

## EMAS, New Applications and Evolution in Italy and EU

*Andrea Rocchi*

*(Coris, Sapienza Università di Roma, Italy)*

**Abstract:** The introduction of voluntary instruments, such as EMAS, has radically changed the approach of the business world for the environment by passing the “command and control” logic to that in favor of a proactive approach. Born for industrial sites, the EMAS Regulation has seen time in the possibility of application to all organizations, both private and public, offering the possibility of membership, in the latest version, also to organizations operating outside the borders of Europe, through the formula of the EMAS Global. However, despite efforts by the legislature in making increasingly attractive adherence to the Scheme, the reflected on the ground, especially in comparison with the ISO 14001, it has brought about the expected results. This paper outlines the evolution of the EMAS Regulation, it was first issued to the current review process, reviewing both the European scenario that what Italian. The study analyzed the reasons for not Popularity EMAS and disaffection with Scheme which, from 2011, was found both at European level Italian. Besides the factors related to the economic situation, which has affected all markets, the work highlights other facets of the phenomenon that are characterizing the current downward trend. In the light of the audit trail in place and the enactment of the new ISO 14001, EMAS is a new challenge which, in this paper, outlines some of the possible evolutionary scenarios.

**Key words:** sustainable development; Best Available Practice (BAT); EMAS; future developments

**JEL codes:** Q3, O13

### 1. Voluntary Instruments in EU Policies

The concept of sustainable development, since its first statement in 1987 in the Brundtland Report, has been an element of rupture and profound change in the relationship between man, environment and economic development: it was no longer possible to pretend the limitlessness natural resources and believe that the only desirable goal was a constant and exponential growth in quantity of goods produced and consumed.

This awareness is the result of a debate started in the early 60s, at the hands of scientists, economists and industrialists who have shown the need for a change in the economic paradigm towards a new model that guarantees equitable economic development and “bearable” environment. The requested change is so huge that resulted in the start of a long and difficult path, international and European, of awareness and of progressive framing of new integrated policies aimed at changing production patterns and consumption habits.

Over time there has been a profound evolution of the policies adopted, and related implementation tools, characterized, until the 70s, by the exclusive use of sectoral adjustment measures, such as prohibitions, limits and thresholds emission, technical requirements, authorizations discharges, accompanied by relevant administrative

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Andrea Rocchi, Ph.D., Professor, Coris, Sapienza Università di Roma; researchareas/interests: environmental, EMAS, ICT, circular economy. E-mail: [andrea.rocchi@uniroma1.it](mailto:andrea.rocchi@uniroma1.it).

finances (“command and control” principle). These instruments have proved too rigid and inefficient as it discouraged the entry of new technologies and new investment, not representing no incentive to improve beyond the limits imposed by the regulations (Rocchi, Jirillo, Amodeo, 2007).

Since the 80s, the regulatory instruments are flanked by new economic, flexible and market-oriented, able to push companies to change their own choices and production strategies. These are tools such as environmental taxes, tax breaks, subsidies and loans, tradable permits to pollute (e.g., The mechanisms introduced by the Kyoto Protocol).

In particular, the early 90s, an added impetus for change comes from the Conference of Rio de Janeiro (1992) and, in Europe, the adoption of the fifth framework program for the environment (relative to the 1992/2000 period), introducing innovative concepts such as the prevention, shared responsibility, self-control and self-regulation. This legislative approach entails an evolution in the environmental field, with the adoption of instruments for implementation of a voluntary nature, while promoting the application of environmental legislation, encourage companies to achieve high environmental performance: certification of the management system environment (e.g., EMAS, ISO 14001), certifications of product (e.g., EU Ecolabel) and voluntary environmental agreements.

The instrument EMAS (Eco-Management and Audit Scheme), adopted in 1993, is presented as a voluntary system aimed, first, businesses and, then, to all organizations wishing to commit to evaluate and improve their environmental performance and to seamlessly communicate their achievements. Unlike prescriptive approach, the instrument doesn't establish minimum levels of improvement in performance, but, taking as a starting situation full regulatory compliance, indicating instruments and management procedures to be adopted to achieve the performance targets, independently determined by the organization.

