose sight of the fact that reregulation rather than indiscriminate deregulation is required (EEB 1995:4). The highly publicised Molitor report on "legislative simplification" in the EU (EC 1995) received a particularly cool reception from environmental NGOs, who feared that it heralded a reckless repatriation of environmental competences at the expense of necessary supranational legislation (EEB 1995). It should be noted however, that the Report's recommendations even elicited a dissenting opinion within the 'group of experts' which admonished the Commission to replace direct regulation with new instruments on a selective basis in order to safeguard the environment, rather than to fulfil an ideological deregulatory objective.<sup>6</sup>

International pressures have also played an important part. Since the early 1970s, the OECD has consistently promoted widespread use of new

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<sup>5</sup> Some authors in the public choice tradition have suggested that firms prefer direct regulation to new instruments because it serves as a barrier to market entry and therefore results in higher profits (Buchanan and Tullock 1975). Similarly, large firms might prefer stringent environmental regulations to block the entry of smaller competitors (Grant 1997).

<sup>6</sup> A dissenting opinion which deplored the Molitor report's treatment of environmental issues basically as obstacles to economic activity was expressed by Pierre Carniti, an MEP and former General Secretary of the Italian Confederation of free labour unions, and Goran Johnsson, President of the Swedish Metalworkers' Union (EC 1995:16).



environmental instruments (Eckersley 1995b:9-10, OECD 1975, 1989). The supranational institutions of the EC, particularly the Commission and European Parliament, have expressed similar overwhelming support, and new tools figure prominently in the Community's most recent (fifth) Environmental Action Programme (EP 1994:12-14, EC 1992:6-7, 1993, 1994). Commission documents cite many advantages of new instruments over the traditional command and control approach, including their greater flexibility, their cost-effectiveness, and the incentives they provide firms to internalise the negative externalities associated with pollution. Moreover, the shift away from command and control provides a greater sensitivity for the varying absorption capacity of regional ecosystems, the exploitation of which, according to the Commission, constitutes an "entirely legitimate source of comparative advantage" (EC 1992:5, EC 1996b:7,10).

Despite its enthusiastic support, however, the EU has been less successful in adopting new tools at the supranational level than it has been in encouraging national experimentation with a variety of market-based and suasive instruments. The effectiveness of these instruments and the problem of accommodating national diversity within a common EU framework is taken up in the next section.

### **Gauging the effectiveness of new instruments**

There is widespread agreement that the effectiveness of new instruments depends largely on their ability to harness market forces in favour of environmental protection. There is considerably less agreement, however, on what constitutes an acceptable level of pollution and the extent to which market forces should be entrusted to determine this for society. How one answers these questions fundamentally alters the optimal design of any instrument and in part determines the appropriate standards for judging its success.

The so-called "free market environmentalism" (FME) debate (Eckersley 1993) exemplifies the competing philosophies amongst proponents of new instruments. Supporters of FME favour reducing pollution to an "optimal" level--defined as the amount of reduction which consumers are willing to pay for once the full social costs of negative externalities are reflected in market prices--while their opponents advocate pollution levels consistent with sustainable growth. The latter levels are far lower than what a market equilibrium would render, and therefore depend on purposeful government imposition of targets. The radical FME perspective is often, but not exclusively,

espoused by conservative or libertarian American think tanks (Anderson and Leal 1991, Smith and Jeffreys 1993).

The extreme FME position enjoys little support throughout the EU. Rather, a broad consensus of actors advocates re-regulation rather than deregulation because a totally “free” market misallocates natural resources and produces inadequate incentives to prevent environmental degradation.<sup>7</sup> The major players accept the proposition, which Weale suggests “is so banal as to require little justification” (Weale 1993:158), that “the philosophy underlying [new] instruments is that the market should be used for economic efficiency purposes in a merely instrumental way in order to achieve environmental policy goals that continue to be set by the state” (Rehbinder 1994:147). Even the Molitor report advocates that new tools should “be designed to achieve a required level of quality” expressed as targets set by government (EC 1995:14).

This suggests that the design and effectiveness of new environmental instruments should be judged on three criteria: first, how well they curtail pollution to levels consistent with sustainable development; second, the savings they render in compliance costs; third, the extent to which they enhance the legitimacy of environmental policymaking. These criteria mirror the shortcomings of conventional command and control regulation. As the papers make clear, however, these criteria are largely independent and frequently conflictual. Moreover, their order of importance is ranked differently by various interested parties.

### *Green taxes and subsidies*

Environmental taxes on polluting activities can take many forms, and are designed to raise revenue, alter the behaviour of polluters, or both. The most widespread use of charges in the EC has been simply to raise cash or to cover the operating costs of treatment plants. Revenue raising taxes have been used by most states, in both the north and south, to finance treatment plants and cover administrative costs of controlling water, air and waste pollution.

