

THE EUROPEAN UNION'S ECO-MANAGEMENT  
AND AUDIT SCHEME (EMAS)

# ECO-EFFICIENCY IN INDUSTRY AND SCIENCE

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VOLUME 16

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# The European Union's Eco-Management and Audit Scheme (EMAS)

*by*

Michael S. Wenk

 Springer

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## **Dedication**

To my wife, Cynde, the love of my life, and to our two children Andy and Lauren, who have made me proud beyond our dreams.

To my parents, Georgia and Robert Wenk, for giving me the education, the confidence and the ability to create my first book. Without their guidance and support through the years, this would not have been possible.

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## INTRODUCTION

*“I went to the woods because I wished to live deliberately, to front only the essential facts of life, and see if I could not learn what it had to teach, and not, when I came to die, discover that I had not lived.”*

—Henry David Thoreau

While the history of the global environmental movement has been well documented and addressed in almost countless texts, it is instructive to examine several key events in the movement, in order to more fully understand the impetus for and impact of the European Eco-Management and Audit Scheme (EMAS), which is the subject of this text.

“The landmark book *Silent Spring* played a vitally important role in stimulating the contemporary environmental movement”.<sup>1</sup> *Silent Spring* sold over 500,000 copies in its hard cover printing, spent over half a year on the *New York Times* bestseller list, and was published in two dozen other countries. Author Ramachandra Guha notes how the “impact of *Silent Spring* was by no means restricted to the United States . . . translated into twelve languages, *Silent Spring* had a striking impact on the resurgence of environmentalism throughout Europe”.<sup>2</sup> The book gained prominence in the Netherlands, United Kingdom, Germany and Sweden, among other countries.

Environmentalists had for some time been concerned with the protection of endangered species or beautiful habitats; it was *Silent Spring* which helped them move further, to an appreciation that in ‘in nature nothing exists alone’ . . . that nature was, in sum, ‘an intricate web of life whose interwoven strands lead from microbes to man’.<sup>3</sup>

Secondly, Earth Day, a nation-wide effort in the United States on 22 April 1970, gave a forum for “. . . an estimated 20 million participants [to affirm] their commitment to a clean environment . . .”, and to advocate changes in the manner in which the U.S. government related to environmental issues.<sup>4</sup> Earth Day 1970 gave birth to some now well-known items such as the United States Environmental Protection Agency, the Resource Conservation and Recovery Act (RCRA), which governed the “cradle to grave” management of hazardous waste, the Toxic Substances Control Act (TSCA), which regulated the introduction of previously unknown chemicals into the United States without significant data, and the Comprehensive Environmental Response, Compensation and Liability Act (CERCLA), which covered the remediation of contaminated sites in which the responsible parties were either insolvent or could not be found.

Tangential to the ideas expressed in *Silent Spring* and by Earth Day 1970, was another major influence on the global environmental movement. Formally established in Germany in March 1979, but having roots to at least a year earlier, the Green Party

first came into prominence when it was elected to the German Parliament—the first new party to do so since the 1920s.<sup>5</sup> By the mid-1990s, the Green Party had representatives in most provincial parliaments and held office in several provinces.

The German Greens offered a beacon for environmentalists in other European countries, who tried to form political parties of their own. It has been a hard act to follow, and although in Belgium, Italy and Sweden green parties have since entered Parliament, they have not had quite the same impact. In the history of modern environmentalism, the German Greens stand out for their political victories and for the moral challenge they offer to the governing beliefs of industrial civilization.<sup>6</sup>

The birth of the Green Party in German can be traced to a “turning inward” after the horrors of World War II, resulting in a desire to escape the violent past of Nazism and to move collectively toward a more positive and cooperative society. The 1970s saw a series of demonstrations and strikes against polluting industries, as well as civil disobedience to promote greener and safer technologies. “When the established political parties continued to keep their distance, environmentalists thought of directly representing themselves”.<sup>7</sup>

A final impetus for environmental considerations was noted by Andrew Hoffman (1997), who observed that “Fundamentally, corporate environmentalism evolved from an ancillary aspect of corporate operations driven by industry considerations to a central aspect of corporate strategy driven by a core business constituency. The heresy of the 1960s became the dogma of the 1990s”.<sup>8</sup> Although Hoffman focuses primarily on corporations in the United States, when one takes into account the rampant globalization which has and which continues to pervade society, one can easily extrapolate his conclusions to the European Union.

