

EUI Working Paper RSC No. 96/1

Implementing
a Climate Change Strategy
in the European Union:
Obstacles and Opportunities

UTE COLLIER

EUI WORKING PAPERS



EUROPEAN UNIVERSITY INSTITUTE

IP
321
02094
EUR

EUROPEAN UNIVERSITY INSTITUTE



3 0001 0023 1064 9



EUROPEAN UNIVERSITY INSTITUTE, FLORENCE

ROBERT SCHUMAN CENTRE

**Implementing
a Climate Change Strategy
in the European Union:
Obstacles and Opportunities**

UTE COLLIER

WP
321.0209
4 EUR

EUI Working Paper RSC No. 96/1

BADIA FIESOLANA, SAN DOMENICO (FI)

All rights reserved.
No part of this paper may be reproduced in any form
without permission of the author.

© Ute Collier
Printed in Italy in February 1996
European University Institute
Badia Fiesolana
I – 50016 San Domenico (FI)
Italy

Abstract¹

When the climate change issue reached the top of political agenda in 1990, European Union (EU) environmental policy had just seen a successful decade with common action in a growing number of areas. Hence, there was optimism that the EU would also be able to implement a strong climate change strategy with common policy measures and to set an example to the rest of the world. Five years later, the EU's climate change strategy essentially lies in tatters.

The paper argues that the withering of EU climate change policy has been due to a number of factors. First and foremost, the proposed strategy hinged on measures in two areas which traditionally have been the prerogative of the member states, namely energy and fiscal policy. In a general climate of subsidiarity, there has been little readiness (especially by some member states) to cede much sovereignty. Other issues such as the lack of strong leadership, uncertainty about costs, economic concerns and heavy industrial lobbying, also have influenced policy developments. Furthermore, policy developments in other areas have continued to pull into opposite directions.

The lack of effective EU level measures means that the achievement of the EU's policy objectives will depend on action in the member states, at national, regional and local level. However, the paper finds relatively few incidences of effective policies being implemented at other levels and a general lack of coordination between different levels. It thus comes as no surprise that the achievement of the EU's CO₂ stabilisation target for 2000 now seems very uncertain. This does not bode well for emission reductions post 2000. Possible steps forward could be a system of tradeable emission permits or an environmental tax reform. However, as the paper concludes that there appears to be little political will to establish an effective EU level response to the problem of climate change.

¹ This paper is mainly based on research carried out within the framework of the project 'Climate change policies in the European Union', co-financed by DG XI of the European Commission (contract no. B7-8110/94/234/A0/B4). The views expressed are those of the author alone.

The paper constitutes an extended version of the following two publications:

Collier, U. (1996) "The European Union's climate change policy: limiting emissions or limiting powers?", *Journal of European Public Policy*, 3 (1), forthcoming March 1996.

Collier, U. (1995) "Climate change and the European Union: towards a green and common energy policy?", *European Environment* 5 (4), pp.91-97.

TABLE OF CONTENTS

	Page
1. Introduction	1
2. Policy developments	
2.1 The environmental policy context	2
2.2 First steps towards a common climate change policy	3
2.3 The Community strategy to reduce CO ₂ emissions	4
2.4 The carbon/energy tax	6
2.5 The SAVE programme	8
3. The main obstacles	
3.1 Searching for explanatory factors	9
3.2 The lack of EU competences in energy policy	12
3.3 Divergent paths: the Internal Energy Market and climate change	14
3.4 The influence of the subsidiarity debate	15
4. Developments at sub-EU level	
4.1 Climate change strategies at the national level	18
4.2 Climate change initiatives at the local level	20
5. Windows of opportunity	
5.1 CO ₂ emissions - likely developments	21
5.2 Possible ways forward: tax reform or tradeable permits?	22
6. Conclusions	24
7. References	28

1. INTRODUCTION

Climate change has become one of the most salient environmental issues of the and a number of trace gases have seen large increases over the past century due to a variety of human activities, in the forefront the burning of fossil fuels. This is expected to lead to an enhanced greenhouse effect, thus fundamentally changing the world's climate and resulting in global warming. This could potentially have serious consequences for humanity and the political stability of the world as low-lying countries flood, cultivation patterns shift and large areas see desertification. However, because of the complexity of atmospheric science, with a multitude of possible feedback mechanisms, there is much uncertainty as to the exact nature of these changes. While in recent years, weather extremes appear to have become more frequent, scientists will not commit themselves whether the world is indeed experiencing the first signs of climate change.

Despite great issue uncertainty, there is a general consensus that precautionary and preventive action is necessary. Obviously, the prospect of climate change is a global environmental problem, and the Framework Convention on Climate Change (FCCC), agreed at the Rio Summit in 1992, is a first step towards global action on the problem. The FCCC is extremely vague. It commits industrialised countries to draw up abatement programmes but sets no specific targets. However, at the first conference of the parties in April 1995, it was agreed that a binding protocol should be developed by 1997. It is not clear how this can be achieved as, to date, differences in viewpoint between nations appear unsurmountable, especially with strong opposition from most oil-exporting nations to any kind of binding target. Nevertheless, the issue is unlikely to just fade away.

Global agreements have to be implemented through action at the national and local level, but action at EU level can also be justified. In fact, the EU itself, as well as all the member states separately, has signed the FCCC and thus is required to draw up an abatement strategy. Furthermore, the fifteen EU countries constitute one of the most powerful economic blocks in the world (and account for around 15% of global CO₂ emissions) and with a common strategy might thus be able to exert pressure on other countries to act on environmental issues. Additionally, it is useful to coordinate action between countries and to exchange information. Finally, certain measures for emission reductions, such as appliance standards or energy taxes, need harmonisation to allow the functioning of the Internal Market.

The EU Commission made first proposals for a climate change strategy in 1990 but as later sections will show, these have made limited progress, and even the relatively unambitious emission target of stabilisation by 2000 is

unlikely to be achieved. The question arises why, at a time when the notion of sustainability and the integration of environmental concerns into other policy areas features in many EU documents and discussions, the proposals have encountered so many obstacles and what might be possible ways forward.

The paper begins with a discussion of recent developments in environmental policy to set the scene for the rest of the paper. It then briefly examines main policy developments related to climate change, with a specific focus on the carbon/energy tax and the SAVE programme. Subsequently, it puts forward some explanations for the lack of success of the efforts to set up an EU climate change policy, with particular emphasis on the inadequacy of EU competences in the energy policy area. The paper then examines the relevance of the subsidiarity principle for this issue. Following from this, activities at member state as well as at the local level are reviewed and two possible ways out of the impasse are discussed. Finally, conclusions are drawn about the future prospects for climate change abatement in the EU.

2. POLICY DEVELOPMENTS

2.1 The environmental policy context

The climate change issue hit the policy agenda in the EU at what could be seen as the 'heyday' of EU environmental policy and, possibly, European integration in general. Some important directives on air pollution were agreed in the late 1980s, on emissions from large combustion plants and on emissions from cars. More importantly, in 1987 EU action in the environment area was finally given a separate legal basis by inclusion in the Single European Act (SEA). The Treaty on European Union (TEU) in principle further strengthened environmental policy by introducing qualified majority voting (QMV) to environmental policy and by making 'sustainable growth respecting the environment' a general objective of the EU. The latter in fact reflects a general move towards a more comprehensive approach to dealing with environmental problems.

As Collier (1994) has discussed, the basic idea of sustainable development is that economic growth can be reconciled with the environment. The concept of sustainability has now been almost universally accepted by governments, industry and other actors. However, the use of different meanings by different actors can be detected. Turner (1993) makes distinctions between four types of sustainability (very weak, weak, strong, very strong) linked to management strategies and policy instruments. Sometimes distinctions are made between sustainable 'growth' and 'development', implying notions of quantity versus quality.

The EU has made 'sustainability' the main theme of its Fifth Environmental Action Programme (EAP). It also specifically stresses the importance of the concepts of subsidiarity and shared responsibility in achieving 'sustainability', namely through the mixing of actors and instruments at the appropriate levels. Even though the concept is vague, it does mark an important development in environmental policy in that it implies the need for a better integration of economic and environmental concerns. This is important as concerns climate change policy, as it was clear from the beginning that this issue could not be approached through directives setting environmental quality standards, which have been the most important instruments of EU environmental policy to date. Instead, climate change abatement has to be integrated into relevant policies, especially energy and transport policies. Additionally, fiscal policy measures such as carbon taxes have been advocated by many, as a means to move to a more market based approach to environmental policy (see e.g. OECD, 1993).

The Commission and the member states increasingly have recognised the importance of the principle of policy integration, which was first mentioned in the SEA and then reiterated in the TEU. The Commission indeed produced discussion papers in the for climate change most relevant areas, energy and transport policy, in the early 1990s to present its thinking on how this integration can be achieved. However, as will be discussed in section 3.2, especially in energy policy the EU has failed to establish a common policy. Additionally, in fiscal policy, efforts at the harmonisation of various taxes had essentially failed. Nevertheless, at the same time as the climate change strategy was being discussed, new proposals were being developed to achieve an internal energy market and the idea of Trans European Networks promised at least more cooperation in the energy and transport areas. Overall, the policy climate thus looked reasonably conducive for the development of a common climate change policy.

2.2 First steps towards a common climate change policy

The development of EU climate change policy has already been described in some detail elsewhere (see e.g. Jachtenfuchs, 1994, Skjaereseth, 1994, Wynne, 1993), hence this section will only outline the most important developments. The EU response to the issue began with a Commission Communication to the Council in 1988 (European Commission, 1988). This was essentially a stocktaking exercise, summarising the greenhouse science and the outcome of meetings such as the Toronto Conference.

