Convergence Through the Back Door?: The Implementation and Use of Environmental Management Systems in Germany and the UK

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Introduction

To what extent and by which mechanisms does European Union (EU) environmental policy cause a convergence in the behavior of key actors across member states? Given the remarkable growth and increasing complexity of EU environmental legislation, it is not surprising that a number of scholars have looked at this issue in recent years. While a great deal has been learned about the manner in which community law affects member state policy and policy styles, most of these studies have been somewhat narrowly focused on government and bureaucratic actors. Much less attention has been paid to the effects that EU policy has had on the target groups of this legislation or other private actors.

This paper seeks to address this gap by examining how both governments and business groups have reacted to the introduction of the voluntary Eco-Management and Audit Scheme (EMAS) in the United Kingdom (UK) and Germany. It argues that this type of procedural policy instrument is less likely than more traditional 'command and control' policies to cause a convergence in the policy instruments and styles employed by individual member state governments. At the same time, however, these schemes create pathways and mechanisms by which private actors learn from one another and adopt certain common norms of behavior.

EMAS is a voluntary scheme in which participating firms erect a comprehensive environmental management system (EMS) dedicated to improving the firm's environmental performance. After the system has been certified by a third-party auditor, the firm receives a participation certificate which it can use in certain forms of advertising. As such, EMAS is representative of a subtle but now well established shift in environmental policymaking within the EU. As outlined in the Fifth Environmental Action Plan published in 1992, the Commission has committed itself to employing a wider range of policy instruments by adding voluntary and market schemes to its more traditional instruments of emissions limits and prescriptive

technology standards (CEC). The idea behind these new policies is to increase the oversight capabilities of ordinary European citizens by making the environmental performance of industry more transparent and by rewarding good industrial practice. The Commission has also come under increasing pressure to devolve more decision-making power to member states in accordance with the subsidiary principle which holds that policy should only be adopted at the EU level when its objectives can best be obtained there. As a result of both of these trends, EU environmental policymaking has become increasingly flexible in nature, employing a more complex mode of implementation in which a greater number of actors--both public and private--participate[1].

This trend towards the use of more flexible and voluntary environmental policy instruments is by no means limited to the European continent. In accordance with the widely accepted sustainable development paradigm in which business, governments and environmental groups are encouraged to work together to find sustainable production processes and consumption patterns, a number of so-called international 'beyond compliance' schemes have been created. These schemes, of which EMAS is just one, encourage firms to establish policies dedicated to continuously improving their environmental performance beyond what is required by domestic and international law (Prakash, 2000). As the third generation of environmental policies, 'beyond compliance' schemes attempt to correct some of the perceived shortcomings of both the 'command and control' policies of emissions limits and the slightly more flexible eco-taxes by fully empowering firms to make the decisions they feel are necessary to bring about environmental improvements. Thus, 'beyond compliance' policies are purported to be both more efficient and better able to take advantage of industry 'know-how' than more traditional

[1] For an overview of how greater flexibility has been introduced into EU environmental legislation see J. Scott (2000) and L. Kraemer (1998).

environmental policies. While business has generally reacted positively to the introduction of these policies, environmental and consumer groups have remained more skeptical. EMAS and its private counterpart, the International Standards Organization's ISO 14001 are considered to be two of the most demanding of these new schemes. Despite the fact that it is a government run program, EMAS, like all 'beyond compliance' schemes, relies heavily on the actions of private actors for its successful implementation.

These changes in the basic structures of EU (and international) environmental policy would suggest that political scientists need to cast their empirical nets beyond governments and include privates actors in their research if the effects of these policies are to be truly understood. As policies change, their potential for causing convergence will also change. This paper will begin to address these issues by comparing the effects of EMAS on government actors with its effects on firms in the UK and Germany. Additionally, it will look at the effect that another private body has had on the development of EMAS, namely the International Standards Organization (ISO). Since the publication of ISO 14001, EMAS has faced stiff competition in the marketplace and its development can only be understood in light of the development of the private standard. The success of ISO 14001 may suggest that private organizations have a comparative advantage over government bodies in formulating and promoting 'beyond compliance' standards.

The paper proceeds in five sections. The first section outlines different strands of convergence theory and relates them to the two types of convergence—government behavior and firm behavior—being addressed in the paper. The second section briefly describes EMAS and ISO 14001 and their historic development. Section three details the manner in which EMAS has been used as a policy instrument in Germany and the UK and assesses its potential for causing convergence in the policy styles of the environmental bureaucracies in the two countries. The

fourth section examines how German and British chemical firms have used EMAS and ISO 14001 and evaluates their potential for causing convergence in business practices. The final section will offer a summary of the paper's findings and relate these to our understanding of convergence theory as well as to the importance of private authority within increasingly fragmented governance structures.

Convergence Theory

Although convergence theory is closely associated with the globalization literature of the 1990s, its pedigree goes back far beyond these more recent developments. Many neo-liberal scholars of the early post-war period predicted that market forces and the spread of industrial technology would force all societies to converge towards a common way of organizing economic and social life (Rostow, 1971; Weiner, 1974 and Almond & Coleman, 1960). This type of modernization theory was widely discredited throughout the 1960s and 1970s as developing countries in certain parts of the world continued to languish in poverty despite industrialization and as advanced industrial countries developed and maintained several distinct 'varieties of capitalism' (Soskice, 1999; Zysman, 1983; Streeck, 1992). Technology it seems did not force convergence and can be used to support a number of different kinds of social institutions. The idea of convergence, however, has not been lost. Many contemporary scholars have predicted that such forces as increased capital flows, international market competition, the spread of common norms across borders and regional integration movements—often subsumed under the heading of globalization—will cause societies to become more alike[2].

Despite the prevalence of convergence theory in political science literature over the past five decades, it remains a poorly understood and poorly defined concept. As Colin Bennett

[2] For an overview of this debate see S. Berger and R. Dore, 1996 and D. Drache and R. Boyer, 1996.

points out in his excellent review article, the key--and often misunderstood--dimension of convergence is temporal rather than spatial (1991). Thus convergence occurs when two societies or a certain dimension of two societies become more alike over time. This paper will try to get around some of the constraints that longitudinal studies impose on researchers by examining the potential for future convergence as well as movement in that direction already observed or not observed.

Scholars have also often been somewhat vague about pinpointing the specific aspects of society that are thought to converge. Indeed this has varied a great deal from study to study. Sociologists tend to look at large-scale system convergence whereas students of political economy usually look at the convergence of economic/social institutions while public policy scholars examine the convergence of policy across governments (Unger & van Waarden, 1995). This paper focuses on policy convergence. While seemingly much narrower than other varieties of convergence, policy convergence actually covers a wide range of phenomena. Again borrowing from Bennett, policy convergence can be thought of occurring in one or all of the following policy aspects: goals, content, instruments, styles and outcomes (1991). Similarly, policy convergence can occur through several different mechanisms. The most prominently mentioned in the literature are emulation, harmonization and learning through epistemic communities/elite networks.