The heart of the scheme is, in fact, the Environmental Management System that allows the achievement of the objectives set in the Environment Program, through the definition of roles and responsibilities, tools, resources, procedures, training and monitoring and communication systems. The motivations that drive organizations to adopt a voluntary instrument EMAS are varied in nature, then financial (savings, production efficiency, expanding market share, incentives), but also the risks associated with failure to managing the environmental aspects, such as: fines for regulatory violations, accidents and environmental damage, pressure from the local community and the PA, difficulties or increased costs of credit retrieval.

The evolution of the EMAS Regulation Below you through the various stages of the evolution of the EMAS Regulation characterized by two major revisions aim to meet the demands coming from the business world and, then, even in the service sector and public administration (PA).

## **2. The Evolution of the EMAS Regulation**

The first version of the EMAS was introduced by Regulation (CEE) No. 1836/93, which was addressed solely to organizations active in the industrial sector. However, Article 14, entitled “Inclusion of other sectors”, it was expected that the Member States, as an experiment, could extend the scheme to all the activities that they had fallout on the environment, thus also in sectors such as trade and public services.

In this regard, the European Union initiated the funding of several pilot projects aimed at testing the possible interest from the non-industrial sectors.

A key feature of the Regulation was the introduction of the Environmental Statement which addressed the

public tool to provide transparent information about the management measures, the objectives, performance and results of the organization's activities on the environment.

The EMAS Regulation requires six steps that the organization must follow for obtaining the registration as set out below:

- **make an Initial Environmental Assessment:** the organization must consider all environmental aspects of its activities, i.e., production processes, products and services, state of the art environmental regulations binding, practices and environmental management procedures already in use;
- **adopt an Environmental Management System** based on the Initial Environmental Analysis results, implement an environmental management system that aims to achieve the organization's environmental policy and to achieve the improvement objectives set by top management. The system needs to define responsibilities, means, operational procedures, training needs, monitoring and control measures, modes of communication;
- **make an environmental audit** is to assess the effectiveness of the management system and environmental performance in the face of politics, of the improvement objectives, the organization of environmental programs, and regulations;
- **prepare an Environmental Statement:** The Environmental Statement should describe the results achieved against the environmental objectives and indicate how and with what programs the organization plans to continually improve their environmental performance;
- **obtain independent verification** by an EMAS verifier: a verifier by an EMAS accreditation body of a Member State must examine and verify the environmental review, environmental management system, procedures and audit activities, Environmental statement;
- **apply for registration with the competent authority of the Member State:** the environmental statement validated by the verifier must be sent to the Competent Body of the Member State for the registration, recording obtained, the organization receives a number that identifies it in the Italian and European registry, is entitled to use the EMAS logo and makes available to the public the Declaration environment.

The process by which an organization becomes part of the EMAS scheme was divided, therefore, into two main phases: one internal and one external. The first, which could be called internalization of environmental concerns by the enterprise; the second, however, puts the organization in relation to the independent bodies that are responsible for the investigation and registration measures aimed. At the end of the decade that saw the birth, studies and research that underline Community EMAS had provided benefits mainly "internal" to firms, such as: certainty of the respect of mandatory environmental legislation, environmental and financial savings of resources, improved management efficiency, employee involvement in environmental management.

Were, however, not very significant the external type "benefits", such as image enhancement, relations with stakeholders, the administrative simplifications. In other words, the plan had been successful in improving the environmental efficiency of production facilities and administrative buildings of the organization, but few are able to reduce environmental pressures along the supply chain (suppliers, services, etc.) and weak in arousing the interest of consumers and policy makers. In other words, the key promotional tools for EMAS had not met expectations.

### 3. EMAS II

After about three years of evaluations and audits, the Commission Regulation (CE) No. 761/01, commonly

referred to as “EMAS II”, repealed and replaced the previous one, by introducing important new features:

- the integration of the UNI EN ISO 14001 as a diagram for the implementation of an Environmental Management System, which made it so obvious 1 homogeneity of intent of the two instruments hitherto considered antagonists;
- the transition from the concept of “industrial site” on the broader concept of “organization”, shifting the scope of EMAS expertise beyond the geographical extension of the productive activity;
- broadening the scope of the regulation to all public and private parties, and therefore also to P.A . (public administration);
- the adoption of a distinctive logo to be used in the Environmental Statement, in documents and in the company’s advertising, as a tool of communication and dissemination of information to the public.