An *ad hoc* committee was established in the Commission in 1989 including a total of ten Directorate-Generals (DGs) likely to be most affected by the development of an EU climate policy. Subsequently, DG XI (Environment),

DG XVII (Energy) and DG XXI (Indirect Taxation) became the most important players in the policy process. In October 1990, the Energy and Environment Council of Ministers met for the first time in a joint session just before the Second World Climate Conference. The main purpose of the joint council was to agree a CO₂ reduction target for the Community so that a unified stance could be presented at the conference. At the time, some member states had already set CO₂ targets, although at different levels, while others had no targets at all.

The aim was for the return of emissions to 1990 levels by the year 2000 for the EU as a whole, while accommodating the less industrialised countries' growth requirements. This was applied to Greece, Ireland, Portugal and Spain, but the UK also refused to move from its target date, which at that time was 2005. Less stringent targets for some member states were accepted since some of them (namely Denmark, Germany and the Netherlands) had already committed themselves to stricter targets, which allowed scope for other member states to increase their emissions or stabilise later. Wynne (1993) thus calls the stabilisation target an 'ambiguous supranational concoction'. Initially, there was talk of equitable target sharing, that is allocating individual targets for CO₂ emissions to the member states, dependent on their development needs. However, as Grubb and Hope (1992) point out, attempts to reach agreement on sharing the target never really got off the ground.

Discussions on the CO₂ target were relatively easy compared to the subsequent discussions about drawing up a CO₂ strategy. Disagreements on a number of issues emerged, with different viewpoints from the various DGs involved. In the Council, there was animosity to the proposals from some member states. Spain, for example, felt it was too early for an EU programme on climate change, while Portugal did not consider the issue a problem at all.

Originally, a range of specific measures was envisaged for the strategy which, apart from a carbon tax, included a variety of efficiency standards (buildings, water heaters and cookers), a speed limit of 120 km/h, implementation of least cost planning principles¹ and measures to promote waste recycling². However, consecutive drafts saw a significant scaling down of the proposals. The Commission eventually published a first Communication on the issue in October 1991 (European Commission, 1991). Meanwhile, DG XI funded the development of two integrated assessment models (ESCAPE and PAGE) which were supposed to help decision-making. However, the models were never used to their full potential. Hence, the second Commission Communication in June 1992 was mainly a result of further squabbling inside the Commission and consisted of a new, watered-down version of the proposals.

2.3 The Community strategy to reduce CO₂ emissions

The 1992 Communication, entitled 'A Community strategy to reduce CO₂ emissions' firstly outlined the Commission's proposals for the strategy in general terms. It stated that:

To stabilise CO₂ emissions within the necessary time, a reduction in the energy demand is required as well as an increase in energy efficiency and a modification of the energy sources used. This objective involves therefore all households and companies and can only be achieved effectively by stimulating technological as well as transport and energy infrastructure development at the same time and by changes in behaviour (European Commission 1992a).

The Communication was accompanied by proposals for four specific measures as follows:

- a framework directive on energy efficiency (SAVE);
- a directive on a combined carbon/energy tax;
- a decision concerning the specific actions for greater penetration of renewable energy resources (ALTENER, European Commission, 1992b);
- a decision concerning a mechanism for monitoring of Community CO₂ emissions and other greenhouse gases.

Furthermore, the Commission's energy technology support programme (THERMIE) was expected to contribute to emission reductions. While the 1991 Communication had assumed the need to reduce emissions by 11% from the 1990 level to achieve stabilisation (European Commission, 1991), the 1992 Communication revised this figure upwards to 12% due to an accelerating growth in emissions in 1991. The different measures and programmes were expected to contribute different proportions of the required reductions as shown in table 1.

Table 1: Projected emission reductions from the EU climate change strategy

Proposed measures for stabilisation	Expected CO₂ reduction
Carbon/energy tax (and accompanying national measures)	6.5%
SAVE	3.0%
THERMIE	1.5%
ALTENER	1.0%
Total	12.0%

Source: *European Commission, 1992a*

The carbon/energy tax and SAVE were thus expected to achieve the bulk of the emission reductions. Furthermore, work started in the Commission on measures to reduce the emissions from the transport sector and proposals were developed to improve demand side planning in the energy sector. However, by 1995, little progress has been made with these measures and the main elements of the strategy:

- the proposal for a combined carbon/energy tax has been blocked;
- the SAVE programme on energy efficiency has been turned into a framework directive, with doubts about its effectiveness;
- the ALTENER programme on renewables is underresourced and mainly consists of non-binding targets;
- proposals for reducing CO₂ emissions from cars were delayed due to disagreements within the Commission³ and seem unlikely to make progress;
- a proposal for least-cost planning in the energy sector was to be published in 1994 but delayed by DG XVII.

Considering the promising start of the climate change discussions in the late 1980s, questions arise as to what went wrong. The following two sections examine the two main components of the strategy in more detail, so as to help identify explanatory factors.

2.4 The carbon/energy tax

A main focus in the development of the Commission's strategy on CO₂ was on the possibility of introducing a tax in order to internalise some of the external costs of energy. Pressure for an EU level tax came from the fact that three member states (Denmark, Germany and the Netherlands) were threatening to introduce carbon taxes unilaterally, thus infringing the Commission's attempt to harmonise taxes for the proper functioning of the single market. The tax also fitted in with a general growth in interest in market-based instruments to achieve environmental objectives (see Collier 1995a). However, considering the EU's difficulties in the fiscal policy area in the past⁴, it was clear that this was not going to be a measure on which agreement would be reached easily.

First proposals for a tax were put forward in a Communication to the Council in late September 1991. It was decided that there should be no sole CO₂ levy as this would have favoured nuclear power, which a number of member states oppose. The proposed tax thus was a so called hybrid carbon/energy tax amounting to \$10/barrel by the year 2000, starting with \$3/barrel as of 1 January 1993 and increasing by \$1 annually. Further details were put forward in a communication in June 1992 (European Commission, 1992c). The first casualty was the proposed starting date which by then was no longer mentioned.

According to the 1992 proposals, the tax was to be based half on CO₂ emissions (expressed in tonnes) and half on the calorific value of the fuel (expressed in gigajoules). Energy from renewables (except hydropower plants above 10 MW) was to be exempted from the tax. From the start, it was clear that the tax proposals would attract opposition by a various industrial groupings. Intensive lobbying against the tax by industrial groups took place, accompanied by threats of moving industrial production outside the EU. As a result, a number of concessions were made which would have substantially weakened the effect of the tax.

Firstly, member states would have been authorised to grant tax reductions up to 75% to firms whose energy costs amount to at least 8% of the value added of its products and whose competitiveness might be threatened by the tax (European Commission, 1992c). Member states would also have been allowed to grant temporary total exemptions to firms that have embarked on 'substantial efforts to save energy or to reduce CO₂ emissions'⁵. This vague statement was liable to lax interpretation and the exemptions seriously compromised the effectiveness of the tax, as they meant that the largest consumers of energy in the EU would have paid the lowest rates of tax, thus giving them little additional incentive to invest in energy efficiency.

Despite these concessions, the proposals made little progress when discussed at various environment and ECOFIN (Economic and Finance) councils.

Because this was designated as a fiscal measure, unanimous agreement had to be achieved but this was not forthcoming. The main objection came from the UK⁶, who was vehemently opposed to any European intervention in tax matters. Furthermore, France was not satisfied and wanted a pure carbon tax, so as to protect its nuclear industry. As no progress was evident, various new approaches were discussed. These included a possible reform and harmonisation of current energy taxes. However, no agreement could be reached on this either. Finally, after four years of discussions, the idea of a common carbon/energy tax was finally laid to rest at the Essen summit in December 1994. The European Council's rather bland statement instructed the ECOFIN Council to consider common parameters to enable every Member state to apply a carbon/energy tax 'if it so desires'.

Currently, the development of these common parameters is underway. The Commission has issued a new Communication whose wording effectively means that the tax would be voluntary during a transitional period until 2000 but binding thereafter⁷. This has resulted in renewed opposition by industrial lobby groups. Currently, five member states (Austria, Denmark, Finland, Netherlands and Sweden) have introduced CO₂ taxes but it is unlikely that any other member states will follow suit, with the possible exception of Germany. In most cases, the taxes applied focus on the domestic sector, while the industrial sector is receiving generous or even total exemptions. This means a large section of emitters is excluded. In any case, as will be discussed in section 3.3, it is not clear how effective such a tax would be in a climate which is forcing down energy prices.

2.5 The SAVE programme

Improvements in energy efficiency have to be a quintessential part of any CO₂ reduction strategy. Furthermore, they further energy policy objectives such as improving security of supply. Initially, SAVE was conceived to enable the EU to meet its 1995 energy objective of improving efficiency by at least 20% (European Commission, 1986). First proposals for SAVE were published under separate cover in November 1990 (European Commission, 1990) and were subsequently revised and integrated into the CO₂ strategy (European Commission, 1992d). The proposals of November 1990 envisaged a variety of measures under SAVE but, as ever, the proposals were watered down substantially. Most significantly, SAVE has been turned into a so-called framework directive, which means that the EU only sets the general principles for action, on which member states then have to base their programmes of measures. This has been a direct result of member states invoking the principle of subsidiarity (see section 3.4).

The final directive thus states that the member states shall draw up and implement programmes in six areas, as follows:

- minimum insulation standards for new buildings;
- energy certification of buildings;
- billing of heating costs based on actual consumption;• promotion of third party financing for public sector investments;
- inspection of boilers;
- energy audits for businesses with high energy consumption.