The EU environmental policy literature on which this paper builds has logically tended to concentrate on the potential of harmonization to bring about similarities in policy content, instruments and style. As is true of most convergence literatures, and probably the phenomenon itself, a somewhat mixed picture has resulted from this research. While no scholars claim that European integration has resulted in wholesale convergence of environmental policies across member states, a number have put forth arguments suggesting that policy change and even

partial convergence has resulted from the advent EU legislation. In perhaps the best known of these arguments, Andrienne Heritier et al. posit that member states often try to persuade the Commission to adopt legislation which is based on their own preferred policy style and instruments in an attempt to avoid the costs of adjustment. In the environmental field where strong pressure for high standards exists, this has resulted in a 'regulatory competition' between key member states. Through this process there has been a ratcheting-up of certain environmental standards and some mutual convergence has occurred, particularly in the use of policy instruments. They point out that differing institutional and geographic conditions among member states keep them from converging to one common environmental policy style (Heritier et al., 1996; Heritier, 1995). Daniel Kelemen takes a slightly different approach and argues that some convergence in environmental policies has occurred through the initiative of the Union's supranational institutions, in particular the Commission and the European Court of Justice. For political and institutional reasons, these bodies have tended to support the environmental leader states of the union against the laggard states in their fight to pass stringent environmental standards (1995).

Other scholars of European environmental policy have been more skeptical about the possibility of convergence. Fritz Scharpf argues that given the configuration of business and electoral interests there is no permanent coalition of member states which can consistently impose high environmental standards on the union as a whole (1996). Perhaps as reaction to the dilemmas this situation causes, more recent work by Joanne Scott (1999) and Antovia Dimotova & Bernard Steuenberg (2000) has shown that EU environmental policy has become more flexible in nature which has given member states more room to mold this legislation to the imperatives of their own institutional and policy styles. As such, this literature seems to suggest that less convergence can be expected in the future and will only occur where there is enough

political will within the key European policymaking institutions to pass substantive policy with well-defined goals and few opt-out clauses in the implementation process.

This paper joins the debate about the potential of EU environmental policy to cause convergence and picks up the line of enquiry where the last set of authors leaves off. Like Scott's work, it begins with the premise that the nature of the policy itself influences the extent and the type of convergence we are likely to see. More flexible procedural policies that call for the use of certain instruments or the erection of certain schemes are less likely to cause convergence in member state policy style than more substantive legislation that includes specific, usually quantified, goals to be met. Procedural legislation simply leaves member state governments more room to mold these policies to their own institutional imperatives and pre-existing SOPs (Kollman & Prakash, 2001). This paper does not deny the importance of domestic institutional variables in the implementation of EU policy, it simply suggests they will play a greater or lesser role depending on the type of policy being implemented. As EU policy moves from the use of more substantive command and control policies to the use of policies that are more procedural in nature, we can expect the pressure for most types of policy convergence to diminish.

Ironically, however, this trend towards the use of more procedural and especially 'beyond compliance' policies may increase the potential for convergence in target group behavior or put more broadly a convergence in policy outcomes. Although a government program, EMAS sets up a kind of private authority structure[3] in which firms themselves are encouraged to determine what the final outcomes of their EMS should be. In the case of EMAS, the influence of private actors over the scheme has been enhanced by the existence of the private law ISO 14001

[3] For an excellent review of the increasing importance of private authority in international political economy see A. Cutler, V. Haufler and T. Porter, 1999.

standard. The private authority structures created by EMAS and ISO 14001 have resulted in the formation of a business-led epistemic community in which common norms, management structures and notions of 'best practices' have been developed and disseminated across countries.

By moving the analysis beyond the effects that EU legislation has on member state policy instruments and administrative styles to the effects it has on private actors, the paper borrows concepts developed by political economy scholars as well as the corporate governance discourse. In particular, it accepts the notion put forth in these literatures that firms are social institutions which vary cross-nationally in accordance with the domestic structures in which they are embedded (Streeck, 1992; Whitley, 1996; Hart, 1992). Using this as a starting point, it then seeks to understand how EU policy affects firms in different countries and the extent to which EU legislation can bring about a convergence in firm behavior. It concludes that in the case of EMAS there has been a greater convergence in target group behavior than in the behavior of environmental bureaucracies. After briefly describing EMAS (and ISO 14001) in the next section, the paper will go on to show how this scheme has been used as almost two completely different policy instruments in the UK and Germany. At the same time being used in a fairly similar way by chemical firms in the two countries.

EMAS and ISO 14001

The EMAS Regulation has its origins in two recent trends taking place in international business. The first, as has already been discussed, is the establishment 'beyond compliance' schemes in which firms formally pledge to take a proactive role in reducing their ecological impacts. The second trend is the increasing use of private, management system norms, especially the quality management ISO 9000 series. This norm was developed by the private International Standards Organization located in Switzerland which was created to write technical

standards for industrial processes and products for the purpose of ensuring that interchangeable parts are indeed interchangeable. The ISO 9000 series was a departure from this more technical work and is designed to create an independently certifiable management system that guarantees production errors are eliminated or at least reduced to a bare minimum. This norm has become widely used in many industrial sectors largely due to the increased decentralization of production processes in which it becomes more difficult for manufacturers to carry out their own quality insurance checks.[4] By the early 1990s many national standards organizations began to see a similar need for a certifiable environmental management system given the increased market value of a green image and the introduction in many countries of stringent environmental liability laws. In 1992, the British Standards Organization (BSI) launched the world's first EMS entitled BS 7750.

At about the same time, and with strong encouragement from the British government, the EU Commission began work on a draft of a European-wide EMS scheme. In addition to honoring its pledge to use more market and voluntary policy instruments, the Commission also sought to prevent the proliferation of national standards within the common market. The successful piloting of BS 7750 in the UK during1991 and 1992 increased the Commission's enthusiasm about the possibility of a European scheme and encouraged the drafters to borrow heavily from the British standard. In December of 1991, the Commission submitted a proposal for the EMAS Regulation to the European Environmental Council which after extensive debate was finally adopted as a community Regulation in June of 1993.[5]

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[5] In the EU policymaking process the Commission proposes all legislation while the Council, often in conjunction with the European Parliament, adopts proposals into law. For a detailed description of the different processes by which EU policy can be adopted see A. Sbragia, 1996.

The scheme that emerged from this process was for an EMS that encourages firms to voluntarily adopt policies dedicated to continuous improvement in their environmental performance. Participating firms or individual firm sites must erect systems designed to evaluate their environmental impacts, set goals for future improvements and carry out regular internal audits of the firm's/site's environmental protection measures. Additionally, these EMS are subject to an external certification procedure that is carried out by an independent, accredited verifier. Once this latter procedure has been completed successfully, firms receive a participation logo that can be used for advertising purposes. Member states are responsible for establishing the accreditation system for the independent verifiers and for appointing a body to register firms into the scheme.