In contrast to revenue raising taxes, incentive taxes seek to encourage environmentally friendly production and consumption patterns. Differential tax rates (for example the “fuel escalator” in the UK) have been widely used,

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<sup>7</sup> Markets invariably fail to provide public goods, neglect negative externalities in prices, and encourage myopic planning horizons. For a discussion of these and other shortcomings, see Panayotou (1993).



particularly to encourage greater use of unleaded petrol and low sulphur fuel oil. Tax differentials have also been established, mostly in the northern member states, to subsidise the purchase of cars which meet stringent emissions standards several years before these standards take effect. Five member states have already adopted CO<sub>2</sub> taxes, while others, including Italy, are conditioning theirs on adoption of a similar instrument at the EU level. British and Italian charges on waste deposited in landfill constitute an interesting new example of green incentive taxation, and many of the papers identify a range of other proposed environmental incentive taxes, for instance vehicle taxes and motorway tolls in the UK, and a sustainable tourism tax in Italy.

One of the broadest and most ambitious attempts at green incentive taxation was made by Belgium in 1993. As Deketelaere explains, the “ecotax” was intended to alter consumer behaviour substantially, over a wide range of products, but industry resistance and poor initial design undermined its implementation and has partly limited its effectiveness. Nevertheless, re-use of packaging, batteries and cameras has increased, suggesting that industry responded to provisions in the tax which offered them exemptions for establishing recycling systems (WP RSC 98/16). Like Belgium, taxes have been used to support recycling not only in many of the northern member states, but also in Spain and Italy, partly as a means of implementing the EC Directive on Packaging Waste.

When taken together, do all of these individual taxes amount to a substantial “greening” of national tax systems? Unfortunately not. In 1993, environmental taxes contributed only 1.5% of the total taxes raised in the EU while energy taxes comprised 5.3%, and only the latter has risen noticeably since 1980 (EEA 1996:24-26). In fact, for Italy and the UK, the proportion of total tax revenue provided by environmental and natural resource taxes was significantly higher in 1970 than in 1990 (EEA 1996:51). Moreover, the modesty of these figures does not reveal the full extent of the problem. Existing revenue raising taxes do not always fully cover the operating costs of treatment plants, and even when they do, cost recovery by itself does not indicate that sufficient pollution reduction is taking place. Britain, for example does not tax the actual volume of pollution treated. In Spain, water taxes have generally failed--many firms and municipalities have never paid, and many regions have simply not implemented the tax provisions (WP RSC 98/17). And incentive taxes, even when implemented, fall far short of inducing producer and consumer behaviour consistent with sustainable development. Clearly a much more aggressive and comprehensive system is required.

Although many states are considering comprehensive environmental tax reform, and five have established special tax commissions for this purpose (Belgium, Denmark, Finland, Netherlands, Sweden), it remains an elusive goal. For one thing, states have not dismantled the myriad of subsidies and levies which favour environmentally harmful activities and externalisation of pollution costs, such as the use of dirty coal, airline fuel, and pesticides (WP RSC 98/22, EC 1996). These cases illustrate the importance of dealing with environmentally harmful activities which currently go untaxed.

Widespread use of green taxes has also been plagued by two important distributional problems--the fear of eroding economic competitiveness and the regressive nature of certain taxes (EEA 1996:33-34, OECD 1994a, Smith 1995). To deal with regressiveness, many national tax schemes incorporate cut-off points and exemptions, so that the poorer segments of society are not deprived of essential goods such as water and electricity. Similarly, Italian energy taxes vary substantially according to region, thereby offsetting regressive impacts in the south (WP RSC 98/18). Failing to incorporate such mechanisms can have a high political price. A British proposal to raise the level of VAT on fuel was defeated mainly because it would have imposed disproportionate costs on lower income households, and the new Labour government has pledged to reduce or eliminate this tax.

Issues of economic competitiveness have always played a central role in the formation of environmental policy at both the national and EC level (Golub 1998b), and now look set to occupy an equally pivotal position within the new generation of environmental instruments, particularly green taxes.<sup>8</sup> As mentioned previously, while industrial groups have been vocal advocates of a shift away from command and control for economic reasons, they have frequently pleaded that green taxes would merely increase their production costs relative to competitors, resulting in lost market share, higher unemployment, depressed growth, and stifled investment.

The inability to resolve distribution and competitiveness issues amongst twelve (now fifteen) member states, combined with unanimous voting requirements and considerations of subsidiarity, has prevented the adoption of green taxes at the EU level, the deadlocked carbon tax proposal serving as the primary example (WP RSC 98/22, see also Heller 1998, Golub 1996b). Unable to muster sufficient political support for supranational legislation, the

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<sup>8</sup> Several of other volumes of this series deal specifically with economic competitiveness and new environmental instruments (Heller 1998, Vogel 1998, Porta 1997).



Commission has explored ways of allowing member states greater latitude to implement their own new instruments (see below).

Advocates of ambitious green laws deny this presumed negative relationship between environmental standards and economic competitiveness, and suggest instead that stringent environmental laws, when properly designed, actually promote the competitive advantage of firms--the so-called "win-win" thesis (Golub 1998a). This claim is also a central element of the "ecological modernisation" paradigm (Weale 1992). Two of the fundamental arguments offered in support of the win-win hypothesis have been that first, because new instruments exhibit proper design, they are more cost-effective than traditional regulatory tools, and therefore encourage more efficient use of resources and lower production costs; secondly, their design also generates incentives for investment in environmental research and development, the fruits of which can then be sold to competitors, enabling 'first movers' within the EC to capture the lucrative global market for pollution abatement technology and services (EC 1992). The Commission has gone as far as to suggest that "a stronger reliance on market based instruments is the key" to the success of sustainable development and of efforts to construct a positive relationship between economic growth and the environment (EC 1994:2). A win-win strategy has also underpinned green tax proposals in several member states, including Italy and the UK.