However, the member states essentially have a free hand in designing and implementing programmes. The directive states that:

Programmes can include laws, regulations, economic and administrative instruments, information, education and voluntary agreements whose impact can be objectively assessed (European Commission, 1993a)

The targets and timescales suggested in the 1992 proposal were abandoned. These would for example have required the certification of public-sector buildings at a rate of at least 5% of the existing stock per year (European Commission, 1992d), while the final directive just talks generally of energy certification of buildings. Furthermore, the inspection of heating installations is now restricted to those above 15 kW and energy audits are only required for industrial undertakings with high energy consumption rather than businesses in general. The member states have to report to the Commission every two years on the results of the measures taken and the effectiveness of SAVE will only emerge in a few year's time. The Commission itself has stated that the high degree of flexibility left to member states renders the estimation of the effects of SAVE highly uncertain (European Commission, 1994). The UK for example has made it known that it sees no need for any further legislative measures as a result of the SAVE directive⁸.

The Commission is currently in the process of drawing up a SAVE II programme but it is uncertain whether this will be any more effective. Furthermore, a directive on energy efficiency requirements for electric fridges and freezers was proposed by the Commission in December 1994. However, even if it was adopted by the Council in its current form, it would impose rather lax minimum standards⁹. EU level action on energy efficiency thus seems set to remain weak.

3. THE MAIN OBSTACLES

3.1 Searching for explanatory factors

As the last two sections have shown, the two main pillars of the proposed EU climate strategy have encountered major problems, one having been abandoned as a common measure, the other having been substantially weakened. Another component of the climate change strategy, the ALTENER programme for renewables is also relatively ineffective, with a very small budget. In attempting to establish some explanatory factors for the relative lack of success of EU climate change strategy, it is first of all useful to look at the general academic literature on EU environmental policy. In recent years, the academic literature (especially in political science) on EU environmental policy has increased rapidly and only a number of relevant studies are referred to here.

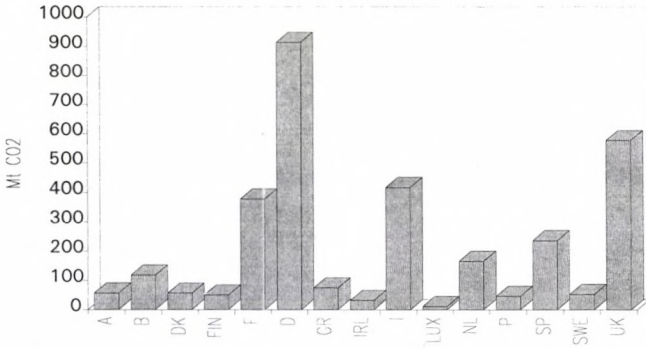
Sbragia (1995) has argued that the policy process in the environmental arena is typically driven by a small number of member states which are significantly more environmentally progressive than the rest, with Germany clearly as a 'leader' member state. In terms of CO₂ emission targets, Germany has certainly been a leader, its target of a 25% reduction by 2005¹⁰ exceeding that of any other member state target by far. However, as Jordan, Rowbotham and Beuermann (1994) have shown, economic issues now make the delivery of this ambitious target somewhat uncertain. Certainly, the economic and environmental challenges of unification have marginalised the climate change issue somewhat, both on the general government policy agenda but also within environment policy.

In the case of the carbon/energy tax, Germany has been a major proponent at EU level but was not prepared to implement a tax on its own prior to EU action¹¹. In fact, Héretier, Mingers, Knill and Becka (1994) have argued that within the German ministries there has been much disagreement about the issue and they were pleased that a decision could be left to the EU. The economic recession of the early 1990s clearly dampened Germany's enthusiasm for the tax. During the German EU presidency of the second half of 1994, no progress was made on any environmental policy measures and it was at the Essen summit where the carbon/energy tax received the final nail in the coffin. Here, the obstructive role of the 'laggards' also has been crucial. Golub (1995) has pointed at the continuing ability of large member states to disrupt environmental negotiations and Britain's continuing determination to maintain its policy style and economic interests, and hence its sovereignty, has been instrumental in the failure of the carbon/energy tax proposal.

Another potential explanatory factor is that of the issue generating asymmetrical interests between member states (see Skjaereth, 1994). Both

total and per capita CO₂ emissions vary considerably between member states as a result of differences in economic development and fuel choices in the energy sector (see section 3.2). As figure 1 shows, Germany is by a large margin the largest emitter of total CO₂ emissions, followed by the UK and Italy. Some of the smaller member states have very low emissions.

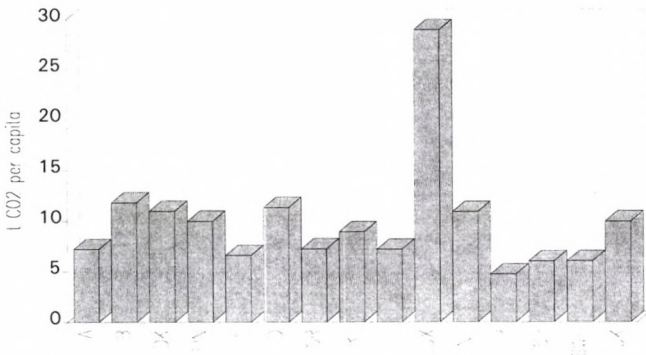
Figure 1: Total CO₂ emissions in the EU



Source: IEA, 1994

However, as figure 2 shows, in terms of per capita emissions, all member states are well above the global average of little over one tonne. Differences in CO₂ emissions and economic development make it more difficult for some member states than others to reduce emissions.

Figure 2: Per capita CO₂ emissions in the EU



Source: IEA, 1994

The likely impacts of climate change also vary. Rotmans, Hulme and Downing (1994) demonstrate that the southern countries can expect adverse effects, mainly due to sea level rises and water shortages. Conversely, the Northern member states may benefit as a result of increased agricultural yields. As a result, the costs and benefits of any policy action will vary. However, differing costs are no new phenomenon in environmental policy, so their importance in this case has to be further examined.

As Richardson (1995) has shown, some of the early EU environmental legislation (as in the case of the various water directives) was adopted under little participation and without much knowledge about the costs of the regulations. Meanwhile, actors have become much more mobilised and costs have become much more apparent. Certainly, in the case of climate change policy, potential costs have been a major focus and a large amount of studies on this theme have been carried out. There are many uncertainties as to the extent to which the climate will change and as concerns the costs of the damage caused. Additionally, estimates of the costs of mitigation and adaptation strategies, as well as about the potential for certain technological options, vary tremendously. As Ekins, (1994) has demonstrated, differing assumptions can lead to very different results in model predictions. To some extent, there is thus the danger of different actors using different estimations of costs and benefits to suit their own intrinsic interests.

Actor involvement has certainly been great in the case of the climate change issue. Lobbying has taken place both a national and EU level with a clear focus

on the carbon/energy tax. It is beyond the scope of this paper to go into any details on the nature of the policy networks. Jachtenfuchs (1994) has shown how various industrial associations offered voluntary emission reductions on the condition that the EU drops its tax plans (see also Eurelectric, 1993). As already indicated, various concessions actually would have made the carbon/energy tax fairly harmless to industry, so industrial opposition could probably have been overcome, had there been a determination to adopt this policy measure.

It is argued here that the EU has faced some more fundamental obstacles to establishing its policy, especially considering the specific instruments chosen. These are due to the fact that the EU lacks clear competences in the crucial areas of energy and fiscal policy, and that in energy policy other proposals have been pulling in a different direction. Furthermore, the subsidiarity issue has had a major influence on the debate. The next section focuses on energy policy.

3.2 The lack of EU competences in energy policy

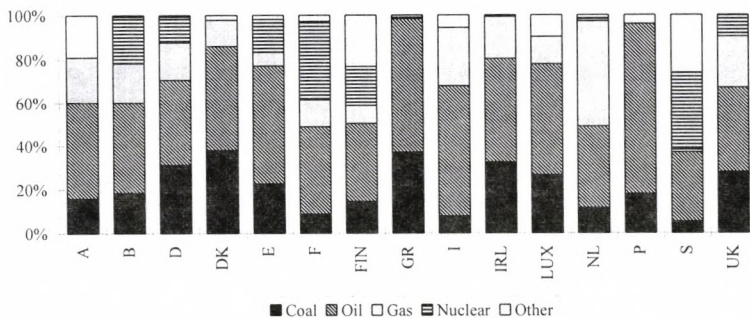
The experience of the SAVE directive is in fact indicative of policy developments in the energy field. While the first of the European Communities, the European Coal and Steel Community, had an energy source at its heart, the Treaty of Rome made no separate mention of an energy policy. Efforts to draw up a common energy policy date back to 1962 when a working party on energy adopted a memorandum on energy policy, designed to achieve the free circulation of energy within the common market (McGowan, 1991). In subsequent years, especially during the oil price shocks, there were a number of attempts to define common energy policy guidelines but as these were entirely voluntary, they had little influence on developments. During the discussions for the Treaty on European Union, there were efforts by the Commission to include a chapter on energy policy but this failed. Article 3 of the Treaty on European Union thus allocates to the EU responsibility for measures in the energy area rather than a policy; an important distinction. Furthermore, under article 130s, qualified majority voting is introduced for environmental policy but this explicitly excludes measures 'significantly affecting a member state's choice between different energy sources and the general structure of its energy supply'.