Like EMAS, one of the primary objectives of ISO 14001 is to preempt the proliferation of national environmental laws that could serve as trade barriers (Roht-Arriaza, 1997; Clapp, 1998). In 1992, ISO formed a Technical Committee (TC 207) for the express purpose of formulating environmental management standards. Forty-seven countries participate in TC 207 as full voting members and another thirteen as advisors. National standards organizations such as the DIN (Deutche Institut Normen) in Germany or the ASNI (American National Standards Institute) in the US make up the official membership of ISO. Much of the work carried out in the subcommittees, however, is done by appointed 'experts,' many of whom are representatives of industry (Hortensius & Barthel, 1997). Environmental and consumers groups are also entitled to participate in these subcommittees; however; most of these groups find the costs of participation prohibitive. TC 207 has six subcommittees that, in turn, have several working groups. The ISO 14000 series consists of one mandatory compliance standard—ISO 14001, and several non-mandatory guideline standards. The mandatory standard, like EMAS, calls for establishing an EMS whose criteria must be met in order to receive certification from an outside verifier.

Since both ISO 14001 and EMAS are based on BS 7750, they contain a number of structural similarities. Despite explicit efforts to harmonize ISO 14001 and the original EMAS scheme, however, several differences exist between the two standards. The most important of these can be found in the scope, reporting requirements, and the strength of language contained in the two standards. EMAS is restricted to use within EU/EFTA member states while ISO 14001 is international. Additionally, the original EMAS scheme is only to be employed by manufacturing industries and has to be implemented at specific sites whereas ISO 14001 is open to organizations of all kinds and is not site specific. Thus, while ISO 14001 can be used to certify all of a company's offices and production sites, companies opting for an EMAS certificate have to have each of its production sites validated separately and cannot include non-production offices in these certificates. Furthermore, EMAS requires participating companies to publish an environmental statement. While ISO 14001 encourages open communication with the public, no environmental publication is required. Finally, several elements of EMAS, which also exist in ISO 14001 (e.g. legal compliance and continuous improvement clauses), are stated in more concrete language and leave less room for interpretation. Because of these differences, EMAS is widely considered—both among business and environmental groups--to be the more rigorous of the two standards.

As was foreseen in the original Regulation, EMAS underwent a revision process starting in 1998. Under considerable pressure from European industry groups, it was agreed that the scheme needed to be made more compatible with the truly international ISO 14001 standard whose take-up rates in Europe far surpassed that of EMAS (see table 1). Thus, early in the revision process it was agreed that ISO 14001 would be adopted as the EMS part of the EMAS scheme. Additionally, it was quickly agreed that like the ISO standard, EMAS should be available to all types of organizations, not just to manufacturing sites. Over and above the ISO

14001-based EMS, however, EMAS participants are still required to produce an environmental statement and guarantee that they are in compliance with all environmental legislation.

Despite the relative ease with which the major planks of the revision were agreed upon, the process was not free from controversy or political wrangling. In July 2000, the European Parliament (EP) proposed 27 amendments to the Commission's original draft in an effort to strengthen the scheme. The most important of these proposed amendments included increasing the circulation and frequency of the firm environmental statement, strengthening the legal compliance part of the third party audit, introducing the use of specified environmental indicators and establishing greater oversight of the third-party auditors. After a conciliation process, most of the EP's amendments were dropped but the final EMAS Regulation does include provisions for greater public access to the environmental statements, a stronger legal compliance clause and better oversight of the third party verifiers (*The Legislative Observatory,* 2000). These struggles are representative of the differing views that exist both between and within member states about what the voluntary EMS scheme should be. As the next section will demonstrate these views and the policy styles they represent have had a profound effect on how EMAS and ISO 14001 have been implemented in individual member states.

The Use of EMSs by Policymakers in Germany and the UK

As has been noted by a number of scholars, the regulatory approaches employed by the German and UK governments in the environmental policy field differ significantly (Knill & Lenschow, 1998; Vogel, 1988 and Heritier et al., 1996). As such they represent good cases in which to measure convergence. These differences begin with the definition of pollution. In Germany any substance that is released into the environment is considered a pollutant. The goal of environmental policy is, therefore, to avoid all emissions of pollutants in what is known as the *Vorsorgeprinzip* (precaution principle) which has been written into every major piece of German

environmental legislation (Bender, Sparwasser & Engel, 1995: 25-26). Britain on the other hand has largely based its environmental policy on the idea of risk assessment in which it is assumed that the environment can tolerate certain levels of pollution. Thus no action is seen as necessary until scientific evidence shows that „critical loads" have been reached and damage has occurred.

From these starting points it is not surprising that the two governments have tended to use very different policy instruments and implementation mechanisms to control environmental pollution. In accordance with Germany's 'zero tolerance' approach to pollution control, they have chosen to adopt stringent, legally-binding emissions limits based on legally defined Best Available Technology (BAT) standards. The use of these BAT standards is often seen as the core of Germany's successful industrial pollution control legislation. Unlike BAT standards used in the US, which prescribe a particular technology, BAT standards in Germany are defined as the emission limit that corresponds to the best available technology. Industrial sites are free to innovate and use new technologies that meet this limit or fall below it. In this way German legislation encourages firms to innovate and find more efficient or cost-effective technologies to meet regulatory standards (Braithwaite & Drahos, 2000: 269-270). The German government revises these standards as new technologies become more widely used. As such, a form of continuous improvement is written into the German environmental policy process. While the government has worked fairly closely with industry in setting emissions limits and in defining BAT standards, the state has made it quite clear that industry is going to be strictly regulated by this system of command and control legislation.

Contrarily, in keeping with their critical load philosophy, Britain prefers to set environmental quality limits in which the maximum level of pollution for a given area is set rather than regulating the amount that polluters can emit. This has allowed Britain to negotiate flexibly with industry in setting industrial, site-related emission limits. British government

authorities have fostered what is usually referred to a 'cozy' relationship with polluters and have rarely used threats or prosecution in implementing environmental legislation (Vogel, 1988).

As a result of EU legislation, Britain has been forced to change its style to a certain extent and implement specific emissions limits. These legislative changes led to a major overhaul of the inspectorate system starting in 1990 and the British government has paid lip service to stricter enforcement of environmental legislation (Jordan, 1998). However, convergence towards the German model has been by no means complete. Indeed the British government was able to skillfully mesh its obligation to adopt European emissions limits with its preference for more flexible policy instruments in its adoption of the Environmental Protection Act of 1990. While incorporating the necessary emissions standards into this legislation, a number of more flexible, procedurally-oriented instruments such as Integrated Pollution Control were also included. These procedural instruments do not specifically prescribe appropriate behavior but rather put procedures in place that attempt to encourage environmentally-friendly behavior. It is this preference and Britain's decision to push its procedurally oriented legislation up to the EU level that led to the passage of the EMAS Regulation. As will be shown, however, procedural legislation like EMAS has much less potential to cause convergence in national policy styles than the more substantive command and control legislation that Germany favors.