Hoffman argues that, rather than solely being tied to industry’s desire to reign in operating costs (by reducing regulatory exposure), corporations tend to mirror the public’s concern relating to environmental issues. In other words, when environmental concern is at a zenith (such as in the early 1970s or later 1980s/early 1990s), firms tend to focus much more on environmental protection, if for no other reason than to promote themselves as good corporate citizens.<sup>9</sup> In addition, he postulates that if these costs or regulations were the sole impetus for environmental protection actions within corporations, it would not explain the fact that corporations have made changes and decisions outside of this area in relative unison.<sup>10</sup> Firms have created positions such as Vice-Presidents of Environmental Affairs, have produced and disseminated annual environmental reports, established industry-wide environmental protection associations, and have developed company-specific environmental policies.<sup>11</sup>

As an outgrowth of this movement toward a more environmentally conscious society, various nations and professional organizations have developed their own environmental auditing schemes in this regard. The manifest goal of these systems has been to provide a means for organizations to both track and assess the efficacy of their environmental management systems, against an independent and validated program. The European Union’s Eco-Management and Audit Scheme, or EMAS, a voluntary plan that enables organizations within the European Union to seek third-party certification for their

Environmental Management Systems, is the subject of this text. While in existence for almost 10 years, the EMAS program has been the subject of considerable discussion and consternation, both within the European Union and elsewhere. Some of the provisions of the Scheme were and are revolutionary, others are considered simply mirror images of aspects contained elsewhere. This text will attempt to define the history of the EMAS program, to evaluate the changes which occurred after its inception, and to examine the future role of the Scheme. Along the way, we will provide examples of how a “real-life” organization, Akzo Nobel (the author’s parent firm) has chosen to employ the Scheme at three of its chemical manufacturing plants within the European Union, to allow the reader to observe different means of achieving the goals and results which the Scheme requires. We will conclude with a list of resources for Small and Medium-sized Enterprises, or SMEs, who are perhaps unsure of where to begin undertaking the EMAS program.

Please join me on this exciting journey.

Atlanta, Georgia, U.S.A.  
August, 2004

## NOTES

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## CHAPTER 1

# INTERRELATIONSHIPS BETWEEN BS 7750 AND THE EMAS PROGRAM

*“Changing paradigms is only done effectively by providing experiences to people”.*  
—Doug Englebart

In the year 2004, it is virtually certain that the majority of firms, in the developed world at least, have some sort of Environmental Management System (EMS) in place. Note that an EMS is different from the subject of this text, the Eco-Management and Audit Scheme (EMAS). Some may use these acronyms interchangeably, but they are in fact two distinct entities with individual goals, requirements and considerations.

An EMS is a way to run environmental activities strategically and efficiently. It is not just about being able to show an auditable paper trail to certifying auditors or regulatory inspectors. Yes, it includes components such as software and hardware systems to keep track of essential information, but much of the performance-driven EMS is ethereal. It includes such elements as a company culture that supports EMS professionals working in harmony with operations and focusing on what really matters to the business.<sup>1</sup>

While specifically applicable only to the Member States of the EU, EMAS had its roots in various European environmental auditing programs. Programs such as BS 7750, Ireland (I.S. 310), France (X30-200), and Spain (UNE 77-801(2)) can be considered the direct precursors to the EMAS program, although some more so than others.