As the 1996 Intergovernmental Conference (IGC) approaches, the issue of an energy article in the Treaty has again received attention but the latest indications are that energy will be left out of the revised Treaty. This does not mean that the EU has absolutely no powers in the energy area. Apart from provisions under the European Coal and Steel Community and Euratom, a whole range of common measures exist. A recent listing in a Commission publication¹² comes up with a total of 109 measures (regulations, directives and decisions). However, these do not amount to a comprehensive policy and

effectively, member states have managed to retain their sovereignty in all crucial areas of energy policy.

One explanation for the failure of establishing a common energy policy can be found in the vastly differing energy situation across the member states, which makes it difficult to find common policy denominators. Figure 3 shows the percentage contribution of the most important fuels to gross inland energy consumption in the fifteen member states.

Figure 3: Gross inland energy consumption in the EU in 1992



Source: European Commission

Oil, due to its dominance in transport related energy consumption plays an important role everywhere. In Greece, Italy and Portugal, oil consumption is particularly high due to an additional extensive use of this fuel in electricity generation. In CO₂ terms, the relative contribution of fossil fuels is crucial, compared to the role of nuclear power and renewables. Renewables (here shown under 'others') are most important in Austria, Finland and Sweden with a significant contribution from hydropower and biomass. Most problematic for policy purposes has been the contribution from nuclear power. Some countries are fervently anti-nuclear (e.g. Austria, Ireland, Italy, Greece), while in a number of member states nuclear power contributes a substantial proportion of energy consumption, with France in the forefront.

Structures, ownership and regulatory frameworks of the energy sector also vary tremendously between member states and these differences have been a major obstacle to the completion of the Internal Energy Market (see section 3.3). In the UK, the energy sector has now almost completely been privatised. A comprehensive regulatory framework has been set up to control the privatised companies, with a main emphasis on ensuring greater competition. In France,

on the other hand, there is still complete ownership of the electricity sector, with direct control of the state over *Électricité de France*, which has been the vehicle for implementing the large-scale nuclear programme. So far, the French government has been unwilling to relinquish this control. In Italy, efforts are currently underway to privatise the state-owned energy monopolies. In Germany, there is mixed ownership of energy companies. Although, overall energy supply is dominated by eight regional companies, local council-owned companies are also important. Many of them have implemented energy plans with CO₂ emission reductions as a main priority. Local (and sometimes regional) authorities also play an important role in energy policy and own energy companies in Austria, Denmark and the Netherlands. So far, liberalisation has not been an important theme in these countries. Hence, as concerns structures and regulatory frameworks of the energy sector, it is difficult to find common denominators.

3.3 Divergent paths: the Internal Energy Market and climate change

Nevertheless, the Commission has in recent years tried to tackle the uncompetitive nature of energy markets. This has focused on the achievement of the Internal Energy Market (IEM) through a liberalisation of the energy sector, for which the Commission presented its proposals in 1992. Most significant and controversial were those aimed at the electricity sector which consisted of:

- the abolition of exclusive rights to generate electricity and to build electricity/gas lines;
- introduction of third party access (TPA);
- separation of management and accounting in vertically integrated utilities (European Commission, 1992e).

In principle, the first two components could have been beneficial from an environmental point of view. To encourage environmentally-friendly options such as renewables, combined heat and power (CHP) and demand-side management, it is important to open energy systems to small-scale producers and suppliers. However, as Collier (1994b) has shown, such considerations have played no role in the design of the proposals. TPA was only to be offered to large consumers and there was concern that 'unbundling' in vertically integrated utilities could have had negative implications in terms of the potential for least-cost planning and the cross-subsidisation of environmentally beneficial activities.

Developments in the UK give some indications about the potential environmental consequences of liberalisation. The 'free for all' in electricity

generation has had some environmental benefits, in that CO₂ emissions are declining with the move to gas-fired power generation. However, at the same time, the new system has generated few incentives for end-use energy efficiency or efficient CHP plants, a situation which is further exacerbated by the plant overcapacity that has been generated. The UK government claims to believe in the powers of the market for promoting energy efficiency, especially once full-scale competition is introduced, and has thus refused to give the gas regulator a firm responsibility for energy efficiency. This assumption rests on the premise that companies will use energy efficiency investments as a way to attract new customers. However, in the small-user (domestic and small commercial) sector, margins are so small that suppliers are not interested in competing energetically. There was plenty of scope for the Government introducing some real incentives in the regulatory systems but it has failed to do, thus not taking advantage of the potential benefits of liberalisation. EU proposals run the same risk.

One of the main aims of energy market liberalisation is the reduction of energy prices, thus leading to greater competitiveness of European industry. Yet, at the same time policy-makers acknowledge that low energy prices are a big impediment to investments in energy efficiency. The original carbon/energy tax proposals, before substantial exemptions for industry were agreed on, were expected to increase prices by 15%. Meanwhile, the Internal Energy Market was to lead to price decreases of 7%. Overall prices might have risen at the most by 8% over a ten year period. There is little doubt that this would have had minimal effect on making energy efficiency or renewable energy sources more attractive.

As a matter of fact, the IEM proposals have made little progress to date, with vehement opposition from France and against the support from the UK. New proposals were made in 1993 which abandoned the idea of 'unbundling' of management (although not accounting). Additionally, member states would be authorised to impose public service obligations (which may include environmental protection) on the electricity sector (European Commission, 1993b). Furthermore, the French suggested the idea of a single buyer model instead of TPA. A further working paper issued in 1995 suggests special access arrangements for renewables and CHP plants. However, overall the IEM proposals are still relying too much on competition as a means of solving all problems rather than making specific arrangements to exploit the possible advantages of a more liberalised system. Instead of creating an enabling framework, new obstacles might thus be put up. There will never be an effective climate change strategy while energy policy developments keep pulling into a different direction.

3.4 The influence of the subsidiarity debate

As the above sections have shown, the lack of energy policy at EU level, as well as the contradictory nature of different policy proposals, remains a problem in the development of an EU climate change policy. In the past, the EU has been able to adopt measures under similar circumstances in areas without an explicit legal basis, environmental policy being a case in point. However, the increased emphasis on the issue of subsidiarity since the early 1990s has altered the general policy making climate. The idea of subsidiarity¹³, as outlined in the TEU, is that the EU should take action:

only if and in so far as the objectives of the proposed action cannot be sufficiently achieved by the member states (Council of the EC, 1992).

Subsidiarity in environmental policy has been interpreted differently by different member states. Some feel that greater involvement of the EU is justified while others argue for a repatriation of policy-making to the national level. In the case of climate change, some countries have pushed for action to be left to the member states. First of all, in the case of SAVE, it was argued by member states, including the UK, that the objectives of the directive can be best achieved through actions in member states. Hence, SAVE was turned into a framework directive and it is as yet unclear how effective implementation of such a vague directive can be assured.

Secondly, subsidiarity has been used as one of the justifications for opposing the carbon/energy tax. The UK has been at the forefront of this opposition and has argued that it would be more appropriate to develop a tax at the national level. After its decision to impose VAT on domestic fuel in March 1993, the UK government claimed that it had already instituted a form of carbon tax. However, as Golub (1994) has shown, Britain's concern about sovereignty and national interests has been already in the past influential in EU environment policy and there is little doubt that a main reason for objecting to the tax was not a true belief in subsidiarity, but a general reluctance to surrender decision-making powers to the EU, especially on important matters such as taxes. At the same time, other member states, in particular the cohesion countries, were concerned about the effect of the tax on their competitive position and favoured subsidiarity arguments. At the 1994 Essen summit, Spain, Portugal and Luxembourg joined the UK in a declaration stating that 'the assessment of the need to introduce a tax must remain within the competence of each member state' (Agence Europe, 1994).

Subsidiarity in terms of devolving policy actions to lower levels of government is not necessarily a bad concept in environmental terms. For

example, the World Commission on Environment and Development (WCED), has argued that greater public participation in decisions that affect the environment is crucial in bringing about sustainable development. According to them:

This is best secured by decentralising the management of resources upon which local communities depend, and giving these communities an effective say over the use of resources (WCED, 1987).

If subsidiarity is defined as 'action as close to the citizen as possible' as in the Fifth EAP, there are indeed some environmental arguments why this action should be at the local level in the case of energy policy and climate change. Hennicke, Johnson, Kohler and Seifried (1985) have argued that a major blame for the environmental problems caused by current energy systems lies with the scale at which most of them, at least in industrialised countries, operate. In many countries, large energy companies, operating as monopolies at regional and national levels, have generally opted for large-scale fossil fuel or nuclear technologies, separate electricity and heat production (and hence low net efficiencies), and all important decisions concerning energy policy have been taken at central government level. Hennicke et al (1985) have suggested that energy services are best provided in small-scale, integrated systems at the local level, characterised by municipal ownership and autonomous decision-making by local government.

In the long-term, this may well involve a shift from large-scale grid based distribution systems. In the short-term, a slow introduction of renewable energy sources is desirable, which has indeed been acknowledged by the EU (see e.g. European Commission, 1992b). As their potential varies tremendously between regions and even within regions and they are generally small-scale, the local level seems appropriate for decision-making. Furthermore, even on the fossil-fuel side economies of scale have now become almost irrelevant. Due to technological advances, small-scale, gas-fired combined heat and power units can often provide heat and power at more cheaply than large, centralised power stations can, as a myriad of examples in Denmark, Germany and the Netherlands demonstrate.

Additionally, the issue of energy consumption has clearly wider connotations and is intricately linked with general societal consumption behaviour as well as mobility requirements. Efforts to reduce energy consumption thus have to be linked to other issues such as re-use, recycling and public transport provision, which are generally planned for and provided at the local level. Finally, land use planning decisions for the siting of housing, shopping and industrial areas

are taken at the local level and have a crucial impact on mobility needs and hence energy consumption.