Many of the differences between the British and German conceptions of what EMAS should be first appeared during the Council debates that lasted more than a year and a half. By December of 1992, after almost eight months of debate, Germany was the only member state that still had objections to the Regulation and blocked the other member states' attempt to pass the proposal into EU law (Hillary, 1997). The German delegation's reservations about EMAS were based on a multiple of issues that highlight their basic philosophical attitude toward the scheme. German industry groups and the Economics Ministry challenged the very idea of setting up an

EMS at the European level. In their opinion efforts aimed at encouraging more environmental self-responsibility within industry should be made by industry itself. They argued further that the scheme discriminated against German industry as legal compliance—a requirement for EMAS registration—is much more difficult to attain in Germany than in most other member states. Therefor a German site would have to do more to receive the same logo that a registered site in Spain, for example, also receives (Waskow, 1997). Unless concrete measures of environmental performance were adopted, this basic flaw in the scheme would remain.

The environmental ministry, the Bundesministerium fuer Umweltschutz, Naturschutz and Reaktorsicherheit (BMU), had less fundamental objections to EMAS but like the Economics Ministry was concerned about the lack of specific criteria by which improvements in environmental performance would be measured. Furthermore, the BMU was concerned that no procedures had been written into the text of the Regulation detailing how the legal compliance part of the audit was to be carried out. Too much emphasis, they felt, was being placed on the existence of the management system instead of on the details of what this management system had to accomplish and how these accomplishments were to be measured (Waskow, 1997).

When the Environmental Council met again in 1993 to discuss EMAS, it was under very different circumstances. By this time the Maastricht Treaty had been ratified by all member states and its provision for the use of qualified majority voting in the Council for environmental issues, which was due to come into use at the end of 1993, meant that Germany was about to lose its veto. Not surprisingly, the negotiators changed their tactics and began looking for ways of making the EMAS Regulation more acceptable to them. The BMU negotiators' compromise solution was to insist that BAT be used as the benchmark by which continuous improvement in environmental performance is measured.

This proposal and the general intransigence of the German delegation that had preceded it infuriated the British negotiators. They felt that the Germans fundamentally misunderstood the spirit behind the scheme which in their view was to allow business to define its own standards for improvement. Writing measurement criteria into the Regulation undermined the dynamism of this process by making companies focus on one aspect of improvement, namely technological improvement.[6] In the interest of reaching a compromise, however, they suggested they would accept the insertion of what they referred to as EVABAT (Environmentally Viable Application of the Best Available Technology) a term that unlike BAT or even BATNEEC (Best Available Technology Not Exceeding Excessive Cost) had never been legally defined. The Germans agreed to this compromise and EMAS was formally adopted into law by the Council in June of 1993. As the lead British negotiator interpreted the situation, "the German negotiators left that meeting thinking that they got BAT as a minimum entry requirement but the text doesn't say that."[7] In the British view EVABAT is something that is vague enough to be meaningless so that it its addition while undesirable did not compromise the spirit of the scheme in any way.[8]

Not surprisingly, the implementation of EMAS in the two countries has differed greatly and reflects the contrasting views of the scheme that surfaced in the Council. Although not legally necessary, the German government decided that it needed to pass new legislation in order to create the registration and accreditation bodies required by the EMAS Regulation; this was the

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[6] Personal communication with Geoff Smith 7/13/99 and Ruth Hillary 3/9/99

[7] Personal communication with Geoff Smith 7/13/98.

[8] Personal communication with Bernard Walsh 7/13/98. Though acceptable to the British negotiators, the inclusion of EVABAT in the EMAS scheme muddied the 'beyond compliance' and 'continuous improvement' concepts in the German context. As BAT—a stricter standard than EVABAT—is a part of most German environmental law, using EVABAT as the standard by which continuous improvement is measured makes it difficult for German firms to go beyond what is contained in legislation. In the German context meeting a BAT standard would be assumed with the participating firm's commitment to legal compliance.

first indication that the German government viewed EMAS first and foremost as a legal instrument (Waskow, 1997). This somewhat banal sounding task turned out to be extremely difficult as business and environmental groups vehemently disagreed about who should be in charge of accrediting the outside verifiers. Environmental groups insisted that a government body, preferably the Environmental Protection Agency, should serve as the accreditation body of the third-party verifiers and EMAS registrar. Business groups balked at this idea and argued that as a voluntary scheme they alone should be in charge of its execution. After year and a half of debate a compromise was reached in which business groups were granted the right to establish an accreditation firm whose activities were to be overseen by a pluralistic supervisory group consisting of members from governmental agencies, trade unions, business groups and environmental groups (Waskow, 1997). Although business largely got what it wanted and has been able to exercise a great deal of influence over the system, the controversy over its establishment which did not occur in any other member state shows how uneasily this new scheme fits into the framework of German environmental policy. The German legislation also included a detailed description of how the legal compliance part of the audit is to be carried out and mandates certain kinds of sample testing.[9] As such, legal compliance is what has been emphasized in the EMAS scheme in Germany rather than its beyond compliance component.

Ironically the German government further emphasized the legal compliance part of the EMAS scheme by linking it to calls for deregulation. At the time that EMAS was adopted German environmental policy was increasingly coming under attack from both industry and some environmental groups for being inflexible and too reliant on command and control mechanisms (Weidner, 1999). Amid this atmosphere the BMU decided to promote EMAS within Germany by linking it to deregulation. The kind of deregulation which the BMU chose to

[9] Personal communication with Waskow 5/13/99

pursue, however, had very little in common with the British vision of „getting industry to leave government regulation in the rearview mirror.[10]" Instead it was based on the idea of 'functional equivalency' in which participating firms would be relieved of certain legal obligations if a roughly equivalent obligation existed in EMAS (*Umweltrechtsreport*, 1998).

Thus there would be no lifting of material standards, simply a replacement of them. The government could feel confident that these equivalent obligations were being met because the legal compliance part of the third party audit had been spelled out so clearly in German law. Since no such guarantees were included in the private law ISO 14001 standard, the government offered participants of this scheme no regulatory relief. Thus, EMAS became yet another control mechanism by which the government could ensure that industrial sites were meeting the law. In general, industry has been disappointed by the amount and kind of regulatory relief offered EMAS-participating firms. The rapid growth of ISO 14001 vis-à-vis EMAS in Germany over the past two years (see table 3) can partially be attributed to this disappointment. Thus, this very new and supposedly innovative policy instrument has been implemented in Germany using old rules. EMAS has very much been viewed as yet another regulatory instrument containing specific measures for compliance, emphasizing the use of BAT and even providing for fairly strict government oversight despite its voluntary nature.