BS, or British Standard, 7750 is often considered to be the mother of the EMAS system, at least in terms of its general impetus. BS 7750 arose from a 1990 request to the British Standards Institute (BSI) for the development of third-party environmental verification through an auditing system. At the time, BSI surveyed the marketplace and came to realize that there was at least a rudimentary acceptance of such a concept, but that most firms were tacitly insistent that it be compatible with the British quality standard of the day, BS 5750. BSI was also instrumental in the development of BS 5750, which ultimately evolved into the international standard ISO 9000. This insistence was due to the rationale that BS 5750 had relatively recently been developed and implemented, and companies were reluctant to take on another expense for what was perceived as another wholly different quality management standard.<sup>2</sup>

Due to the fact that BS 7750 has been superseded by both EMAS and ISO 14001, it is necessary only to give a cursory review of the Standard, simply to help establish the “timeline” of development which gave rise to EMAS.

Dubbed the “Environmental Management Standard”, when compared to ISO 9001, BS, or “British Standard”, 7750 was published in April of 1992 under the official title “BS 7750 Environmental Management Systems”. “All those companies currently affected by environmental legislation and regulations... [BS 7750] will help such companies control their operations, maintain them within the regulations and demonstrate conformance with those regulations”.<sup>3</sup> That is, the manifest goal of the Standard was to provide a solid framework in which companies might take steps, which they define themselves, to evaluate their current operations, from an environmental standpoint.

BS 7750 came to life on 16 April 1992, and had the distinction of being the first formal environmental management system implemented on any level—locally, nationally or globally. “It was designed to enable any organization to establish an effective management system, as a foundation for both sound environmental performance and participation in environmental auditing schemes”.<sup>4</sup> The Environment and Pollution Standards Policy Committee (EPSPC) and Technical Committee EPC/50 (TC 50) were the main committees involved in the drafting of the standard; EPSPC as the primary body and TC 50 as the delegated agency. The accreditation authority, or Competent Body, to use EMAS language, was the Department of Industry, not (perhaps strangely) the Department of Environment.

Relative to EMAS, it should be noted that a press release issued to announce the launch of BS 7750 was already looking ahead toward being compatible with the Scheme: “With a view to European developments, the new standard [BS 7750] is currently compatible with the European Community’s proposed regulation on environmental auditing [EMAS].”<sup>5</sup>

After a 2 year implementation program, BS 7750 was reviewed based on feedback from over 230 participating companies and over 500 individuals, and was revised and reissued in January 1994.<sup>6</sup>

BS 7750 lays out specific requirements for the implementation and “upkeep” of a corporate environmental management system. “In practice, this means that a company will document the evidence that it is aware of regulations, and build a management system which can ensure compliance with those regulations, and finally produce evidence of that system for inspection”.<sup>7</sup>

There are four notable differences between BS 7750 and EMAS. However, in order to fully appreciate them, one must realize that BS 7750 is an environmental *management* system, while EMAS is an environmental *protection* system.<sup>8</sup> The difference between the two is critical to realize: an environmental management system is one in which the effects on the environment are controlled, or *managed*. They do not necessarily imply or require improvement or proactiveness. An environmental *protection* system, on the other hand, allows for (or mandates) that the environment be protected from (further) harm. Simply managing the effects of the firm is not enough; degradation must be prevented.

Foremost, EMAS requires the implementing firm to conduct an “environmental review” of the aspects and processes of the firm as an entity, before establishing the management system. BS 7750 requires a similar review to take place, but does not view

such a review as part of the overall process. Indeed, in BSI's view, "[the environmental review] is not an assessable element of an establishment system". Accordingly the adequacy or inadequacy of the preparatory review should not have a bearing upon whether or not certification will follow.<sup>9</sup> This is a marked difference from EMAS, in that the Scheme requires a baseline of sorts to be established before the management system may be developed or implemented. This section of BS 7750, on face, appears to state that this type of "pre-audit" is not necessary to be conducted. However, the section interestingly goes on to state that, in effect, whether the "pre-audit" was conducted should have no bearing on whether registration is achieved. In other words, according to BSI, a firm could decline to conduct an environmental review under BS 7750, prior to its registration audit, and this declination, should in theory have no link to whether the firm is registered. In other words, "you don't have to bother to do your homework, just pass the exam"! Curious logic indeed.