Even amongst advocates of new environmental instruments, however, opinion is divided over how to design green taxes which will enhance rather than undermine economic competitiveness. The most pervasive line of thinking suggests that in order to resolve distribution problems, offset costs and spur tech innovation and diffusion, it is essential that the proceeds of such taxes be earmarked for specific uses, rather than increasing the overall level of taxation (EC 1996, OECD 1994a, Anderson 1994, EEA 1996:34-36). Revenue can be funnelled directly back to firms in the form of research and development subsidies, or can be used to maintain "fiscal neutrality" whereby the government retains its overall revenue level while cutting the rates of other taxes payable by firms, such as those on labour and profit. Proponents of this view argue that CO<sub>2</sub> taxes, for example, fail without such R&D subsidies (Carraro and Siniscalco 1993).

Experience from the Netherlands illustrates the controversy over alternative uses of green tax revenue. Despite flowing into the general budget, Dutch water and fuel levies have proven effective in reducing pollution (WP RSC 98/15). But Liefferink notes that this success might be a product of exceptional circumstances, and greater environmental improvement might have resulted

from targeted use of the tax revenue. It is thus not surprising that earmarking in these fields is now under consideration. Interestingly, the Dutch CO<sub>2</sub> tax, which lacks earmarking, has yielded only a 1% reduction in emissions (EEA 1996). Moreover, Dutch industry has demanded that all new environmental charges should be returned to them in one form or another.

Another way to avoid eroding economic competitiveness is simply to exempt industry from paying green taxes. This became a centrepiece of the EU carbon-tax proposal, and existing or planned carbon taxes in most member states also include provisions exempting energy-intensive sectors which would have been hardest hit (Netherlands, Italy, Germany) (EEA 1996). Such exemptions diminish political opposition from the business community, but exact a corresponding environmental price as the most polluting industries escape taxation and thus avoid internalising the full social costs of their actions.

Closely related to recycled tax revenue, another new instrument for improving environmental protection is for governments to provide firms with subsidies in the form of grants and low interest loans, which are used to purchase clean technology or acquire environmental management expertise. While an earlier OECD report found green subsidies generally negligible (OECD 1990), other studies have concluded that outside of the cohesion states subsidies are substantial and have risen since the early 1980s (Clement 1995). Contributions in this series suggest a mixed picture. In Belgium, subsidies are present but negligible, while in Spain, the government has channelled funding for research and development into clean technology. And in the UK, which generally eschews subsidies, a fossil fuel levy encourages the use of "clean energy sources. However, it has received mixed reviews because 90% of the funds have gone towards nuclear energy production.

Green taxes linked with subsidies might offer an attractive form of new instrument, but there are serious obstacles to this approach. Most importantly, the levying of national environmental taxes, the introduction of differentiated taxes, and the earmarked use of tax revenue each have the potential to violate EU and GATT/WTO laws designed to maintain the common market and free international trade (Golub 1998b, Vogel 1998, Esty 1994). Depending on their design, green taxes can function as discriminatory barriers against foreign firms and products, and the recycling of tax revenue can contravene rules on state aid and competition. This becomes particularly worrying if, as many have suggested, the success of green taxes and of win-win scenarios depends on completely offsetting the cost of environmental charges with earmarked revenue and subsidies. In light of the potential conflict between environmental and common market objectives, the Commission has undertaken the difficult task of



devising guidelines which will serve as a legal framework in which member states might experiment with green taxes without violating EU law (see also Grabitz and Zacker 1989). Whether such rules survive WTO scrutiny remains to be seen.

Compared to command and control measures, do green taxes deliver a reduction in administrative costs as advocates suggest? As with their contribution to environmental improvement, experience reveals less than spectacular results. The margin for cost savings is reduced substantially when one recognises that setting appropriate objectives and charges for new instruments in a deregulated climate demands the same level of information about firms, consumers, and environmental degradation as devising BAT and other command and control standards (Heyvaert 1997, Weale 1993). Furthermore, green taxes require oversight, monitoring, and enforcement mechanisms appropriate for dealing simultaneously with the environmental behaviour of industries, consumers and households. Sometimes sufficient mechanisms are already in place from previous command and control laws. But not always, and environmental tax regimes entail substantial expenditure when new administrative structures must be designed or old ones reconfigured. Under certain circumstances, oversight of BAT installation might actually prove an easier and more cost-effective approach (Jacobs 1995:58, EEA 1996:39). To take two examples from the country studies in this series, the Belgian ecotax cost more to construct and oversee than it has yielded in revenue (WP RSC 98/16). And until the full introduction of water metering in the UK, regulators will clearly possess insufficient information to levy and enforce incentive taxes (WP RSC 98/13).