All of this contrasts sharply with the British implementation of EMAS. In Britain no laws have been passed transposing the Regulation into national law. In fact, very little action was needed by the British government to implement EMAS as the institutions already in place for the national environmental management system, BS 7750, have been used for EMAS registration and accreditation.[11] The whole process took place in a relatively short period of time

[10] Personal communication with Peter Wilson 3/16/99
[11] Personal Communication with Geoff Smith (DTI), 7/13/98.

with almost no objection from either industry or environmental groups. Further, the British government has not attempted to tie EMAS as closely to deregulation as has been done in Germany. Instead they have attempted to link EMAS with other voluntary business programs which the government sees as part and parcel of the future of environmental regulation. EMAS participation has been included in the government's *Sustainable Business Program* as well as its *Corporate Reporting Program* (DETR, 1998; 1999). The emphasis has been on promoting more industry self-responsibility and on encouraging corporations to be more transparent by giving the public more information about their activities. All of these programs as well as the small amount of deregulation that is offered to companies with certifiable EMSs gives equal treatment to organizations that use the private ISO 14001 standard. The government makes no distinction between the private scheme and the EU scheme.

The results of this case study suggest that procedurally based EU legislation like EMAS has even less ability to cause a convergence in member states' regulatory approaches than the more substantive legislation which was adopted in the 1980s. The German environmental bureaucracy has used EMAS as yet another instrument with which to monitor the implementation of Germany's rather strict environmental law. It has shown very little inclination to link it to other voluntary agreements or promote the idea of letting industry set its own standards as has been done in the UK. Because procedural legislation does not contain specified or quantified goals to be met such as an emissions limit, it is easier for member states to mold it to the imperatives and structures of its own regulatory approach. Indeed this seems to be exactly what has happened with the use of EMAS. Thus, the partial convergence of member state environmental policy that was seen in the early 1990s as a result of such substantive-oriented policy as the Large Combustion Plant Directive has not occurred as a result of EMAS. As we shall see in the next section, however, the differing uses of EMAS (and ISO 14001) by the

two governments has only partially affected the way firms in the Germany and the UK have reacted to their introduction. Ironically, the potential for target group convergence (or policy outcomes) seems much greater than the potential for policy style convergence.

The Use of EMSs by Firms in Germany and the UK

The paper argues that despite the fact that policymakers in Germany and the UK have used international EMS standards quite differently as policy instruments, they are causing (and have the potential to cause) the firms that implement them to adopt similar management practices. Using the chemical industry in Germany and the UK as a case study, it posits that EMAS and ISO 14001 have given rise to a business-led epistemic community in which common norms about good environmental business practices rather than scientific knowledge per se is being transmitted across borders. The case study will outline how transnational environmental management networks are being formed, the specific norms that these networks promote and the management practices that result. The evidence presented here is based on interviews with environmental managers of 12 EMAS or ISO 14001 certified chemical firms in each country as well as a content analysis of the environmental policies of 50 German and British chemical firms (see table 4).

A look at firm-level adoption rates of EMAS and ISO 14001 in Germany and the UK would appear to contradict the argument that how the two governments have used the EMS standards has had no effect on firm behavior (see tables one and two). In fact, the overt promotion of EMAS over ISO 14001by the German government has had a profound effect on levels of EMAS adoption rates in that country. In the UK, by contrast, where the government has treated both EMS standards equally, ISO 14001 has become by far the more popular of the two standards with over three times more companies participating in the ISO scheme. Indeed

adoption rates among firms, especially in the early phases of the standards lives, are very sensitive to influences rooted in the domestic political economy. Firms are only likely to adopt a certified EMS if they feel the benefits of participation outweigh the costs of certification. Initially, these perceptions of costs and benefits are determined largely by how well information about each standard is distributed in the domestic economy and the incentives that governments and environmental groups offer participating firms. Because the government only offered regulatory relief to EMAS participants and carefully linked the scheme to such business organs as the powerful German chambers of commerce, EMAS seemed to offer German firms greater benefits than ISO 14001 despite its reputation for being more difficult to implement. In the UK, the government's endorsement of both EMSs and the similarity of ISO 14001 to the now withdrawn national EMS standard, BS 7750, have made ISO 14001 the more successful EMS in that country (Kollman and Prakash, 2001; forthcoming).

A look at adoption rates over the past two years would suggest, however, that other, more international forces are beginning to strongly influence firms' perceptions about the costs and benefits of the two EMSs. While EMAS enjoyed a great deal of initial success in Germany, it never became popular anywhere else. Thus its recognition in world markets and therefore its ability to enhance firms' competitiveness or environmental image has been limited. ISO 14001 on the other hand has experienced rapid growth across the globe. Given ISO 14001's obvious market advantages over EMAS and the relative ease with which EMAS participants can acquire an ISO 14001 certificate in Germany, it is not surprising that the rate of ISO 14001 growth has far outstripped that of EMAS in Germany in the past few years (see table 3). This trend no doubt has also been fueled by industry disappointment about the amount of regulatory relief actually offered EMAS participants in Germany. Thus, while still important, the influence of the

domestic political economy on firm adoption rates of the two EMS schemes seems far less significant now than it did in the beginning phases of their existence[12]

While obviously very important, adoption rates give little insight into how having an EMS certificate affects the behavior and management practices of the firms who adopt them. While changes in firm behavior do vary across borders and are affected by domestic actors and government influences, the evidence presented below suggests the commonalities promoted by both EMAS and ISO 14001 and their potential to cause an even greater convergence of firm behavior in the future far outweigh these cross-national differences. It must be stressed that this paper does not assume as many classic and some neo-liberal economic theorists do that all firms tend towards a common structure designed to maximize profits (Friedman, 1970; Chandler, 1990). Extensive research has shown that firm structures, governance patterns and even goals vary significantly cross-nationally and are strongly influenced by such domestic structures as culture, state institutions, types of financial systems and the labor movement (Whitley, 1996; Woolcock, 1996; Zysman, 1983).[13] Instead of positing that all firms are alike, the paper begins

[12] One should be careful not to totally dismiss the importance of the domestic political economy on firm adoption rates of EMS certificates. In countries where neither the government, business groups or environmentalists have promoted their take-up such as in the US and France, adoption rates remain comparatively rather low.

[13] A number of studies have shown that corporate governance in the UK differs significantly from that which is practiced in Germany. German firms, which are enmeshed in a dense set of semi-public associational groups, tend to be financed by banks instead of equity capital and by law must include labor in decision-making processes, are usually more oriented towards quality competition than price competition and engage in more long-term decision-making than British firms which tend to be regulated less by the government, have fewer obligations to labor and be financed by equity capital. For an overview of this literature see C. Lane, 1996 and J. Franks & C. Mayer, 1990. While these differences have influenced the manner in which ISO 14001 and EMAS have been implemented in the UK and Germany and largely explain why EMAS has been so much more popular in Germany than in the UK (see Kollman & Prakash, forthcoming), differences in corporate governance have not undermined the diffusion of common norms and ideas of environmental management best practice among firms in both countries.

with the assumption that firms in the UK and Germany are different but that certain management practices are becoming more similar because of the existence of EMAS and ISO 14001.

As outlined above, the case study posits that this convergence has occurred as a result of the creation of a business-led epistemic community centered on environmental management issues.[14] This epistemic community is made up of a largely transnational network of environmental managers, consultants, auditors and corporate managers who are interested in greening their supply chains. This network, which is partially subdivided along industrial sector lines, promotes certain norms, which have led or are leading firms to adopt common environmental managerial practices.