However, while this may be the case in principle, the problem is that as concerns climate change, as with other environmental issues, a number of EU countries would fail to implement policies either nationally or locally were it not for EU level action. Krämer (1995) has argued that action of EU level is often a means of ensuring that environmental measures are taken in all member states. In any case, the application of the subsidiarity principle is generally based on political expediency rather than on real concern about appropriate levels of action or instruments. This has certainly been the case with the carbon/energy tax where the discussion almost completely ignored dealing with the questions about the effectiveness of the tax as an instrument.

The next two sections will analyse activities in the member states and at the local level to investigate the empirical evidence for the adequacy of subsidiary action.

4. DEVELOPMENTS AT SUB-EU LEVEL

4.1 Climate change strategies at the national level

A number of member states have actually set themselves individual CO₂ targets which go beyond the general EU target. Germany aims at reducing emissions by 25% by the year 2005 (compared to 1990 levels), Austria and Denmark are aiming at 20% (by 2005, compared to 1988 levels) and the Netherlands wants to achieve a 3 to 5% reduction by the year 2000 (compared to 1989/90 levels). However, as the examination of the EU level has indicated, the translation of targets into the actual implementation of policy measures is not necessarily assured.

Germany, while having set itself the toughest target for CO₂ reductions, has been rather slow to introduce effective policy measures. Although its climate change programme mentions 109 measures, many of these are very small-scale or measures designed for other reasons and only to a limited extent relevant. Unification has been a heavy drain on the country's finances and has resulted in economic and political difficulties so that climate change has been pushed from the top of the agenda. There is for example a lack of support for energy efficiency at the federal level. The collapse of industrial production in the East (as well as some improvements in energy efficiency) has meant an overall fall in CO₂ emissions of 14.7% between 1987 and 1993 (Federal Ministry for the Environment, 1994). However, industrial production is expected to pick up again towards the late 1990s. According to the latest, tentative predictions CO₂ emissions will be reduced by between 9.8 and 18% by 2005, depending on the

measures taken (Federal Ministry for the Environment, 1994). This leaves a substantial shortfall to the target, which the Government has recently tightened by setting a 1990 baseline (compared to the previously set 1987 baseline). Plans to introduce a CO₂ tax are still rather vague and have encountered much industrial opposition. Transport is the Achilles heel of the German policy, especially with the Government's continued refusal to set speed limits on motorways.

The Netherlands is another member state which has been proactive on environmental issues. While its target is not as ambitious as Germany's, its strategy to implement it has been somewhat more comprehensive. An important part of the Dutch strategy has been the target sector approach, focusing on the conclusion of voluntary covenants with a number of industrial sectors, including the energy sector. In the latter case, the companies have been allowed to impose a small levy on consumers bills to finance their programmes which include various energy efficiency measures and investment in combined heat and power and renewables (see Collier, 1993). Furthermore, there are a number of government subsidies available to promote renewables and combined heat and power. Nevertheless, CO₂ emissions are forecast to increase by 5% by 2000 with current levels of energy prices (RIVM, 1993). A carbon tax is to be employed as of January 1996 but this will only apply to domestic consumers. Meanwhile, the continuing dependence of the Dutch economy on energy intensive agriculture, the chemicals industry and road haulage makes significant emission reductions difficult.

As already mentioned, the UK has been one of the countries most obstructive to reaching agreement on the EU CO₂ strategy. Its particular objection has been to the carbon/energy tax, as it feels that decisions on taxes should not be taken at EU level. Instead, it decided to impose VAT on previously zero rated domestic fuels¹⁴. However, due to much opposition resulting in a lost vote in the House of Commons, the Government only managed to impose an 8.5% tax rather than the full rate of 17.5%. Considering gas and electricity prices are now being driven down by the regulators this is unlikely to have any effect. Furthermore, the other main pillar of the strategy, the Energy Savings Trust (see Collier, 1995b) is suffering from a tremendous shortfall in funding. Basically, the UK government's main pre-occupation in recent years has been with the privatisation of the energy sector. As already mentioned, this has some incidental environmental benefit, namely the large investment in gas-fired combined cycle gas plants in electricity generation, which will reap short term emission reductions. However, post-2000 emissions look set to increase¹⁵. Currently, the Government is forging ahead with the privatisation of the railways and the indications are that this, akin to bus deregulation in the 1980s, will lead to more expensive travel. Hence, there is no real alternative to the

private motor car and emissions from the transport sector are likely to continue rising.

Like the UK, France has not been supportive of the EU carbon/energy tax proposals, albeit for different reasons. As already mentioned, France's energy sector is highly focused on nuclear energy, which supplies 73% of electricity needs. France's problem is that while the move to nuclear power reduced overall CO₂ emissions by 25% between 1973 and 1990, it leaves little scope for emission reductions from the electricity sector. Nevertheless, France is still the EU's fourth largest CO₂ emitter and has to play a role if an overall EU target is to be achieved. CO₂ emissions are projected to increase by 8.7% by 2000, mainly due to increases in the transport sector. The Government has few policy measures to reduce emissions from this sector. France argues against general emission reduction targets, it feels that instead cost-effectiveness should be the main criteria of EU climate change policy (Giraud, 1995).

Sweden, although generally perceived as one of the 'greener' member states, is also likely to have increased its emissions by 2000. Sweden has two main problems. Firstly, a referendum has committed the Government to phase-out nuclear by 2010. Even if nuclear capacity is replaced with the most efficient fossil-fuelled power stations, increases in CO₂ emissions will result. There are some good renewable energy programmes (especially for biomass) but the potential here is rather small in the short term. Secondly, Sweden is already one of the most energy efficient countries, both in the industrial and domestic sector. Hence, there are limited opportunities for reductions there (Löfstedt, 1995). Again, emission reductions would have to be achieved mainly in the transport sector which is proving difficult. Sweden is a thinly populated country and thus good road links are vital. A greater shift to public transport might be hard but there are opportunities for achieving emission reductions through greater vehicle efficiency. Currently, most of Sweden's vehicle fleet consists of large, fairly inefficient cars.

All of the cohesion countries are projecting emission increases. Spain's projected emissions matter particularly as it is by far the largest of the poorer member states with a large potential for emission growth. Initially, Spain projected increases of up to 30% by 2000 but these have now been scaled down to 15% as a result of the industrial recession of recent years. As Labandeira (1995) shows, Spain lacks a climate change strategy. There are some energy policy measures which will have positive effects in terms of CO₂ emissions but these are rather limited. Spain has a considerable potential for renewable energy sources but has few programmes to promote them. Few efforts are being made to improve the rather inefficient public transport system and large emission increases are expected from the transport sector.

As concerns the other member states, a similarly mixed picture can be found regarding the implementation of CO₂ targets. A good overview is provided by IEA (1994). Some countries like Denmark are actively implementing CO₂ limitation strategies, while others like Greece do very little and rely on the fact that, as it has been accepted that their economies still need to grow, they will be allowed to increase CO₂ emissions. In all countries, the transport sector is a particular problem case, as here emissions have been growing fastest. This trend can only be changed through a modal shift to public transport which will be difficult to achieve, both because of the costs involved and most people's preference for the private motor car.

Some of the required policy action will actually have to be taken at local level. To date, nearly all climate change policy analysis has concentrated on the national, EU and global levels, which only gives an incomplete picture. Especially in relation to the subsidiarity principle, it is important to look at the sub-national level of which the next section provides an overview.

4.2 Climate change initiatives at the local level

Both the EU and national governments have largely ignored the local level as relevant for drawing up climate change strategies. Yet, at least in some member states, local governments have been very dynamic, often with greater initiative than their national government. At European level, two organisations are currently attempting to encourage local authorities to reduce their CO₂ emissions; the International Council for Local Environmental Initiatives (ICLEI) and the Germany based Climate Alliance. ICLEI runs a 'Cities for Climate Protection' campaign which encourages towns to sign up to reduce their CO₂ emissions by 20% by 2005, compared to 1987. The Climate Alliance aims at a reduction of per capita CO₂ emissions by 50% by the year 2010, compared to 1987. Obviously, signing up to these commitments is entirely voluntary and to date most member towns and cities are in Germany and the Netherlands. One problem in achieving any type of concerted action at the local level is that the scope for action varies tremendously between EU member states. While in some countries local authorities have extensive powers and resources in these areas, in others they have relatively little scope for action.

In Germany, for example, local authorities can directly influence energy production and use through the ownership of local energy companies. They also own local transport companies. Many German cities have already considerable expertise in energy planning through the drawing up local energy concepts (see Collier, 1994). Most of these have now incorporated CO₂ emission reductions as a major aim. At the same time, UK local authorities, lack resources to even establish the baseline for their emissions and have little

scope for influencing the energy and transport areas. Nevertheless, a number of UK authorities have signed a 'Climate Resolution', organised by Friends of the Earth, committing themselves to drawing up abatement strategies within this constraining framework, often making use of EU and other external funding.

To date, there is little information about these local activities which makes it difficult to assess their likely impact of CO₂ emissions. There is some dissemination of information through ICLEI and the climate alliance and there is some EU level support for local activities. DG XI financially supports a 'sustainable cities' programme, DG XVII (Energy) supports 16 projects under its 'Regional and Urban Energy Programming' initiative, while DG XII (Research) is funding a research project on the optimisation of climate change strategies in EU municipalities. However, these are all very small-scale projects and overall, there remains a general lack of coordination between the different levels of action in the climate change area. The Climate Alliance feels that for effective local action, a greater delegation of powers to the local level is needed everywhere (Klimabündnis, 1993). As there will never be a uniform allocation of powers to the regional or local level in the EU, it is very difficult to achieve an effective policy just through subsidiary action at these levels.