Public sector organizations turned out to be significantly more motivated than the private sector in adopting the EMAS tool, in particular by strong drivers such as increased staff involvement, transparency towards stakeholders and the opportunity to provide products and services more environmentally friendly. In addition, significant result was the role played by P.A. in itself as a driving force for the country in the promotion of a virtuous approach to the environment aimed at improving the quality of life of citizens. In summary, the greatest novelty introduced by EMAS II lies in the extension of registration for all types of organization, both belonging to the private sector than to the public.

The choice of the entity to be registered was conceived according to two criteria: management control and geographic location. The entity to be registrar as an organization under EMAS II should not extend beyond the borders of a Member State; if the organization included one or more sites, each site to which EMAS applies must comply with all the requirements of the system, including the continual improvement of environmental performance as defined in Article 2, letter b of Regulation (CE) n. 761/2001.

Another major element of innovation made by EMAS II to the concept of “environmental management” is that of the so-called indirect aspects. Annex VI of the Regulation were examples of environmental aspects “direct” and “indirect”.

Environmental in the initial analysis and subsequent review process is essential to look in an openly, in full and at the specific environmental aspects of its activities, products and services. Although in some cases it may be difficult to classify as an environmental aspect “direct” or “indirect” identified need to keep in mind that the main objective is not so much to classify an issue as direct or indirect but to make sure that all aspects are identified, in so you can manage via the environmental management system.

For direct aspects of the Regulations mean those associated with activities, products and services over which an organization has direct management control (air emissions, wastewater treatment, waste management, etc.); for indirect aspects are those that may occur as a result of the activities, products or services of the organization, that the organization may to some extent influence (e.g., environmental behavior of customers and suppliers of goods and services etc.).

EMAS II for the European Union, after its entry, launched a series of initiatives such as the study EVER, to see if the goals back in 1993 (the date of issue of the first Regulation) had been achieved. It was actually found a weak diffusion of the Scheme, the sectoral (large manufacturing enterprises not turned out particularly interested) what about the acceding countries.

In fact, the UK, Germany and the Scandinavian countries, national realities that were culturally always been distinguished by his marked sensitivity towards environmental issues, showed disaffection with the Scheme.

Despite the integration with the ISO 14001 standard represents an opportunity to obtain a broader consensus on the part of organizations, EMAS II resulted perceived as a valuable tool only elite in Europe (only 5000 signatures across Europe against the tens of thousands for ISO 14001). The ability to use the UNI EN ISO 14001 as an intermediate step to get the EMAS registration was not seized as an opportunity to achieve both schemes, thus avoiding duplication in terms of documentation and external audits. Finally, with regard to environmental performance, measuring consumers and environmental groups they showed their displeasure, resulting from the fact that the new regulations did not prescribe minimum performance limits as indicators of continuous improvement: of criticism here about the tendency of organizations to flatten out programs of mediocre value after a start-up phase characterized by ambition and effort.

With the aim of strengthening the principles of excellence instrument, giving evidence of improved environmental performance and compliance with local regulations, as well as facilitating the accession to the Scheme, reducing the administrative burden and giving greater visibility to the participation in the system, with Regulation (CE) No. 1221/09 the European Union has issued the third version of EMAS, which came into force in January 2010.

#### **4. EMAS III**

Several new features including one of the most important is represented by a greater focus on monitoring of environmental performance. The regulation, in fact, has a strong address in this direction through the introduction to Annex IV of the Core Performance Indicators (CPI) which allow the monitoring of performance and the ability to make an accurate benchmark.

In addition, the indicators become the instrument through which the organization has an obligation to communicate to its stakeholders the results obtained in practice. Another novelty is the possibility of exemptions granted to small businesses that can publish a four-Environmental Statement and updates validated every two years.

Even the Environmental Statement is reviewed providing a wider form to send with validation every three years while a simplified version in the form of reports will be published every year. For the logo has been provided a unique version in order to make its use more widespread in order to capture the consumer's attention.

With regard to legal compliance, which has always provided the starting point for obtaining the registration of an organization, the definition of Legal Compliance has been introduced specifying the role to be played by the Control Authority to support the demands of organizations in terms information on applicable legislation. Finally, the novelty par excellence which is the ability to make EMAS Global which, translated, means offering to organizations located within the EU on different countries the opportunity to request a single registration (with a single Environmental Statement), as well as may require registration (under certain conditions) the Third country organizations.