The evidence presented here suggests that the nationality of these firms is of only secondary importance. It must be noted, however, that this evidence is drawn from one industrial sector, the chemical industry. This particular industry is, of course, both highly internationalized and very sensitive to public perceptions about environmental performance. As such, one would expect to see a greater convergence of environmental management practices in the chemical industry than in most others. Indeed, the study acknowledges that the effects of EMS standards will be uneven across different business sectors. However, as world markets continue to integrate and as levels of environmental consciousness remain high amongst the populations of advanced industrial societies, there is good reason to think that the effects of EMS standards will radiate out far beyond the chemical industry. A great deal of evidence exists which suggests, for example, that car manufactures are putting more pressure on their suppliers to adopt a certifiable EMS than their counterparts in the chemical industry (*ENDS Report*, 4/98; *ENDS Daily*, 5/11/00).

The creation of a network of environmental management experts within the chemical industry predates either the adoption of the EMAS Regulation in 1993 or the publication of ISO 14001 in 1996. The advent of increasingly stringent and complex legislation regulating the use of chemicals coupled with a growing public awareness of the risks associated with the manufacture of certain chemicals has forced the chemical industry to make environmental and safety issues a top corporate concern. All of the sites that I visited in Germany and the UK from smallest of thirty-two employees to the largest of well over a thousand employees had an environmental officer on site. Indeed, the chemical industry itself has put a great deal of effort into promoting better environmental management practices through its world-wide Responsible Care program. While this program, which is run by the national chemical manufacturing associations in different countries, lays out a relatively detailed set of guidelines for establishing an EMS, it makes no provisions for a third-party audit (Prakash, 2000).

In the years following the advent of EMAS and ISO 14001, the EMS network within the chemical industry grew, solidified and became more transnational in nature. As one of the environmental managers that I spoke with put it, "there is a virtual mafia of people if you like who deal in [environmental] management affairs." This includes not only the site environmental managers who talk, email and meet regularly to exchange information about environmental issues but also an exploding number of consultants who specialize in EMS issues. With the exception of two sites, all the environmental managers I interviewed used consultants to erect their EMAS/ISO 14001 management systems. Many of these consultants were intimately involved in drafting and implementing key elements of the management system including the internal monitoring procedures, work instructions and management handbooks. Not

[14] The concept of epistemic communities used here draws on Peter Haas's work (1989) which conceptualizes them as a loose grouping of experts connected by certain types of knowledge,

surprisingly, the field of environmental consultancy has grown tremendously since EMAS and ISO 14001 were published. A recent study by BTI Consulting has shown that in the year 2000, companies for the first time spent more money on environmental consulting than any other environmental service. While these services are by no means exclusively aimed at the establishment of a certifiable EMS, BTI does list increasing interest in ISO 14001 as one of the key drivers of this growth (BTI, 2000).

Additionally, as the first EMSs to require third-party certification, EMAS and ISO 14001 have given rise to a new profession, the environmental auditor. This profession quickly became globalized as countries decided to mutually recognize the national accreditation procedures for third-party auditors. This set the stage for large, international accountancy firms such as KPMG, Arthur D. Little and Arthur Andersen to move into both the environmental consultancy and EMS auditing fields (KPMG, 2000; *ENDS Report*, 2000).[15] Most of these firms had already been involved in the auditing and certification of quality management systems--especially the ISO 9000 series--and have subsumed both of these services under what is now called Total Quality Management. This emphasis on TQM has been marketed as a way of simplifying the burgeoning number of certifiable management systems into a manageable integrated whole. Most of the larger auditing firms are able to certify firms to ISO 14001, EMAS and ISO 9000. As such, this network makes very little distinction between EMAS and ISO 14001. Most of the firms with whom I spoke which had both ISO 14001 and EMAS certifications had them certified by the same auditor, very often simultaneously.

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attitudes and values.

[15] Legally, if a person has acted as consultant for a site, they cannot be the one who audits and certifies that site to EMAS or ISO 14001. There is some controversy about whether the same auditing firm can deliver both services. In the course of my interviews I found the latter to be a fairly widespread practice in both countries.

The larger auditing firms are capable of carrying out certifications in a number of countries and often have offices across Europe. While most of the EMAS participating firms included in this study employed either local auditors or larger national auditing firms, a significant minority of them--four out of twenty-four firms in Germany and six out of eighteen firms in the UK—used international auditing firms whose headquarters are located outside of their borders. These auditors and consultants are thus one of the key ways in which common norms and ideas about environmental management are diffused across borders.

The network of environmental management experts has been strengthened further by an increase in the supply chain pressure for certifiable EMSs within the chemical industry. Over the past two decades, chemical manufacturing has become increasingly decentralized as many large MNCs have contracted out the production of simpler, more basic chemical products to smaller toll manufactures so they can concentrate on complex, end-phase processes. Certified quality and environmental management systems are one way these large MNCs can have confidence that the basic and intermediate products they buy from their suppliers meet certain quality and environmental standards. Thus, it is usually these larger MNCs that put pressure on smaller companies to adopt EMSs rather than the common consumer.

Although, the supply chain pressure for ISO 14001 and/or EMAS adoption does not yet compare with that which exists for the quality ISO 9000 standard, it does appear to be growing. Of the 18 companies that I interviewed in Germany and the UK, 14 sent out questionnaires to their suppliers asking for details about their environmental management practices. Within these surveys, the supplier is routinely asked if they have an EMAS or ISO 14001 certificate. Additionally, all five large chemical MNCs interviewed carried out on-site audits of their suppliers' EMSs. Many of the MNCs also invited environmental managers from supplier firms to visit their sites and offered them advice about how to implement EMAS or ISO when asked.

In this way the supply chain has also become an important link by which information about EMSs are transmitted. To sum up, through increased environmental consulting, the creation of the environmental auditor profession and increased supply chain pressure, EMAS and ISO 14001 have greatly strengthened--although did not create—a transnational network of environmental management experts. As will be seen this network has been successful at disseminating a core set of principles and norms contained in the two standards in both Germany and the UK.

Both ISO 14001and EMAS explicitly require participants to develop and publish a firm environmental policy in which it pledges to meet all international and domestic laws, make continuous improvement in environmental performance, and review progress towards specific environmental targets (CEC, 1993; ISO, 1996). Although the language of the continuous improvement clause is stronger in EMAS, the two standards are almost identical in their firm policy requirements. As such, these policies offer insight into the kinds of norms and principles that underpin the EMSs being adopted by the firms that participate in them. Table four shows the results of a content analysis of the environmental policies of twenty-five German and twenty-five British EMAS and/or ISO 14001 certified firms. A vast majority of the policies represented in the table are from firms participating in EMAS; only four (2 in each country) of the policies are taken from firms which only have an ISO 14001 certificate. Approximately half of the firms represented in the table have both EMAS and ISO 14001.[16] As such, this content analysis can say very little about the differences between the two EMS standards and instead seeks to make an argument about their collective effects. As was shown above the network of auditors and consultants that help spread these norms do not make huge distinctions between the two.