Secondly, although both EMAS and BS 7750 contain a requirement for creating and making publicly available an environmental policy, BS 7750 simply states that such a policy must "include a commitment to continual improvement of environmental performance . . .".<sup>10</sup> Under EMAS, the firms are required to make sure that the environmental impact of all activities is reduced as far as is possible. In other words, and to preview an example used later in the text, a firm could reduce the level of a pollutant discharged in their wastewater by a mere 1 ppm. While this may not have any measurable (beneficial) environmental impact, the firm is technically improving. As long as it continues to do this over some time period, this aspect of EMAS is met.

A third difference between BS 7750 and EMAS can be seen with regard to the review of the program. Under BS 7750, management "is required to review the environmental management system at appropriate intervals and take into account the results of audits when conducting the reviews, [but] there does not appear to be any obligation . . . to review the environmental policy, objectives or targets".<sup>11</sup> EMAS, however, requires management to regularly review the policy, objectives and programs and "in light of the latest environmental audit, set new objectives and introduce new measures aimed at improving environmental performance".<sup>12</sup>

The final prime difference between BS 7750 and EMAS is the amount and degree of publicity required by EMAS. BS 7750 does require the environmental policy to be made publicly available, but leaves it to the discretion of the firm as to how, or even if, any other information will be released to the public. "[EMAS] on the other hand, places great importance on making available information about environmental performance available to the public. Indeed, this is one of the stated objectives of the scheme". EMAS sets out specific requirements for how the environmental performance information must be publicized.

Thus, although BS 7750 was essentially the environmental management standard which gave birth—in a tangential way—to EMAS, there are some significant differences between the two Schemes. The important point to take into account at this juncture is that EMAS is not simply BS 7750 with a different name. The two programs, although interrelated on several levels, and sharing various commonalities, are in reality two wholly different systems.

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## CHAPTER 2

# IMPETUS FOR CREATION OF EMAS. LEGISLATIVE AND DEVELOPMENTAL HISTORY OF THE PROGRAM

*"We cannot solve the problems that we have created with the same thinking that created them".*

—Albert Einstein

Since the beginning of the nineties, the number of eco-taxes, tradeable permits and voluntary approaches has been increasing in industrialized countries. This development means that the features of emerging environmental state [*sic*] are continuously in transition. The regulatory reform has been especially drastic inside the European Union.<sup>1</sup>

While many aspects of environmental "reform" exist, in order to fully understand the thought processes behind the creation of the EMAS program, it is necessary to examine the development of environmental policy in the EU from the Treaty of Rome ("the Treaty") onward. The convergence of a variety of factors has given rise to both the need for an EMAS system and to the technical points within it.

From the outset of the environmental "movement", which many scientists and other professionals consider to have been born in 1962 with the publication of Rachel Carson's seminal text *Silent Spring*, "[e]nvironmental quality has traditionally been perceived as a common or public good which cannot readily be provided via the market, and thus the state has been assumed to be the principal actor in environmental protection".<sup>2</sup> "Since 1973, the Community institutions have been increasingly active in implementing environmental policy. Between 1973 and mid-1983, over seventy [environmental] legislative texts were adopted . . .".<sup>3</sup> According to Rehbinder and Stewart (1988), "the historical development of an institutionalized environmental policy [in the EU] can be separated into two distinct phases".<sup>4</sup> First, environmental policy evolved as a sidebar as part of the efforts to harmonize environmental laws among the Member States, in order to remove barriers to trade. The second phase involved the "development and implementation of a true common environmental policy".<sup>5</sup> This second phase was launched in 1971 when various institutions began to work toward an EC-wide commitment to environmental protection.