5. WINDOWS OF OPPORTUNITY

5.1 CO₂ emissions - likely developments

As the preceding sections have indicated, climate change initiatives at various levels of government have encountered problems. The scale of the problem is brought home by emission forecasts. Forecasts are obviously fraught with difficulties but nevertheless can give an indication of likely trends towards 2000. DG XI in 1994 reported a projected CO₂ emission increase of between 4 and 12% by 2000 (European Commission, 1994) which in 1995, as a result of assuming lower rates of economic growth, it reduced to between 5 and 8% (European Commission, 1995). A report by DRI for the Commission, also published in 1995, predicted a 5.9% increase between 1990 and 2000¹⁶. These figures are however somewhat contentious. The DRI report predicts, for example, an increase of CO₂ emissions for the UK of 4.1% while the UK Department of Trade and Industry's most recent assessment claims actual reductions of between 4.4 and 7% (Department of Trade and Industry, 1995). An assessment by the European Parliament's Scientific and Technological Options Assessment (STOA) unit, mainly based on the projections contained in the national programmes, suggests an overall increase of 4.7%¹⁷ (STOA, 1995),

although a figure of 0.2% is also discussed, based on more optimistic assumptions for Germany.

As STOA highlights, there are key uncertainties in all these projections based on differing assumptions and general problems with models¹⁸. It is beyond the scope of this paper to discuss the validity of individual projections any further. However, as the UK is the only member state which has produced optimistic projections, it does seem possible that the EU will not achieve its target. This does not bode well for eventual real term reductions, as are likely to be required by the 1997 protocol to the Climate Change Convention. Currently, it looks as if the Commission has very little scope for manoeuvre as concerns common measures. The next section discusses two possible ways forward.

5.2 Possible ways forward: tax reform or tradeable permits?

Despite the problems encountered by the carbon/tax proposal, the Commission is still discussing the tax issue, albeit within the broader framework of an environmentally focused tax reform. This idea has been put forward by a number of academics in recent years (e.g. von Weizsäcker, 1989), suggesting that by introducing or increasing environmental (especially energy) taxes and reducing labour taxes, economic growth and environmental protection could be reconciled more easily. To some extent, the carbon/energy tax proposals tried this through the idea of 'revenue neutrality'.

At EU level, environmental tax reform was firmly put on the agenda in December 1993, when the Commission, under the initiative of then President Delors, published the White Paper on Growth, Competitiveness and Employment (European Commission, 1993b). The paper stressed the so-called double-dividend, i.e. the possibility of integrating environmental protection with economic growth through, for example, job creation in the energy efficiency field. For this, the paper relied on the use of economic instruments, in particular a reform of the current tax system.

A supporting study was prepared by a team of consultants led by DRI and published in 1994 (DRI, 1994). Again, the availability of 'win-win' policies was stressed and cost-effectiveness constituted a main aim of the recommendations. The study considered the integration of a range of mainly fiscal measures into sectoral policies with a concurrent reduction of income or payroll taxes. Environmental externalities were thus supposedly integrated into other policies in a cost-effective manner, with a slightly beneficial effect on GDP growth (2.2 % per annum compared to a predicted 2.15% in the reference scenario). This so-called 'integrated' scenario predicted substantial reductions in SO₂ and NO_x emissions but actually predicted a small increase (around 4%) in CO₂ emissions by 2010. From an environmental viewpoint, no real 'victory' can thus be claimed as the 'win-win' approach still leads to increases in CO₂ emissions.

Carraro, Galeotti and Gallo (1995) find in a similar analysis short-term emission reductions but long-term increases, as net wage increases stimulate the consumption of all goods including energy.

Overall, the evidence regarding the effectiveness of environmental taxes is rather inconclusive and a climate change strategy cannot rely on the functioning of taxes as a kind of panacea. Furthermore, considering the problems encountered with the carbon/energy tax, it seems rather unlikely that the member states would agree on the development of a common tax system. The EU might thus have to look for different ways forward.

An alternative way of applying economic instruments could be through a system of tradeable emission permits. To date, this has never been seriously considered an option at the EU level, but might provide an option for overcoming member state and industrial opposition. According to Koutstaal and Nentjes (1995), a full blown system of tradeable pollution permits consists of the following elements:

- at national or, if necessary, regional level, the acceptable total release of a pollutant is determined and expressed in a homogenous unit of measurement (e.g. tons of CO₂);
- permits that entitle their owner to release pollutants are handed out, with the total pollution quota distributed equalling the set pollution ceiling;
- the pollution permits can be traded.

Permits initially can be sold by governments or handed out for free, both to industrial companies and fuel suppliers in the case of domestic consumers. Individual sources may increase their emissions and new sources may be established but this has to be compensated by reductions of released pollutants elsewhere. The total level of emissions permitted can be reduced over time. The basic idea of the permits is that those who can reduce emissions at a low cost will do so and then sell permits to emitters who have high abatement costs. Overall, all sources should thus reduce their costs at equal marginal costs and total costs will be at a minimum. However, this depends on the market for pollution permits being a 'perfect' one, which is questionable considering a range of well known market failures. Also, as Swart (1992) points out, emissions trading is particularly appropriate for situations that involve large emitters but less appropriate for small-scale emitters, for example car drivers.

In comparison with a tax, a main advantage of the tradeable emissions permit system is that the emission ceiling is fixed, hence overcoming the problems about the uncertain effectiveness of a carbon tax. The system could also be

more politically acceptable if permits were issued free to industry. Unlike with a tax, companies would then only have to cover abatement costs rather than both costs and emission charges. As the import and export of fossil fuels within the EU cannot be checked, the permit system would have to be implemented at an EU level. This could also allow a two-tier system - one of an EU allocation to member states and one of a member states allocation to industries (coordinated at EU level). The main benefit of an EU allocation would be that divergencies between member states could be turned into an advantage.

Clearly, some countries have much more scope for action than others. France, which has relatively low CO₂ emissions as a result of its nuclear programme, would need to achieve most emission reductions in the transport sector. This is much more difficult than for example the UK switching from coal to gas in electricity generation. Meanwhile, the UK also has a much greater potential for energy efficiency in domestic housing than Sweden. Furthermore, some member states have more scope for renewable energy development than others. A tradeable permit system should achieve that emissions are reduced wherever the measures are easiest to implement and costs are lowest.

Undoubtedly, implementing a tradeable emissions system would be complex and requires careful design. The initial allocation of permits would be far from easy and enforcement problems might occur. One way forward might be through a pilot scheme, for example covering industry. However, as yet, there appears to be little readiness to experiment with such a system.

6. CONCLUSIONS

As this paper has shown, the picture regarding the implementation of climate change policies at various levels in the European Union is rather patchy. The attempt to draw up a common strategy has yielded few measures, as a result of the continuing subordination of environmental issues to political and economic priorities. Initiatives in the member states and at local level are unlikely to go far enough. As a result, it is at best uncertain whether the relatively unambitious stabilisation target for 2000 will be achieved. Furthermore, worst case scenarios predict substantial emission increases for the next 15 years of up to 30% by the year 2010 (DRI, 1994), while the FCCC's Berlin meeting called for reductions post 2000 and is now starting to negotiate a protocol to this effect. EU developments to date do not bode well for achieving future reduction targets.

It has been argued that there are a number of reasons which have led to the withering of the EU's climate change strategy, but a main problem is the lack of EU competence in crucial areas such as energy and fiscal policy. In

environmental terms, there is no compelling reason to implement inflexible common policy measures for climate change. There is no real need for every member state to have the same type of energy efficiency policies or prescribe the use of certain technologies. In fact, if all member states took their obligation under the FCCC seriously, EU action could almost be restricted to coordination and funding for research, development and demonstration. However, in reality, environmental issues receive little attention in a number of member states and without being forced by the EU, they would take no action. Environmentally, it also would not matter if member states wanted to proceed with different kind of environmental tax regimes. As it is not clear which tax level is best, some useful lessons could be learnt this way. However, for economic competitiveness reasons and in terms of the functioning of the internal market, such measures have to be agreed EU level with common denominators.

Considering the continuing need for a least some types of CO₂ reduction measures being implemented at EU level, questions arise as to the scope for further policy developments. In March 1995, in preparation for the first conference of the party of the FCCC, the Commission presented, on request of the Council, a working paper on the current state of policy developments, as well as options for the period 2005 to 2010. These include some very broad options such as changing market structures, removing barriers to energy efficiency and renewables and the integration of environmental concerns in the fiscal system (European Commission, 1995). Tradeable emission permits are not mentioned yet they may point to a sensible way forward.

In general, as the Commission states in the 1995 working paper, a considerable political commitment is required in various policy areas (energy, transport, fiscal etc.) if CO₂ limitations are to take place effectively. Whether this will exist remains to be seen. 1995 saw the accession to the EU of three countries generally seen as environmental 'leaders'. Furthermore, political changes in the biggest 'laggard', the UK, may be on the cards as the current UK government is fighting for its survival. A change of government to one with a more pro-European stance could have a positive influence on developments. At the same time, as studies on the linkages between economy and environment continue, issues such as environmental tax reform may come more firmly onto the agenda. On the other hand, further EU enlargement towards the East is unlikely to make agreement on environmental matters any easier. The issue of subsidiarity is likely to continue to influence developments and its interpretation will be invariably based on political expediency rather than environmental needs. EU climate change policy will thus proceed on a rather bumpy road full of obstacles.