[16] The reason for this discrepancy is the simple fact that because EMAS participants are listed in a central directory and are required to publish an environmental report, it is simply much easier to obtain a copy of their policies. This content analysis is just a small subsection of the one that

The results show that a number of common norms are being spread across firms in the chemical sector. While there are a few country-specific distinctions, for the most part, the differences within each country are greater than the differences between them. By far the most prevalent norms appearing in the environmental policies of both German and British firms are commitments to continuous improvement in environmental performance and legal compliance. This finding is not surprising given that both EMSs mandate that such a commitment be made; it is perhaps more surprising that so many companies were able to get certified without making this public commitment. Additionally, a majority of the firms in both countries resolved to meet these commitments by setting targets, reviewing and monitoring progress made towards these targets and making the results of this process available to the wider public; although, German firms appear more comfortable with being transparent about their environmental performance than their British counterparts. Again these processes make up the heart of what is required by both EMAS and ISO 14001 standards.

While not surprising, these findings are significant. As John Braithwaite and Peter Drahos have recently argued the principle of continuous improvement is fast becoming one of the key norms involved in the globalization of environmental regulation and has the potential to 'ratchet up' industrial environmental standards (2000: 518-523). The continuous improvement norm itself predates either ISO 14001 or EMAS and has its origins in the TQM principles largely developed and disseminated by the British Standards Institute and later by ISO. Originally applied to quality management systems, EMAS and ISO 14001 were the first international standards to link continuous improvement to environmental performance and third-party certification. By committing to legal compliance as the minimum entry point into these schemes,

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will be used for the final dissertation project which will include 100 policies from each country and will not be limited to the chemical industry.

firms are pledging to continuously go beyond the standards contained in legislation and create new ones. Firms are forced to innovate to find new ways of improving their environmental performance but they--and not governments--are the final arbiters of what these standards will be. For industries such as the chemical industry where reputation is seen as essential for survival, the costs involved in making such commitments may be considered necessary for long term success.

A commitment to continuous improvement in environmental performance, of course, means very little if standards for improvement are not well defined. While not as prevalent as either the continuous improvement or legal compliance norms, several principles do appear fairly regularly in firms' environmental policies that could help define environmental performance standards. Perhaps the most important of these is the norm to apply industry best practices. In Germany it seems that the idea of best practice is defined more narrowly or perhaps more precisely as the use of BAT whereas in the UK firms use the more general formulation. This is not really surprising given that German environmental law is largely based on BAT standards whereas in the UK, the government has tried to promote the idea of best practice through legislation and a number of voluntary programs. These definitional differences are one of the only places where domestic factors appear to play a decisive role in firm behavior. Although no definitive conclusions can be offered here given the small size of the sample, it would appear that the EVABAT clause written into EMAS, which is missing in ISO 14001, has played a very minimal role in how firms are defining continuous improvement. First, less than a quarter of the 46 EMAS certified firms commit to a BAT standard in their environmental policies. Somewhat ironically one of the British firms which did mention the use BAT was one of the four firms which was ISO 14001 rather than EMAS certified.

Indeed, the more specific pledges that are commonly found in firms' environmental policies in both countries appear to be more closely related to the broader best practice norm than to a BAT standard. Again we find that the specific best practices commonly being cited by firms are quite similar in both countries. The most widespread of these specific practices include a commitment to transparency and communication with key stakeholders, regular environmental training for all employees, monitoring performance, setting targets for improvement and product stewardship. Taken together this evidence would appear to support that idea that EMAS and ISO 14001 have been able to establish and disseminate broad-based common norms of good environmental management. In short, it supports the assertion that firms have used EMSs in a largely similar manner and are leading to a convergence in management practices.

Many environmental groups, however, remain quite skeptical about the effectiveness of these voluntary schemes--particularly ISO 14001--and argue that the principles of best practice contained in them are so vague that they amount to little more than 'greenwash'. They complain that publicly stated pledges to minimize environmental impacts mean very little if they are not backed up by specific, measurable standards. Thus, they argue that the convergence in firm behavior will remain minimal if norms of best practice are not translated into specified standards of best practice or BAT. The fact that certain specific targets such as increasing recycling rates, reducing pollution levels and improving resource and energy efficiency appear in the policies of a significant number of German and British firms suggests that common problems are being addressed by these firms even if they have not yet established common standards for dealing with them.

While it is quite clear that specific standards by which to measure industry best practice are for the most part absent from the environmental policies of these chemical firms, there is some evidence to suggest that specific best practices are being developed and disseminated

across firms. The most prevalent of these practices to be found in the firms' environmental policies is a commitment to finding process-oriented or what is known as 'at-source' techniques of reducing environmental impacts. At-source solutions--as opposed to additive, end-of-pipe measures--reduce environmental impacts by changing production processes in a way that environmental pollution or waste is never produced in the first place. Historically most industrial environmental improvements have been end-of-pipe in nature and have dealt with pollution after it is produced. During my interviews I found a widespread commitment among both German and British chemical firms to using more at-source solutions and moving away from end-of-pipe mechanisms. This commitment is, in part, rooted in an assumption promoted by certain business school scholars that at-source improvements will lower production costs and enhance firm competitiveness (Porter and van der Linde, 1995). While implementing at-source solutions is an idea that is used across a number of manufacturing sectors, process efficiency is particularly important to chemical manufacturing which employs complex production processes.

Additionally, there seems to be a movement by chemical firms in both countries towards employing more biological processes and technology in dealing with environmental problems. This includes using biological micro-organism to process production-related pollution as well as replacing inorganic chemical products with environmentally less harmful, biologically-based products. In both of these areas there would appear to be a very real potential for innovation in the chemical industry. Of course, such innovation cannot be solely attributed to EMAS or ISO 14001 but the ratcheting-up and dissemination mechanisms contained in these schemes could play a significant role in such processes. This role would be enhanced even further if environmental groups or governments could convince industry to incorporate such best practice or BAT standards into their ISO 14001 or EMAS certificates. At the present time no such cooperative efforts have been undertaken in the chemical industry.

Despite the lack of concrete environmental performance standards contained in EMAS and ISO14001 certificates, the two EMSs have done a great deal to enlarge and strengthen the epistemic community surrounding environmental management issues within the chemical industry. It has done so by increasing the size and scope of the transnational network of people who deal with these issues and by using that network to disseminate a number of key norms which have shaped perceptions about what environmental management should entail. The evidence presented in the case study above suggests that this has resulted in some convergence of firm behavior both within and across countries. There is very little evidence to suggest that the formal adoption of these norms has led to widespread innovation or improvements in environmental performance as of yet. While far from inevitable, it has set up a situation in which firm-led improvements in environmental performance could spread quickly across countries and cause behavior to converge to an even greater extent.