### *Voluntary Agreements*

New instruments can also take the form of 'voluntary' agreements, whereby governments enter into negotiations with industry over the extent and timing of feasible environmental improvement, without mandating any particular pollution abatement method. Also known as negotiated agreements or covenants, these instruments have been used in most member states--to meet EC packaging waste goals, to reduce CO<sub>2</sub> and SO<sub>2</sub> emissions, to phase-out CFCs, and to improve energy efficiency--but are particularly prevalent in the Netherlands, with its strong tradition of consensual politics (WP RSC 98/15).

Proponents contend that compared to command and control, voluntary agreements provide flexibility, cost savings, and a sense of regulatory legitimacy, in exchange for which firms will agree to more ambitious environmental goals. But reaping these benefits depends on proper instrument

design. Studies suggest that an absence of essential provisions has rendered 50% of Dutch covenants ineffective, while many agreements in the UK suffer from these same deficiencies (WP RSC 98/13 and 98/15). Spain has also made use of voluntary agreements, but it is too early to judge their economic or environmental results (WP RSC 98/17).

Successful voluntary agreements, and Biekart discusses quite a few, share four design characteristics (WP RSC 98/19). First, they must contain substantive commitments--quantifiable environmental targets and timetables rather than ambiguous industrial promises to eventually reduce pollution. Second, there must be a "stick behind the door"--the threat of direct regulation if industry fails to meet the covenant's environmental objectives. Third, both the negotiating process which leads to an agreement and its subsequent implementation must be transparent in order to guarantee enforcement as well as legitimacy amongst the maximum number of concerned parties. Fourth, voluntary agreements should be legally binding.

In many cases, however, agreements do not include these characteristics. Substantial information deficits have hindered the effectiveness of many agreements, and there is little evidence that the situation is set to improve--less than 1% of firms publish annual environmental reports, and industry opposes the creation of pollution registers (WP RSC 98/19, see also EC 1995:17). A major problem with previous agreements, including several in the Netherlands and the UK, has been the exclusion of NGOs from all negotiations, or their restriction to early stages of discussion (WP RSC 98/13 and 98/15, EC 1996a:28). As Deketelaere points out, without full access by all interested parties, industry domination (and withholding) of information biases the "agreement" against environmental protection (WP RSC 98/16).

What accounts for the large number of agreements lacking one or more of Biekart's essential characteristics? A number of political and legal considerations have played a part. The disappointing results from previous 'gentlemen's' agreements did encourage many EC states (including Germany, the Netherlands and Belgium) to shift towards a more legal approach (WP RSC 98/14 and 98/16, EC 1996a:23-24,28). In the UK, a similar evolution has occurred in the area of pesticide control (Baggott 1986:64). Despite the environmental attractiveness of greater legal formality, however, such agreements have dubious political viability because industrial groups view them from a position of mixed motives: firms welcome legally binding agreements because they prevent free riding, but nevertheless remain sceptical, fearing that legality sacrifices industry discretion over the timing and means of achieving implementation. Industry's sensitivity to maintaining discretion might prove



insurmountable, as seen in Flanders, where not a single agreement has been concluded since they became legally binding in 1994 (WP RSC 98/16).

The legal nature of an agreement affects government actions as well as those of firms. For industrial groups, the attractiveness of voluntary agreements also depends on the government's ability to forego future regulations for a set period of time, a promise frequently made but a legal power which remains very much contested (EC 1996a:26, Rehbinder 1994). EU legislation injects additional uncertainty, in that BAT requirements, new standards, and other disruptions to investment schedules can enter 'through the backdoor' despite government assurances, undermining industry's reasons for concluding an agreement in the first place. Belgian agreements, for instance, specifically allow for new rules imposed by Brussels (WP RSC 98/16).

While the lack of targets, transparency, potential regulation and legality explains the failure of many agreements, several other problems have also emerged. One is the difficulty of gauging 'baselines'--the amount of pollution reduction firms would achieve by themselves absent a voluntary agreement.<sup>9</sup> Underestimating the baseline will lead to relatively lax targets compatible with status quo trends and 'business as usual'. This offers minimal environmental improvement, certainly much less than what technology would allow.

Another problem concerns the scope for technological innovation and cost savings provided by voluntary agreements. Have agreements allowed industry greater flexibility over the means of reducing pollution, lowered their compliance costs and spurred development of clean technology? The answer is difficult to determine, particularly when some covenants retain provisions requiring firms to adopt a certain type of technology; a sure recipe for stifled innovation according to some (Carraro and Galeotti 1995). On the positive side, Dutch chemical covenants retain BATNEEC but provide greater flexibility on the timing of its implementation. Several companies estimate that they have saved 10% in administrative costs.

As yet there have been no voluntary agreements concluded at the EU level, although the Commission claims that they could be used in many areas. Instead, much like the case with green taxes, the Commission has developed an EU framework which encourages greater use of voluntary agreements within the

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<sup>9</sup> Problems related to calculating baselines, or 'benchmarking', also arise with green tax schemes (OECD 1994a), and generally make it difficult to compare the effectiveness of new instruments with that of command and control, a methodological point which is discussed in more detail at the end of this text.

member states and stresses the need for proper instrument design along the lines discussed above (EC 1996a).