NOTES

- ¹ Least-cost planning (also known as Integrated Resource Planning) involves the integration of supply side planning with demand side planning and generally results in greater investments in end-use energy efficiency (for more detail see e.g. Hirst, Goldman and Hopkins, 1991).
- ² According to a draft communication of 28 November 1990, detailing the initial proposals.
- ³ Jacques Delors' Commission finally published the proposals in late 1994 (COM (94) 647) and left it up to its successors to follow it up. It is not yet clear as to whether the new Commission will pursue any of the options mentioned.
- ⁴ During the 1980s, there were long discussions about the harmonisation of value added tax which resulted in a compromise agreement which meant little change for most member states.
- ⁵ Additionally, the Council, acting unanimously on a proposal from the Commission, could have suspended the application of the tax in 'exceptional cases in order to take account of the special situations in member states'.
- ⁶ Although, according to one official in the Commission, some other member states were also opposed but quite content to let the UK assume the role of the 'bad guy'.
- ⁷ *Europe Environment* no. 455, 23.05.95.
- ⁸ As stated in an explanatory memorandum dated October 1993 on the SAVE directive, submitted by the Department of the Environment to the House of Commons.
- ⁹ As reported in *Europe Environment* No. 452, 4/4/1995, supplement.
- ¹⁰ Initially, the base year for this was 1987 but at the Berlin Climate Summit in 1995, Chancellor Kohl announced 1990 as the new baseline year, which involves even tougher reductions.
- ¹¹ While in the case of SO₂ and NO_x emissions from large combustion plants, Germany set up its own legislation first, then pursued legislation at EU level (see Boehmer-Christiansen and Skea, 1991).
- ¹² *Energy in Europe*, December 1994, pp. 36-49.
- ¹³ It is beyond the scope of this paper to go into any detail on the subsidiarity debate. For a more detailed analysis see e.g. Axelrod (1994), Collier (1995a), Krämer (1995).

- ¹⁴ The government claims this is part of its CO₂ strategy although the opposition and environmental groups are very sceptical, believing that the main reason for its imposition was to help reducing the large budget deficit the country faces.
- ¹⁵ The Department of Trade and Industry projects emission increases of between 4.4 and 26.6% for 2005 compared to 1990 (Department of Trade and Industry, 1995).
- ¹⁶ *Europe Energy* No. 441, 24/2/95, pp.2-6.
- ¹⁷ Although this used official UK figures from the climate programme of January 1994 which are now, according to the Department of Trade and Industry, out-of-date.
- ¹⁸ Models have to deal with all sorts of uncertainties and their use often entails the exercise of judgements and off-model adjustments.

7. REFERENCES

- Agence Europe (1994) 'Council defines strategy to reduce CO₂ emissions', *Agence Europe* 6381: 9.
- Axelrod, A. (1994) 'Subsidiarity and environmental policy in the European Community', *Journal of International Environmental Affairs* 6(2): 115-132.
- Boehmer-Christiansen, S., Skea, J. (1991) *Acid Politics*. London: Belhaven Press.
- Carraro, C., Galeotti, M. and Gallo, M. (1995) *Environmental taxation and unemployment: some evidence on the double-dividend hypothesis in Europe*. *Nota di Lavora* 34.95. Milano: Fondazione Eni Enrico Mattei.
- Collier, U. (1993) 'Global warming and energy policy in the Netherlands: towards sustainable development?', *Dutch Crossing* Winter 1993: 69-91.
- Collier, U. (1994) *Energy and environment in the European Union: the challenge of integration*. Aldershot: Avebury.
- Collier, U. (1995a) 'Energy policy and climate change: a case for subsidiarity and shared responsibility?', paper prepared for the workshop 'Subsidiarity and shared responsibility: new challenges for EU environmental policy', European University Institute, 4-5th May 1995.
- Collier, U. (1995b) *Electricity privatisation and environmental policy in the UK: some lessons for the rest of Europe*, Working Paper, Robert Schuman Centre. Florence: European University Institute.
- Council of the EC, European Commission (1992) *Treaty on European Union*. Luxembourg: Office for Official Publication of the European Communities.
- DRI (1994) *Potential benefits of integration of environmental and economic policies*. London: Graham and Trotman.
- Department of Trade and Industry (1995) *Energy paper 65: Energy projections for the UK*. London: HMSO.
- European Commission (1986) 'Council resolution concerning new Community energy policy for 1995 and convergence of the policies of the member states', *Official Journal of the EC* C 241:1-3.
- European Commission (1988) 'The greenhouse effect and the Community', *COM*(88) 656 final.
- European Commission (1990) 'Proposal for a Council Directive concerning the promotion of energy efficiency in the Community', *COM*(90) 365 final.
- European Commission (1991) 'A community strategy to limit carbon dioxide emissions and to improve energy efficiency, Communication from the Commission to the Council', *SEC*(91) 1744 final.
- European Commission (1992a) 'A community strategy to limit carbon dioxide emissions and to improve energy efficiency, Communication from the Commission', *COM*(92) 246 final.

- European Commission (1992b) 'Specific actions for greater penetration for renewable energy sources - ALTENER', *COM(92)* 180 *final*.
- European Commission (1992c) 'Proposal for a council directive introducing a tax on carbon dioxide emissions and energy', *COM(92)* 226 *final*.
- European Commission (1992d) 'Proposal for a council directive to limit carbon dioxide emissions by improving energy efficiency (SAVE programme)', *COM(92)* 182 *final*.
- European Commission (1992e) 'Completion of the internal market in electricity and gas', *COM(91)* 548.
- European Commission (1993a) 'Council directive 93/76/EEC to limit carbon dioxide emissions by improving energy efficiency', *Official Journal of the EC* 237: 28-30.
- European Commission (1993b) 'Growth, competitiveness and employment: the challenges and ways forward into the 21st century', *COM(93)* 700 *final*
- European Commission (1994) 'Assessment of the expected CO₂ emissions from the Community in the year 2000', *SEC* 94 (122).
- European Commission (1995) 'Commission working paper on the EU climate change strategy: a set of options', *SEC 95/288/final*.
- Ekins, P. (1994) *Rethinking the costs related to global warming. Discussion Paper 94-07*. Birmingham: Department of Economics, University of Birmingham.
- Eurelectric (1993) *Proposal for an effective and worldwide strategy of climate protection on the basis of voluntary self-commitments*. Brussels: Eurelectric.
- Federal Ministry for the Environment (1994) *Climate Protection in Germany*. Bonn: Federal Ministry for the Environment.
- Giraud, P.N. (1995) Climate change policies in the European Union: case study for France. Unpublished, European University Institute, Florence.
- Golub, J. (1994) *The pivotal role of British sovereignty in EC environmental policy*, Working Paper, Robert Schuman Centre. Florence: European University Institute.
- Golub, J. (1995) 'British sovereignty and the development of EC environmental policy', paper presented at the ECPR Sessions, Bordeaux, 27/4-2/5/95.
- Grubb, M. and Hope, C. (1992) 'EC climate policy: where there's a will...', *Energy Policy*, November 1992: 1110-1114.
- Héretier, A., Mingers, Knill and Becka (1994) *Die Veränderung von Staatlichkeit in Europa*. Opladen: Leske + Budrich.
- Hennicke, P., Johnson, J., Kohler, S. and Seifried, D. (1987) *Die Energiewende ist möglich*. Freiburg: Öko-Institut.
- Hirst, E., Goldman, C. and Hopkins, M.E. (1991) 'Integrated resource planning, electric and gas utilities in the USA', *Utilities Policy* January 1991: 172-186.

- IEA (1994) *Climate change initiatives - Volume 1 OECD Countries*. Paris: OECD/IEA.
- Jachtenfuchs, M. (1994) 'International policy-making as a learning process: the European Community and the greenhouse effect', PhD thesis. Florence: European University Institute.
- Jordan, A., Rowbotham, E., Beuermann, C. (1994) 'The implementation of the climate change convention: a comparison of Northern European state perspectives', *European Environment* 4 (5): 14-18.
- Klimabündnis (1993) *Klima - Lokal geschützt*, München: Raben Verlag.
- Koutstaal, P. and Nentjes, A. (1995) 'Tradeable carbon permits in Europe: feasibility and comparison with taxes', *Journal of Common Market Studies* 33 (2): 219-233.
- Krämer, L. (1995) *EC Treaty and environmental law*. London: Sweet and Maxwell.
- Labandeira, X. (1995) Climate change policies in the European Union: case study for Spain. Unpublished, European University Institute, Florence.
- Löfstedt, R. Climate change policies in the European Union: case study for Sweden. Unpublished, European University Institute, Florence.
- McGowan, F. (1991a), 'Conflicting objectives in European energy policy', in Crouch, C. and Marquand, D. (1991) *The politics of 1992*. London: Blackwell: 121-137.
- OECD (1993) *International economic instruments and climate change*. Paris: OECD.
- Richardson, J. (1994) EU water policy: uncertain agendas, shifting networks and complex coalitions', *Environmental Politics* 3 (4): 139-167.
- RIVM (1993) *Third environmental outlook 1993-2015*. Bilthoven: RIVM.
- Rotmans, J., Hulme, M. and Downing, T.E. (1994) 'Climate change implications for Europe: an application of the ESCAPE model', *Global Environmental Change* 4 (2): 97-124.
- Sbragia, A. (1995) 'The 'push-pull' of environmental policy making' in Wallace, H., Wallace, W. and Webb, C. (eds) *Policy-making in the EU*, forthcoming.
- Skjaereseth, J.B. (1994) 'The climate policy of the EC: too hot to handle?', *Journal of Common Market Studies* 32 (1): 25-45.
- STOA (1995) *Climate change and energy use: status and options for European policy*. Luxembourg: Directorate General for Research.
- Swart, R. (1992) 'Greenhouse gas emissions trading: defining the commodity' in OECD *Climate change: designing a tradeable permit system*. Paris: OECD:149-183.
- Turner, R.K. (1993) 'Sustainability: principles and practice' in Turner, R.K. (ed) *Sustainable environmental economics and management*. London: Belhaven: 3-36.