Conclusion

The EMAS Regulation is representative of the kind of experimental meta-policy which the Commission occasionally likes to implement in an effort to find new governance patterns in its somewhat unwieldy polity. As such, it is part of the Commission's efforts to widen the variety of environmental policy instruments at its disposal and to experiment with 'beyond compliance' schemes. By passing a Regulation in which firms themselves are allowed to set the standards by which they are to be held accountable, the Commission has involved firms in the development of environmental regulation in a way it never had before. As is true of much of the Commission's legislative experimentation, the idea for EMAS was based on a model, which was being championed by a particular member state, in this case the UK. EMAS draws heavily on the voluntaristic environmental policy style practiced in the UK and borrowed even more explicitly from the structure of the British BS 7750 EMS standard.

Unlike the more substantive German influenced EU policy of the 1980s, however, this procedural policy appears less likely to cause a convergence in the policy styles of member states. German environmental policymakers have shown little inclination to promote the core tenants of the EMAS Regulation, namely allowing firms to voluntarily set their own environmental performance standards. Instead they insisted that BAT, a standard utilized pervasively in their own environmental policy, be adopted as the criteria by which performance is measured. While the BAT standard that was adopted, EVABAT, was never legally defined, the German government made sure that compliance with domestic BAT standards was a key part of EMAS certification by explicitly regulating how the third-party audits are to be carried out. As such, EMAS became just another command and control instrument designed to oversee firm-level implementation of Germany's complex environmental policy.

The UK government by contrast has made no attempt to define standards for environmental performance and has tried to link EMAS to other voluntary initiatives rather than promoting it as a functional equivalent of government oversight. Despite predictions to the contrary, EMAS has done little to change German policy style and it has little potential to do so in the future.

EMAS, however, has had quite a different effect on the target groups of the Regulation. By giving firms the power to set their own performance standards and by recognizing those that make a commitment to continuously improve that performance, EMAS has lent firms the incentive and means by which to promote an epistemic community dedicated to environmental management. The greater the need a certain industry has for such a transnational network of experts, the stronger that community is likely to be. For the chemical industry, which is very internationalized and extremely sensitive to changes in its environmental reputation, the need is comparatively quite strong. Indeed the evidence presented in this paper suggests that EMAS

along with its private counterpart, ISO 14001, have collectively done a great deal to strengthen this epistemic community and infuse it with what are increasingly common norms of behavior. As such, EMAS and ISO 14001 have caused some convergence in firm behavior across countries despite the different ways it has been used as policy instruments by their respective governments. To use the language of convergence theory, there has been a convergence in policy outcomes.

The implications of these findings are two fold. First, they suggest that European Union scholars need to take a broader view of convergence and look not just at how EU legislation affects the policy instruments and styles of member states but also at how societal groups and private actors are affected. As EU law strives to incorporate more and different kinds of actors into its policymaking and implementation processes, it is likely that private actors will be directly affected by these policies rather than influenced exclusively through the indirect effects of how this legislation is used by member state governments. The concept of multilevel governance, which is becoming more prevalent in EU literature, could help lend insight into these new, private patterns of authority within the EU[17]. Proponents of multilevel governance argue against more traditional state-centric theories of European integration, and posit that EU policymaking and implementation processes are carried out by an interconnected network of national executives, supranational institutions and sub-national actors. While helpful, scholars have only very rarely examined the role of private actors within this network. It is only by taking these actors and their growing influence over legislative outcomes into account that the true extent and influence of EU legislation can be ascertained.

Finally, the implications of the expansion of this private authority need to be considered more carefully through greater research. The success of the private law standard ISO 14001 over

[17] See Marks, 1993; Schmitter, 1992 and Scharpf, 1994 for a definition and discussion of multi-level governance within the European Union.

EMAS highlights some of the contradictions contained in the EMAS Regulation. It is still not entirely clear how and to what extent governments can influence voluntary programs. Attempts by both the European Parliament and individual member states to strengthen the EMAS Regulation through stronger performance standards and reporting requirements have largely failed. As it has become clear that ISO 14001 will become the EMS of choice in the marketplace, governments have lost a great deal of their leverage over the scheme.

However, a more targeted, sectoral approach involving both governments and environmental groups could in the future make use of the natural ratcheting-up mechanisms contained in both EMAS and ISO 14001. By concentrating on specific industries--especially those such as the chemical industry which need to enhance their reputation and environmental performance--governments and environmental groups could push industry to create and disseminate new technologies and best practices. Indeed something of the sort appears to be happening in the forestry sector as environmental groups have been successful in persuading firms to adopt a more stringent forest management certificate over less demanding industry dominated standards (ENS, 2001). It is probably only through the involvement of wider societal groups such as environmental and consumer NGOs that the private authority contained in EMAS and ISO 14001 can be harnessed to ratchet performance standards upwards.

Tables

TABLE 1
EMAS: RESPONSE ACROSS COUNTRIES

Country	# of sites as of 1/2001	# of Registered Sites per $ Billion of GNP at PPP
TOTAL	3800	n/a
Germany	2632	1.43
Austria	340	1.77
Sweden	205	1.11
U.K.	122	0.10

Source: ISO WORLD (2001), World Bank (2001)

TABLE 2
ISO 14000: RESPONSE ACROSS COUNTRIES

Country	# of Registered Sites as of 01/2001	# of Registered sites per $ Billion GNP at PPP
TOTAL	23,721	0.61
Japan	5338	1.75
Germany	2400	1.31
U.K.	1400	1.13
USA	1340	0.16

Source: ISO WORLD (2001); World Bank (2000b: 230-231)

TABLE 3
TRENDS in ISO 14001 CERTIFICATION (# of sites)

	UK	Germany
Dec 1995	61	35
Dec 1996	322	166
Dec 1997	644	352
Dec 1998	921	651
Dec 1999	1014	1800
April 2000	1014	1950
Jan 2001	1400	2400

Source: ISO World (1999,2000,2001), ISO (1999)

TABLE 4

ENVIRONMENTAL POLICY CONTENT OF CHEMICAL FIRMS PARTICIPATING IN EMAS AND/OR ISO 14001

	UK Chemical Firms (25)	**German Chemical Firms (25)**
Norm/Principle		
Legal Compliance	24	20
Continuous Improvement	23	21
Product Stewardship	12	16
Transparency/Stakeholders	18	25
Responsible Care	7	11
Employee Training	17	17
Monitoring/Auditing	20	18
Beyond Compliance	6	8
Reporting	12	4
Minimize Environmental Impact	13	19
Environmental Impact Assessments	9	6
BAT/BATNEEC	3	8
Best Practice	7	0
At-source	3	5
Targets	18	14
Sustainable Development	4	4
Problem/Target		
Waste/Recycling	17	16
Accident Risk	10	13
Noise	0	2
Resource Use Efficiency	11	16
Energy Efficiency	12	9
Emissions/Pollution	16	15
Hazardous Waste	2	3
Transportation	5	3
Land/Soil	3	2
Greenhouse Gases	2	0
Total Firms	**25**	**25**

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