### *Ecolabels*

Instead of taxes or direct regulation, many states have employed ecolabels, suasive tools designed to achieve similar pollution reduction indirectly by providing consumers with greater information about the environmental qualities of specific products. Polls suggest that many people prefer to buy green products when possible, and are even willing to pay a higher price for them; armed with proper information, these green consumers can reward environmentally friendlier brands with greater market share (van Goethem 1992). But this becomes a perplexing task amidst the current deluge of advertisements extolling the environmental friendliness of nearly every available item. Ecolabelling schemes therefore involve harmonised or standardised procedures and logotypes, often with third party evaluation, all of which allows consumers to distinguish between “greenwash” and legitimate environmental claims.<sup>10</sup>

Within the EC, national ecolabels have proliferated since the late 1970s, and consumers were eventually confronted in shops with the German Blue Angel (1978), the Scandinavian White Swan (1989), and the French “NF-Environnement” label (1992), to name just a few. While these national labels achieved a certain level of success, encouraging greener consumption patterns in several member states (particularly in Sweden, as Eiderström notes), they also generated some environmental and economic problems in the context of extensive intra-EC trade. Not only did it become increasingly difficult for shoppers to discern the merits of competing official labels, so that they would trust a local label regardless of the standards it represented, but the fact that national labelling criteria could be used to discriminate against other EC producers threatened to undermine the common market. States can easily adjust their label criteria to favour domestic products and production processes. And even without discrimination, EC producers of green products wanting to penetrate neighbouring markets faced enormous transaction costs from having to make separate applications for each national ecolabel.

Many argued that a single European-wide ecolabel would resolve these problems, and it was against this background that the “EU Flower” was adopted

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<sup>10</sup> One interesting solution was a 1991 Belgian policy which allowed a tribunal to suspend misleading environmental publicity, including misleading environmental information on labels.



in 1992. However, as Eiderström discusses in his paper, the scheme has been plagued by considerable disagreement within the Commission as well as amongst member states over the development of criteria for individual products. The Commission has undertaken reforms to streamline the process, but as of mid-1997 only five standards had been adopted.

Experience with the EU Flower and various national programmes highlights the fact that, like green taxes and voluntary agreements, the effectiveness of ecolabels hinges on resolving contentious matters of instrument design. Most importantly, there must be consensus on the criteria for conferring an ecolabel: will they reward the reduction of pollution caused during the production process, the omission or inclusion of certain product ingredients, or the curtailing of environmental damage caused during the product's use and disposal? The so-called "cradle to grave" approach, which applies life cycle assessment (LCA), represents an attempt to synthesise, rather than arbitrarily weight these factors. Nevertheless, intense debate has arisen amongst member states and with the EU's trading partners over how to apply LCA properly.

Like voluntary agreements, openness and transparency is also critical in the design of ecolabel programmes. When all interested parties enjoy access to the criteria setting process, ecolabels can improve the legitimacy of environmental policy by substituting direct consumer and NGO involvement for the agency capture found so frequently under command and control. According to Eiderström, many national ecolabels, as well as the EU Flower, fail to deliver adequate transparency because criteria are devised within standardisation bodies or under other conditions where access to information is dominated by industry. Guaranteeing sufficient access to a wide range of firms, both large and small, domestic and foreign, is also an important factor in building legitimacy and averting trade distortions.

As with many of the new instruments discussed in this volume, ecolabels encounter serious legal impediments with EU and WTO rules. A diversity of national labels, each of which adopts a different form of LCA and neglects access and appeals procedures for firms in neighbouring EU states, will almost certainly generate trade barriers and violations of the treaty's rules on competition. In lieu of a convergence amongst national instrument design and criteria procedures, the imposition of the EU Flower as a common ecolabel might avert some of these EU legal problems. In an international context governed by WTO rules, however, convergence (or the use of a single ecolabel) might have to include non-EU states, because the EU Flower itself has been attacked by the US, Canada and Brazil as discriminatory and based on improper LCA (Vogel 1998).

Even if it were possible to surmount the legal and economic obstacles discussed above, it remains unclear whether the optimal environmental solution consists of a single EU label or continued national diversity. Having already made substantial commitments to national labelling schemes, will consumers and industry see the value of an EU label? Even if this means suspending well-known schemes such as the Blue Angel and White Swan while protracted debate continues over the EU Flower?<sup>11</sup>

### *Ecoaudits*

Environmental management systems (EMAS), often referred to as ecoaudits, are a second type of entirely voluntary suasive instrument. They work as follows: in exchange for official government confirmation of their efforts, firms undertake a comprehensive assessment of their production processes and commit themselves to achieving steady improvement in environmental performance. Confirmation comes in the form of a certificate that a firm has met a certain standard of environmental management. Standards have developed at a national level within the EU--for example the British standard--as well as at the supranational level, where work on ISO ecomanagement criteria preceded the adoption of an EU EMAS.

Taschner's analysis (WP RSC 98/21) makes clear, however, that NGOs remain somewhat ambivalent about the merits of EMAS. She cautions that ecoaudits often include a myriad of loopholes, and that even when these can be remedied EMAS must not provide an excuse for the dismantling of more demanding forms of environmental regulation. As with ecolabel schemes, NGOs are also critical of the process whereby EMAS criteria develop within standardisation bodies which lack transparency and are dominated by industry.