- von Weizsäcker, E.-U. (1989) *Erdpolitik*. Darmstadt: Wissenschaftliche Buchgesellschaft.
- World Commission on Environment and Development (1987) *Our common future*. Oxford: Oxford University Press.
- Wynne, B. (1993) 'Implementation of greenhouse gas reductions in the European Community: institutional and cultural factors', *Global Environmental Change* 3 (1): 101-128.

Working Papers of the Robert Schuman Centre

RSC No. 94/1
 Fritz W. SCHARPF
 Community and Autonomy Multilevel
 Policy-Making in the European Union *

RSC No. 94/2
 Paul McALEAVEY
 The Political Logic of the European
 Community Structural Funds Budget:
 Lobbying Efforts by Declining Industrial
 Regions

RSC No. 94/3
 Toshihiro HORIUCHI
 Japanese Public Policy for Cooperati
 Supply of Credit Guarantee to Sma
 Its Evolution Since the Post War
 Commitment

RSC No. 94/4
 Thomas CHRISTIANSEN
 European Integration Bet
 Science and International
 The End of Sovereign

RSC No. 94/5
 Stefaan DE RYN
 The Europeaniz
 Development in the Flemish Region

RSC No. 94/6
 Enrique / ILA
 Conver / as: A Proposal to Reform
 the E / ransition to a Common
 Cur

RSC No. 94/7
 JIGGINS
 and the New United Nations

RSC No. 94/8
 Iney TARROW
 Social Movements in Europe: Movement
 Society or Europeanization of Conflict?

RSC No. 94/9
 Vojin DIMITRIJEVIC
 The 1974 Constitution as a Factor in the
 Collapse of Yugoslavia or as a Sign of
 Decaying Totalitarianism

RSC No. 94/10
 Susan S
 Europe
 Business in Japan: A Policy
 Cross

RSC No. 94/11
 UVALIC
 Privatization in Disintegrating East European
 states: The Case of Former Yugoslavia

RSC No. 94/12
 Alberto CHILOSI
 Property and Management Privatization in
 Eastern European Transition: Economic
 Consequences of Alternative Privatization
 Processes

RSC No. 94/13
 Richard SINNOTT
 Integration Theory, Subsidiarity and the
 Internationalisation of Issues: The
 Implications for Legitimacy *

RSC No. 94/14
 Simon JOHNSON/Heidi KROLL
 Complementarities, Managers and Mass
 Privatization Programs after Communism

RSC No. 94/15
 Renzo DAVIDDI
 Privatization in the Transition to a Market
 Economy

RSC No. 94/16
 Alberto BACCINI
 Industrial Organization and the Financing of
 Small Firms: The Case of MagneTek

RSC No. 94/17
 Jonathan GOLUB
 The Pivotal Role of British Sovereignty in
 EC Environmental Policy

RSC No. 94/18
 Peter Viggo JAKOBSEN
 Multilateralism Matters but How?
 The Impact of Multilateralism on Great
 Power Policy Towards the Break-up of
 Yugoslavia

RSC No. 94/19

Andrea BOSCO

A 'Federator' for Europe: Altiero Spinelli and the Constituent Role of the European Parliament

RSC No. 94/20

Johnny LAURSEN

Blueprints of Nordic Integration. Dynamics and Institutions in Nordic Cooperation, 1945-72

* * *

RSC No. 95/1

Giandomenico MAJONE

Mutual Trust, Credible Commitments and the Evolution of Rules for a Single European Market

RSC No. 95/2

Ute COLLIER

Electricity Privatisation and Environmental Policy in the UK: Some Lessons for the Rest of Europe

RSC No. 95/3

Giuliana GEMELLI

American Influence on European Management Education: The Role of the Ford Foundation

RSC No. 95/4

Renaud DEHOUSSE

Institutional Reform in the European Community: Are there Alternatives to the Majoritarian Avenue?

RSC No. 95/5

Vivien A. SCHMIDT

The New World Order, Incorporated: The Rise of Business and the Decline of the Nation-State

RSC No. 95/6

Liesbet HOOGHE

Subnational Mobilisation in the European Union

RSC No. 95/7

Gary MARKS/Liesbet HOOGHE/Kermit BLANK

European Integration and the State

RSC No. 95/8

Sonia LUCARELLI

The International Community and the Yugoslav Crisis: A Chronology of Events *

RSC No. 95/9

A Constitution for the European Union?

Proceedings of a Conference, 12-13 May 1994, Organized by the Robert Schuman Centre with the Patronage of the European Parliament

RSC No. 95/10

Martin RHODES

'Subversive Liberalism': Market Integration, Globalisation and the European Welfare State

RSC No. 95/11

Joseph H.H. WEILER/ Ulrich HALTERN/ Franz MAYER

European Democracy and its Critique - Five Uneasy Pieces *

RSC No. 95/12

Richard ROSE/Christian HAERPFER

Democracy and Enlarging the European Union Eastward

RSC No. 95/13

Donatella DELLA PORTA

Social Movements and the State: Thoughts on the Policing of Protest

RSC No. 95/14

Patrick A. MC CARTHY/Aris

ALEXOPOULOS

Theory Synthesis in IR - Problems & Possibilities

RSC No. 95/15

Denise R. OSBORN

Crime and the UK Economy

RSC No. 95/16

Jérôme HENRY/Jens WEIDMANN

The French-German Interest Rate

Differential since German Unification:

The Impact of the 1992-1993 EMS Crises

RSC No. 95/17

Giorgia GIOVANNETTI/Ramon

MARIMON

A Monetary Union for a Heterogeneous Europe

RSC No. 95/18

Bernhard WINKLER
Towards a Strategic View on EMU -
A Critical Survey

RSC No. 95/19

Joseph H.H. WEILER
The State "über alles"
Demos, Telos and the German Maastricht
Decision

RSC No. 95/20

Marc E. SMYRL
From Regional Policy Communities to
European Networks: Inter-regional
Divergence in the Implementation of EC
Regional Policy in France

RSC No. 95/21

Claus-Dieter EHLERMANN
Increased Differentiation or Stronger
Uniformity

RSC No. 95/22

Emile NOËL
La conférence intergouvernementale de 1996
Vers un nouvel ordre institutionnel

RSC No. 95/23

Jo SHAW
European Union Legal Studies in Crisis?
Towards a New Dynamic

RSC No. 95/24

Hervé BRIBOSIA
The European Court and National Courts -
Doctrine and Jurisprudence: Legal Change
in its Social Context
Report on Belgium

RSC No. 95/25

Juliane KOKOTT
The European Court and National Courts -
Doctrine and Jurisprudence: Legal Change
in its Social Context
Report on Germany

RSC No. 95/26

Monica CLAES/Bruno DE WITTE
The European Court and National Courts -
Doctrine and Jurisprudence: Legal Change
in its Social Context
Report on the Netherlands

RSC No. 95/27

Karen ALTER
The European Court and National Courts -
Doctrine and Jurisprudence: Legal Change
in its Social Context
*Explaining National Court Acceptance of
European Court Jurisprudence: A Critical
Evaluation of Theories of Legal Integration*

RSC No. 95/28

Jens PLÖTNER
The European Court and National Courts -
Doctrine and Jurisprudence: Legal Change
in its Social Context
Report on France

RSC No. 95/29

P.P. CRAIG
The European Court and National Courts -
Doctrine and Jurisprudence: Legal Change
in its Social Context
Report on the United Kingdom

RSC No. 95/30

Francesco P. RUGGERI LADERCHI
The European Court and National Courts -
Doctrine and Jurisprudence: Legal Change
in its Social Context
Report on Italy

RSC No. 95/31

Henri ETIENNE
The European Court and National Courts -
Doctrine and Jurisprudence: Legal Change
in its Social Context
Report on Luxembourg

RSC No. 95/32

Philippe A. WEBER-PANARIELLO
The Integration of Matters of Justice and
Home Affairs into Title VI of the Treaty on
European Union: A Step Towards more
Democracy?

RSC No. 95/33

Debra MATIER
Data, Information, Evidence and Rhetoric in
the Environmental Policy Process:
The Case of Solid Waste Management

RSC No. 95/34

Michael J. ARTIS
Currency Substitution in European Financial
Markets

RSC No. 95/35
Christopher TAYLOR
Exchange Rate Arrangements for a Multi-Speed Europe

RSC No. 95/36
Iver B. NEUMANN
Collective Identity Formation: Self and Other in International Relations

RSC No. 95/37
Sonia LUCARELLI
The European Response to the Yugoslav Crisis: Story of a Two-Level Constraint

RSC No. 95/38
Alec STONE SWEET
Constitutional Dialogues in the European Community

RSC No. 95/39
Thomas GEHRING
Integrating Integration Theory: Neofunctionalism and International Regimes

RSC No. 95/40
David COBHAM
The UK's Search for a Monetary Policy: In and Out of the ERM

* * *

RSC No. 96/1
Ute COLLIER
Implementing a Climate Change Strategy in the European Union: Obstacles and Opportunities



© The Author(s), European University Institute.

Digitised version produced by the EUI Library in 2020. Available Open Access on Cadmus, European University Institute Research Repository