However, from the outset, Member States continued to argue over whether, if at all, the Treaty provided any basis for the EU to take such sovereign action with regard to the environment. Some States professed the view that the Treaty only allowed the Commission to take unilateral action when economic objectives were involved. Others, including legal scholars, adopted the position that *all* environmental issues relating to agriculture

or transportation are *expressly* addressed in various sections of the Treaty, thereby giving the Commission the authority required to mandate an EU-wide policy. Those groups who accept this later view, in spite of its perceived shortcomings, point to Articles 100 and 235 of the Treaty as providing the basis for this broadly interpreted power.

Article 100 of the Treaty reads:

The Council shall, acting unanimously on a proposal from the Commission and after consulting the European Parliament and the Economic and Social Committee, issue directives for the approximation of such laws, regulations or administrative provisions of the Member States as directly affect the establishment or functioning of the common market.<sup>6</sup>

Similarly, Article 235 states:

If action by the Community should prove necessary to attain, in the course of the operation of the common market, one of the objectives of the Community and this Treaty has not provided the necessary powers, the Council shall, acting unanimously on a proposal from the Commission and after consulting the European Parliament, take the appropriate measures.<sup>7</sup>

The concept of a European environmental “scheme”, and in fact European environmental protection, has its roots in a variety of areas. However, as we have seen, none of the European treaties *expressly* permitted any aspect of the European Community to act in the field of environmental protection.<sup>8</sup> Any interpretations to the contrary are just that—matters of interpretation. Johnson and Corcelle (1989) identified this aspect skillfully when they determined:

... Community Environment Policy differs fundamentally from other Community policies, such as agricultural, commercial or transport policies, in that no mention of it is made in the ... Treaty of Rome. This omission is explained by the fact that in the years during which the Treaty of Rome was being drawn up the idea of environmental policy or of “environmental protection” ... simply did not exist.<sup>9</sup>

In fact, the explicit goal of the Treaty was to create a universal economic community by creating a common European market. Johnson and Corcelle go on to note that only two articles in the Treaty, Articles 2 and 36, even *tangentially* address the issue of environmental policy or protection.<sup>10</sup> Article 2 outlines simply “to promote throughout the Community a harmonious and balanced development of economic activities, sustainable and non-inflationary growth respecting the environment”.<sup>11</sup> This Article has been construed by proponents to imply that the several Member States are responsible for environmental protection. Article 36 is similarly vague, in that it states “The provisions of Arts. 30 to 34 shall not preclude prohibitions or restrictions on imports, exports or goods in transit justified on grounds of public morality, public policy or public security; the protection of health and life of humans, animals or plants ...”.<sup>12</sup> In legal circles, such grandiose but ultimately “toothless” legal language is referred to as being a “paper tiger”. That is, the language is very assertive, but in practicality there is no real substance or enforceability behind it.<sup>13</sup>

### The Treaty

... clearly reflect[s] the period in which [it] was written, before concerns about pollution and depletion of resources had come to prominence. Thus Article 2... includes among the tasks of the Community... 'an accelerated rising of the standard of living' of the member states, with no concern for the quality of that expansion, or the conservation of resources, or the needs of future generations.<sup>14</sup>

Those looking for a basis in the Treaty for environmental management or protection have focused upon two alternate sections, as we have seen. Both of these Articles were originally intended to provide the EC with powers to ensure the goals of Articles 2 and 36, among others, were met. However, as environmental protection and policy has developed over time, it has been promoted as a goal of the EC as a whole, thereby moving it into the arena of a common EU policy.<sup>15</sup>

The Paris Summit of October 1972 was a watershed moment in the creation of a national EU environmental policy. At the Summit, the heads of the six European Communities (EC), Belgium, France, Germany, Italy, Luxembourg and The Netherlands, as well as the new members (UK, Denmark and Ireland) agreed to work toward transforming the EC into a European Union, promoting a variety of common policies.<sup>16</sup> Specifically, the six leaders determined that the economic expansion of the EU should involve environmental protection, as manifested in "quality of life" issues.<sup>17</sup> In addition, it was decided that there was a need to bring the EEC closer to the citizens. By this, the leaders were remarking that there needed to be a means for EU citizens to have an impact on environmental protection themselves, rather than simply waiting for the Authorities to take action where necessary. The idea was presented in this context, but fully came into being several decades in the future. As such, "the Heads of State and Government proposed that the institutions of the Community establish an Environmental Action Programme in the course of 1973...", which was forwarded to the Council on 17 April 1973, and formally approved on 22 November of that same year.<sup>18</sup> This decision led to the creation of the "First Environmental Action Programme of the European Community".