The Regulation entrusts to Member States and their designated structures the organizational arrangements to implement this obligation. The Global EMAS meets the need of the organizations that have international business activities (e.g., Corporations) to fulfill its environmental performance standards required by governments and stakeholders around the world.

The options for improving the applicability of EMAS globally are three: the first is based on registrations within Europe and the other two have application beyond the borders, impacting not only in Europe but also in any other country.

A summary of the options provided:

- EU Corporate Registration: allows an organization to register multiple sites in several European countries in a single registration procedure. Organizations can use a single registration, streamline the audit procedures and draw up a single Environmental Statement;
- Global Registration: organization registers its sites located in one or more non-European countries;
- Global Corporate Registration: is a combination of global registrations and registrations of European companies; allows an organization to have a single registration sites shared by EU and non-EU and streamline the audit procedures and the preparation of the Environmental Statement;

The countries where the Global EMAS is available are: Finland, Germany, Spain, Italy, Denmark, Austria, Belgium and Portugal.

### 5. The European Scenery

EMAS registered organizations in Europe are about 4000 to about 9000 corresponding to European sites. The number, although it may seem significant, it is nothing compared to the amount of environmental certification in Europe. For example, the only ISO 14001 certified companies in Europe, in 2014, there were more than 100,000, while in Italy in October 2015, there were 10.9298 (Accredia).

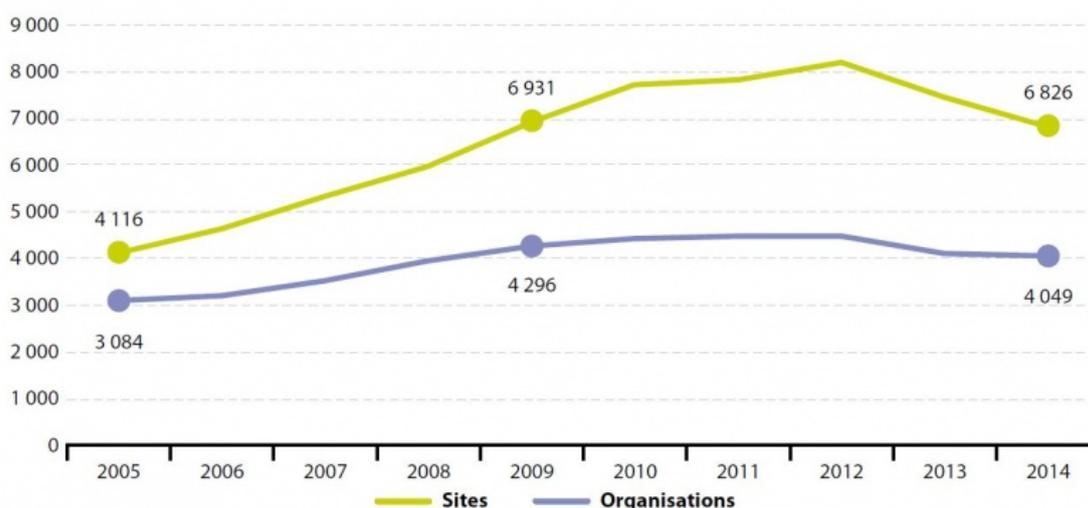


Figure 1 EMAS Site and Organizations - EU 27 – 2015

In addition, certified companies are only a small percentage of existing companies in Europe, amounting to more than 20 M. It seems clear then that the incidence of the EMAS scheme in the European business is still small, especially when compared with the spread of the ISO 14001 scheme, directly competing in EMAS and very similar to it.

Since 1995, the year of first registration in Europe (Germany), the number of registrations has been increasing gradually until it reaches the maximum number of registrations in 2011. From then on there has been a continuous decline in the number with a slight recovery in 2014. The reasons for this decline are attributable, at European level, mainly to the economic crisis that has affected the whole area.

From the point of view of the distribution of EMAS registered organizations in Europe, most of the recordings are concentrated in a few countries: Germany, Spain and Italy in fact account for three quarters of total

registrations in Europe. Germany is the country with the highest number, followed by Italy and Spain.

These are the countries where, historically, has focused heavily on the added value of EMAS compared to other schemes and its fundamental characteristics: transparency, credibility, legal compliance. Over the years, we have been carried out various promotional activities and were enacted laws that help organizations implementing the EMAS scheme. In the first years of application of the Regulation it was also paid a lot of financing for the implementation of EMAS, so giving an initial impulse to the spread of the Scheme.