Here again instrument design and accommodating diversity within the EU and global trade context emerge as the two problematic issues. In terms of design, there has been considerable disagreement over which "experts" are qualified to perform the tasks of verifying and certifying industrial compliance with ecoaudit standards. While independent certifiers who maintain an arms-length relationship with industry might have incentives for more rigorous oversight, they could lack the technical sector-specific expertise to perform their task properly, whereas certification by a self-administering industrial body

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<sup>11</sup> Eiderström argues that states shouldn't be forced to wait for EU consensus on LCA, although she expects to see a "long run convergence on criteria".



might provide greater technical competence but runs a high risk of regulatory capture and clientelism.

Diversity amongst the various member state ecoaudit programmes, and the attendant risk of market distortion and consumer confusion, generated demand for some form of coordination. Options include widespread use of a single national standard, universal adoption of the EU's own EMAS, or a consensus in favour of a global ISO standard. Environmental groups favour the second option because ISO standards are considerably less demanding than EMAS (WP RSC 98/21). Within the EU states have disagreed over the merits of worldwide harmonisation on the basis of a single ISO ecoaudit standard, the superior environmental characteristics versus the potential competitive disadvantages flowing from EMAS, and the legality of strict EU ecoaudit standards under GATT/WTO rules. For the moment, therefore, a fourth option has prevailed: in response to industry demands, EMAS regulation was altered to allow certification of sites which met national or international standards deemed to "correspond" with EMAS. This requires "bridging" their differences, and has resulted in serious problems of demonstrating equivalence between different ecoaudit standards.

In terms of effectiveness, ecoaudits might have illuminated some cost cutting opportunities for firms, but have these firms fulfilled their promise of steady environmental improvement? Generalisations are difficult because EMAS does not yet enjoy widespread use, so any environmental improvements that did result from this instrument are certainly not pervasive throughout the EU, while many national schemes are too recent to assess their effects. Nevertheless, available evidence suggests considerable room for improvement. In fact, as of 1997 firms in Germany comprised a staggering 70% of all the EMAS registrations given out since 1993. Moreover, nearly all the firms which sought certification already met the standards, so even where it has been used it is questionable whether EMAS has exerted pressure for steady improvement.

One factor limiting the environmental effectiveness of current ecoaudit schemes, as well as their legitimacy, is a lack of transparency. Public statements required from firms under the terms of EMAS are not very demanding, making it difficult for interested parties to gauge compliance with environmental targets or the scope for possible industrial improvement. Encouraging firms to reveal additional information has not been easy because of the serious risk that it could be used against them; transparency increase the chances of being found liable for violating current or previous environmental laws. Indeed, Taschner argues that EMAS is only valuable if accompanied by other regulatory instruments, among which she includes liability rules. It is perhaps not surprising, therefore,

that EMAS statements often fail even to provide the required information. Evidence from Germany, Belgium and Spain also suggests that ecoaudits create widespread disincentives for firms to reveal information because doing so can lead to prosecution (WP RSC 98/14, 98/16, and 98/17). Alert to the tension between information provision and self-incrimination, environmental NGOs, industrial groups and local authorities are now faced with the broader question of whether ecoaudit schemes require or preclude liability regimes. The issue is ever more pressing in countries where liability and insurance schemes are themselves becoming increasingly popular instruments of environmental protection (Spain and Germany).

### *Tradable permits*

Much of the literature on new environmental instruments focuses on systems of tradable permits which establish competitive markets amongst firms for emissions “credits” originally allocated by the government. Because firms have strong incentives to reduce their pollution levels and sell excess credits to less efficient competitors, tradable permit systems can reduce the overall compliance costs of achieving a given level of environmental protection, and induce technological development which facilitates steadily greener production. Compared to the US, where permit systems have been widely used with considerable economic success (Dudek and Willey 1994, Hahn 1995), the EU has limited experience with this type of new instrument and its advantages have yet to materialise. Cremer and Fisahn cite one of the few available examples, where the poor design of Germany’s permit system for air pollution undermined its environmental success, and monitoring costs were found to equal those of a command and control approach (WP RSC 98/14). The UK has a de facto tradable permit system for reducing SO<sub>2</sub> emissions but it has yet to be formalised; until then, no clear assessments of its effectiveness are possible (WP RSC 98/13). Beyond the national level, various types of tradable permit systems are currently under consideration, including ones which would incorporate Asian states (Heller 1998).

### *Situating EU Developments in their Global Context*

This series reveals that new instruments have found only moderate use within the EU and have achieved relatively limited economic and environmental results. Nevertheless, it would be misleading to characterise the EU’s supranational institutions, and certainly the fifteen Member States, as international laggards in policy innovation. In fact, viewed in a global context against the records of advanced industrialised states such as the US and Japan, the EU experience with new environmental tools appears more impressive.