## THE SIX ENVIRONMENTAL ACTION PROGRAMMES

The Environmental Action Programmes are medium-term programmes and strategic policy documents. They reflect the fundamental elements of environmental thinking and problem perceptions, as well as strategic policy orientation at their time. New action programmes often reflected a change in the general political climate during that period. *But they are not binding programs for action—even if they contain lists of planned activities* [emphasis the author's].<sup>19</sup>

While much has been written about the specific objectives and criteria of the six Environment Action Programmes, in order to understand the impetus for the creation of EMAS, we need only give a cursory overview of them, to lay planks in the bridge from the Treaty of Rome to EMAS.

The “First Environmental Action Programme of the European Community” (“The First”), was an outgrowth of both the first (1972) United Nations conference on the environment in Stockholm and also a meeting of the EU Environment Ministers in Bonn, Germany on 31 October 1972. Formally adopted on 22 November 1973, “The First” set out a non-binding set of environmental policy objectives upon which the burgeoning EU should focus.<sup>20</sup> Encompassing the period 1973–1976 the First was, appropriately, the first time the European Commission began to look at constructing specific regulations to improve air and water quality, to regulate waste disposal, and in general to protect the environment.<sup>21</sup> It defined the principles and objectives of Community Environmental Policy, and delineated the actions for each environmental media.

In sum, the First focused on the need to comprehensively assess what impacts to the environment the various other Community policies already in force had, in an attempt to mitigate or avoid environmental harm. “It proposed a gradual approach, to define environmental quality objectives . . . [A]t the end of this process the definition of product and environmental quality norms was suggested. The approach was based [primarily] on protection of a single environmental media”.<sup>22</sup> One of the primary shortcomings of such a secular methodology is that the natural environment is viewed as a series of discrete “boxes” labeled by type of media: air, water, soil, etc. It also assumes that the boxes are not interdependent or interrelated. However, environmental scientists and engineers certainly realize that an impact to one media, such as a spill of solvent to the soil, will *necessarily* have a conjugal impact on other media, such as water (if it leaches through to the groundwater, for example), or the air (if it volatilizes beforehand, as another example). Thus, this approach was not perhaps the best one.

“The First” sets out three specific “categories of action” for the Programme: the reduction and prevention of pollution and nuisances, action to improve the environment and the “setting of life”, and community and/or common action by the States relating to the environment.<sup>23</sup> “The First” also delineated a series of projects for the States to undertake, in order to set a comparative baseline for the evaluation of (future) data.<sup>24</sup>

In addition, the First contained an idealistic list of 11 principles that were designed to harmonize environmental care. The principles ranged from considering the environment and environmental protection in technical planning and decision-making to ensuring that activities undertaken in one Member State do not degrade the environment of another State, and even to promulgating the idea of a coordinated environmental policy throughout all the States.<sup>25</sup>

The “Second Action Programme” (“The Second”), adopted on 17 May 1977 and covering the period 1977–1981, restated the objectives and commitments of “The First”, while focusing more on land management and protection.<sup>26</sup> Specifically, the “The Second” contained chapters on “non-damaging use and rational management of land”, “urban and rural areas, and coastal and mountain regions” and “protection and management of natural resources”. Further, “The Second” set out, for the first time in EU legislation, the concept of environmental impact assessments.<sup>27</sup>

The “Third Action Programme” (“The Third”), adopted 17 February 1983, encompassing the years 1982 through 1986, functioned as a hybrid of “the First” and “the