We have tried in recent years instead of focusing more on legal incentives (simplification, facilitation, tax reduction) designed to also promote the maintenance of EMAS registration in time. By analyzing the distribution of the EMAS scheme by business sector, we are known as the first place there is the waste sector, followed by public organizations and, in third place, from the energy sector. And interesting to note, as you will see later, these are the sectors prevailing between the EMAS registered organizations in Italy, a sign that these values are strongly influenced by the Italian numbers, which make up about half of these portions. Other sectors, however, are more evenly distributed in all countries.

It is also worth noting that the waste sector, as well as the energy, they are, among others, those most perceived as critical by the public and it is precisely for this reason that benefit more than others the return of image data from the application of the EMAS scheme, which requires the publication of the main features of the process and environmental data.

It is a different matter: in fact, they enter, into play factors such as the desire to attract more tourist flow, consisting in particular of environmentally conscious users. However, to take into account that, in this category also includes companies to public management, such as airports, water, etc treatment services, especially for countries such as Austria and Germany.

## **6. The Italian Situation**

On the Italian situation, the total number of registrations has reached 1,745 at the end of 2015. Also in this case, are subject to the above considerations about the spread of the EMAS scheme between Italian companies, especially in comparison to the 10,929 certified organizations ISO 1400111 (since 2015) and to approximately 4.36 million existing businesses in Italia (since 2013).

The total number of licenses issued shows a continuous increase over time but with a variable trend over the last five years has averaged 96 annual certificates compared with an average of 170 in the previous five years. It is indicative of a decreasing trend in gross additions, most likely due to the reduction of the donated funds at both central and local levels for the implementation of the EMAS environmental management system. This funding has dropped considerably over the last few years having evolved in structural facilities (minor amounts of sureties, increased period of authorization, AIA, etc.), however, concerning only certain types of enterprises it is observed that the number of active registrations is the number of certificates issued net of cancellations/suspensions occurred every year.

Currently the number of organizations in the EMAS register is 1016. There has been an upward trend until 2011, while from 2012 there has been a decline in active registrations (-13%): in recent years the number of deleted/suspended registrations was greater than the number of new certifications.

This increase, which occurred in 2012, peaked in the year 2014 (214), which has almost been reached on the final figure for 2015 (196). The phenomenon affects in particular micro and small organizations representing 45%

of total suspended/canceled (Source ISPRA, 2015). The causes are probably to be found in the continuing unfavorable economic situation and the absence of expected returns in terms of visibility of the logo/recognition; Add to that, in particular for micro and small businesses, the lack of procedural/economic benefits simplifications, which at present seems to facilitate mostly dimensional other categories.

The data include both removals from the register that the temporary suspension, which may evolve in the reactivation of the original registration or permanent removal from the register. Over the years a hundred recordings were subsequently suspended reactivated.

Analyzing the trend in the number of registrations for the main production sectors in the last four years, it shows the presence of dispensing services organizations in the top three, followed by companies in the manufacturing sector. This trend is explained by the presence of financial incentives (e.g., Discount on sureties) to the waste sector; funding and ad hoc projects for obtaining EMAS for P.A. (public administration); administrative simplifications for energy companies within AIA. Going into more detail we note for the waste sector increased by 16.9%: in the years confirms the success of the presence of financial relief. It is noted that before 2014 the industry P.A. It appeared more represented than the waste sector that since the last two years instead holds the record.

For the field of P.A. there has been a decrease of 28.2% that highlights a phenomenon due to several factors, and mainly located in the Province of Trento, which is ascribed 40% of defections, where there has been a territorial reorganization with the amalgamation of several municipalities. However, it is found that several administrations have decided to abandon the scheme for reasons related both to the limited financial resources, both to unfulfilled expectations in terms of return on image (Increase in tourism) and facilities/rewarding recognized (during distribution of public resources). A further share of cancellations/suspensions, 13%, is located in Piedmont, for reasons yet to be investigated, but probably due to the economic crisis and the stability law, resulting in thinning of resources, associated as in the case of Trentino, the lack of expected benefits.