The US certainly leads in the use of certain instruments such as tradable permits, which were introduced in the 1970s and expanded in the 1980s, but in general its environmental policies remain dominated by a traditional command and control approach based on technology standards. And even with permits, while schemes for SO<sub>2</sub>, VOC, CO, NO<sub>x</sub>, and lead reduction constitute notable success stories, “outside the air-pollution field, there are virtually no serious examples of decentralised, market-like approaches to pollution control that are in actual operation” (Burtraw and Portney 1991:301; Hahn 1995). On green taxes, the US has hardly distinguished itself as an international standard bearer despite highly publicised Congressional reports in 1989 and 1991 supporting their widespread use (Freeman 1994). Some individual US states have implemented taxes on various forms of waste disposal, as well as deposit-refund programmes to encourage recycling, but similar policies are found at least as frequently in Europe. Moreover, environmental levies and incentive taxes are often higher in EU Member States than in the US (Hahn 1995:145), and the proportion of total revenue derived from green taxes has been consistently much lower in the US than in most EU states (EEA 1996:51). Besides taxes and permits, the United States employs a broad portfolio of voluntary agreements with industry, most of which are run by the federal government and the Environmental Protection Agency, but the stringency and achievements of these programmes fall short of voluntary instruments in the EU. The modesty of their economic or environmental results stems from an absence of several design features identified as essential by Biekart—few US agreements contain actual targets and none are legally binding or backed by a strong regulatory threat (Storey 1996).

In contrast to both the EU and the USA, apart from a large number of voluntary agreements at the local level which have contributed to environmental protection (Rehbinder 1994, Storey 1996), new instruments have made almost no appearance in Japan. Rather, since its belated and symbolic inception in the early 1970s, Japanese environmental policy has relied almost exclusively on technological solutions mandated through command and control regulation (Tsuru and Weidner 1989, Maull 1992). The stringency of these emissions standards and quality objectives has increased rapidly, leading to substantial environmental improvements, and the accompanying Japanese abatement technologies governing air and waste pollution are now some of the most advanced in the world (Vogel 1993). However, unlike most other highly industrialised states, where the limitations of command and control have at least framed discussions of environmental policy reform and often lead to an actual broadening of the range of environmental instruments employed, for the most part Japanese authorities have retained an “uncritical obsession” for their exclusively technocratic approach (Meves 1992:177). Environmentalist

proposals in 1992 to establish a system of ecotaxes, for instance, encountered fierce opposition and were “relegated [by the government] to the status of a very general discussion paper” (Meves 1992:176).

International comparison places the EU record in a better light, but also raises an important question not directly addressed in this book: what explains international variation in instrument choice? The extent to which individual countries have departed from command and control as the dominant form of environmental policy probably depends upon a wide range of factors, including the preferences of environmental NGOs, the attitude of industrial groups, the influence of individual politicians and scientists, the position of nations within larger organisations (particularly the EU), and the institutional structure of the state. The latter presents a particularly intriguing area for further study. While institutional considerations play a secondary role in the overall extent of a nation’s environmental regulation, the contributions to this series and the record of countries such as the USA and Japan suggest that they might play a more substantial role in explaining cross-national variation in instrument selection.<sup>12</sup> All states have retained command and control as their primary framework, but the relatively widespread adoption of new environmental instruments in Germany, Belgium, and the USA (and their relative absence in Japan and Britain) could reflect the scope afforded by federalism for experimentation at the regional and local level.

## Conclusions

Does experience support the case for widespread use of new environmental instruments? Has their success distinguished them as viable alternatives to traditional forms of regulation? The papers draw attention to the risks of answering either of these questions prematurely, and indicate some of the fundamental considerations which will guide environmental policymaking in the EU through a difficult time of transition.

With little evidence of governments actually dismantling command and control, it is methodologically difficult to determine the full benefits of new tools or their dependency on other instruments. For example, the much publicised shift to unleaded petrol, usually attributed to the effects of green taxes, was accompanied throughout Europe by command and control

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<sup>12</sup> In his study of Great Britain, the USA and Japan, Vogel finds that varying intensity of public opinion best explains cross-national differences in the extent and timing of environmental policy (Vogel 1993).



requirements to equip cars with catalytic converters. These devices require the use of unleaded petrol, and contributed enormously to changing consumption patterns. Similarly, decreasing water pollution and improved sewage treatment in Germany and the Netherlands has resulted as much from command and control rules as from the use of taxes. Like green taxes, other new instruments have almost invariably been applied in the EU as merely one tool within a package, supplementing pre-existing command and control regulation. Without counterfactuals, which are difficult to construct and rarely offered by proponents of deregulation, one is hard pressed to conclude that in practice new instruments are actually superior to traditional environmental policies. In some cases new instruments have actually retarded environmental progress which might have been made through traditional command and control mechanisms (WP RSC 98/19).

One must also consider the argument that heavy reliance on new instruments could undermine society's quest for sufficient environmental protection by "locking in" the wrong philosophical approach--one which worships at the altar of free market forces (Eckersley 1993, 1995:12). To take one example from Eiderström (WP RSC 98/20), ecolabels reward greener brands, but they also legitimate rather than discourage consumption. Green consumerism by itself will not fulfil the promises made in the Rio Summit's Agenda 21 for a fundamental reduction in global resource consumption. What is needed, this argument suggests, is an approach guided by pragmatism rather than deregulatory zeal, for market instruments require a "sustainable ecological context in which [the market's] virtue, efficiency, can shine." Otherwise, without sufficiently ambitious environmental targets set by government regulation, "an efficient servant will become an unjust and unsustainable master" (Daly 1993:182). This context is currently lacking in the member states--German and Dutch environmental targets are some of the toughest in the EU, but even these do not reflect sustainability objectives (WP RSC 98/14, Collier and Golub 1997).