The remaining share of cancellations/suspensions, 47%, is distributed in a more or less the same in several other regions (Liguria, Veneto, Lazio, Emilia Romagna) and thus appears widespread, albeit less severe. In the energy field, the decrease of 6.5% observed in 2014 is almost fully retracted (-0.7%).

This can be explained considering the fact that cancellations of recent years were actually attributable to a single corporate in the renewable sector. The sector is one of the most represented in EMAS and benefits from several advantages.

## **7. Conclusions**

The evolution of the debate on the scarcity of environmental resources that accompanied the early 60s' comparison of scientists, economists and representatives of the business world, has radically changed the approach to the environment by turning the command and control logic in favor a proactive approach to the protection of eco-systemic resources.

Over the years, in an ever more responsible, productive world has voluntarily acted in adopting behaviors and virtuous solutions to protect the environment in pursuit of sustainable development, and the introduction by the EU of voluntary instruments, such as EMAS Regulation, represented the means able to translate on the field the principles of sustainability. Since its first issue, the EMAS Regulation has distinguished itself from other tools with its three strengths: transparency, credibility of information, legal compliance; not only that, but over the years,

lawmakers have tried to adapt to the demands of stakeholders by extending the possibility of application from industrial sites to all organizations, both public and private, up to the possibility of applying it globally.

However, it should be noted that the effort has not found, in numerical terms, the finding hoped; In fact, if one compares the numbers of EMAS registered organizations with those certified ISO 14001, the data differ by an order of magnitude. It would appear that in two revisions suffered the EMAS regulation has failed never quite shake the elitist approach that kept him away from the big numbers and that has fueled the gap with ISO 14001. To date, there seems to have worked even the introduction EMAS GLOBAL to spread the popularity. In reviewing the evolution of the first version of the EMAS regulation than today, there was a tendency, positive until 2011, which was followed by a slow decline. If we analyze this phenomenon, we find that even the EMAS registered organizations were affected by the economic downturn, which has affected all markets, in addition to other facets including, as revealed in the analysis conducted by numerous studies and consultations carried out by the European Commission, which it has been previously discussed, the poor integration of EMAS within the EU legislation.

About the Italian scenario, the numbers confirm the European trend, pointing out a -13%, although it should be pointed out that the phenomenon of particular interest to SMEs which currently accounted for 45% of the organizations suspended/canceled. However, a closer analysis allows to point out that, in certain areas perceived as critical, such as waste and energy, the numbers have shown not only a good seal but also an increase, as happened to the waste sector which registered an increase of 16.9%.

What worked for this sector, and that can make school, was mainly the introduction by the State of structural benefits such as discounts on sureties. In the light of the audit trail of the Regulations, for the EMAS it opens a new challenge to the continuation or not of his identity, also in relation to the adoption of the new ISO 14001. On the table seem to face each of the main strengths of EMAS including: its peculiar asset par excellence, namely the obligation to respect legal compliance can generate credibility in Stakeholder; the Environmental Statement, recognized as the most credible instrument for the dissemination of environmental data; the ability to provide a thrust towards innovation through the adoption of green technologies and BAT (Best Available Techniques). On the other hand, as they have consistently complained organizations, knowledge of EMAS is still poor because he never invested in a decisive manner on information and dissemination of promotional activities;

Moreover the Scheme has never been enhanced strongly within the European legislation providing for a competitive advantage with respect to ISO 14001. In the end, it would seem that the political decision has been weak so far, at all levels, the biggest deterrent to EMAS. It is hoped, therefore, the adoption of an integrated strategy “multi-level” that includes specific actions to be triggered in synergy at European, national and local levels, such as: strengthening the obligations for Member States in the field of promotion of the scheme; recognizing more weight to EMAS within sectoral rules; strengthen the system of simplifications and benefits, with particular reference to small and micro enterprises and the P.A., by adopting measures of a “structural” (reduction of environmental controls, tax relief, etc. ..). It does not also rule out the possibility that is introduced with a new revision in the Regulations, a profound transformation of the same, that capitalize the experience gained in order to make it more easily integrated with other emerging tools, such as the organization’s environmental footprint, in order to strengthen the performance aspect, or the inclusion of social aspects to give the Regulation a wider breath. In the face of light and shadows that accompanied the years of application, there shall be no further reviews and studies if upstream is not taken a political decision that marks the border attributing to this valuable tool a real advantage in terms of substance as well as image.

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