Even if appropriate targets were devised, would a commitment to new instruments make environmental policy a hostage of government procrastination and industry hypocrisy? As many of the papers point out, industry frequently praises new tools in theory as part of an effort to remove regulation, but then in practice opposes their adoption. Proposals for UK road taxes have languished, as have many national energy taxes, while in the Netherlands, planned use of voluntary agreements has postponed the possibility of more concrete environmental measures by 8-10 years.

All of this suggests that we need packages of tools, new and old, but in which combination? While there is general agreement that policymakers must combine the incentives and technology inducing aspects of new instruments with direct regulation guaranteeing information and transparency (Heyvaert 1997), in many cases the appropriate mix of tools remains unclear: how, for instance, can elements of command and control such as BAT possibly coexist with taxes or tradable permits without sacrificing their flexibility and efficiency? Recent EU framework directives on air and water pollution, and on integrated pollution prevention (IPPC) illustrate this problem. Each of these laws sought to establish common environmental targets across Europe while leaving member states free to select efficient means of achieving pollution reduction. But this flexibility was simultaneously undermined by the Parliament's (and Commission's) inclusion of BAT provisions in the proposals, a move which drew considerable resistance from industry and resulted in heated debate over alternative and more vaguely worded provisions (*European Environment* 8 October 1996, 11 June 1996, 31 May 1996).<sup>13</sup> Moreover, there are discouraging signs that appropriate environmental policy packages will only become more difficult to fashion, as some states curtail access to information and enforcement mechanisms (WP RSC 98/14).

One of the most challenging implications to emerge from this volume is the need to reconsider how we judge the "effectiveness" of new instruments, which in turn raises important questions about proper environmental policy design. While the staunchest advocates promise simultaneous cost savings, environmental improvement and political legitimacy from the arsenal of new instruments, in fact these might represent conflicting goals which trade-off against each other and, not surprisingly, are prioritised and championed differently by industry, government and green groups. The three papers written by representatives of green NGOs, for example, paint a rather pessimistic picture of the environmental gains actually achieved so far by ecolabels, voluntary agreements and ecoaudits. They suggest that these instruments appeal to and enjoy legitimacy within industry partly because they have been designed in a manner which emphasises flexibility and compliance cost reduction at the expense of ambitious pollution control. Presumably, in a world where new instruments conformed to the ideals of environmental NGOs, it would not be unlikely to find analogous accounts written by industry representatives deploring an insensitivity to cost-cutting considerations.

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<sup>13</sup> In the US, federal air pollution laws which require application of Maximally Achievable Control Technology have created similar impediments for flexible environmental instruments at the state level (Burtraw and Portney 1991).



Incompatibility between the three aspects of “effectiveness” is a recurring theme which policymakers will have to address when weighing the respective benefits of new and old regulatory tools. For example, even if one acknowledges their economic merits (which in most cases is highly controversial), new instruments can be as anti-democratic as command and control measures (Dryzek 1995), as demonstrated by the Dutch water tax which excluded from negotiations those primarily affected (WP RSC 98/15). On the other hand, while the Dutch decentralised regional approach provides greater political legitimacy, by expanding the range of actors involved it creates serious collective action problems which might reduce efficiency, limit cost savings and prevent environmental gains.

The development of new instruments, either alongside or as a replacement for command and control measures, also has profound implications for the nature of governance, as it requires balancing the advantages of national diversity with the need for uniform EU rules. In some cases, tailoring ecotaxes, voluntary agreements, and ecolabels to local conditions can improve both the efficiency and legitimacy of environmental policy. But in other cases, as the dissenting opinion in the Molitor report notes and Commission officials discuss in this volume, excessive EU deregulation aimed at facilitating national flexibility with new instruments merely shifts environmental problems to the national level and generates coordination problems, including serious disruption of the common market when national measures constitute trade barriers (EC 1995:16 part 2).<sup>14</sup>

In fact, the governance issue extends beyond the EU’s borders and raises important questions about the increasing interdependence of environmental and trade policies: even if it were possible to strike an appropriate balance between member state and EU authority, can a shift towards second generation instruments be reconciled with the maintenance of global free trade governed by GATT/WTO standards? (Golub 1998b, EC 1996b). If not, as ongoing disputes over ecolabels, ecoaudits and green taxes would seem to suggest, the EU will have to consider abandoning one of these objectives if it cant muster political support for reforming global trade rules.

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<sup>14</sup> In many instances the Commission approves new national environmental measures which limit trade or include elements of state aid, but many cases are highly contentious. For examples showing the potential trade distorting effects of new instruments, including some of those discussed in this volume, see the following issues of *European Environment*: 8 October 1996, 23 July 1996, 23 January 1996, 13 June 1995.

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