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**REGULATION, INNOVATION AND COMPETITION:
TOWARDS AND INTEGRATION OF
ENVIRONMENTAL CONCERNS INTO
EUROPEAN INDUSTRY.**

SUMMARY FINAL REPORT

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RESEARCH TEAM

Coordinator:

Prof. François LEVEQUE
CERNA
Ecole des Mines
60, bld St Michel
F - 75272 PARIS CEDEX 06 -
Tel.:+ 33 1 40 51 90 91
Fax: +33 1 44 07 10 46
E-Mail: cerna@cc.ensmp.fr

Partners :

Mr. Sebastiano BRUSCO
NOMISMA
Strada Maggiore, 29
I - 40125 BOLOGNE
Tel.: 39 51 64 83 307/8/9
Fax:3951 225352
E-Mail: pk8boiv2@cine88.cineca.it

Pr. Landis GABEL

INSEAD
Ecole des Mines
Boulevard de Constance
F - 77305 FONTAINEBLEAU CEDEX
Tel.:+ 33 1 60 72 42 12
Fax: +33 1 60 72 42 42
E-Mail: gabel@insead.fr

Pr. Jim SKEA

SPRU
University of Sussex
Mantell Building
UK - BN1 9 RF FALMER BRIGHTON
Tel.: +44 1273 686 758
Fax: +44 1273 685 865
E-Mail: j.f.skea@sussex.ac.uk

Pr Jurgen FRANKE

T.U.B.
Institut für Volkswirtschaftslehre
Sekt. WVV 18
Uhlandstrasse 4-5
D - 10623 BERLIN
Tel.:+ 49 30 314 24 969/23 247
Fax: +49 30 314 23 708/21 109

Mr. Peter WEIRAUCH

EBS
Institut für Ökologie und Unternehmens Führung
Burgstrasse 4
D - 6227 OESTRICH WINKEL -
Tel.:+ 49 67 23 14 11
Fax: +49 67 23 30 64

Mr. Mark DUBRULLE

IMSA Europe
Boulevard Lambermont, 432
B - 1030 BRUXELLES
Tel.:+ 32 2 245 00 32
Fax: +32 2 245 85 23

I. OBJECTIVES:

This report surveys the findings of a research project related to the European regulatory process in the field of the environment. This project's aim was to analyse the relationships between regulation, innovation and competition on the basis of comparative studies. Four countries were investigated: France, Germany, Italy and the United-Kingdom. The genesis of several EC Directives and Council Regulations and national have been scrutinised to see whether and why regulatory proposals were modified (e.g. due to competition concerns) before being finally adopted.

II. METHODOLOGY :

The methodology consisted in observing: (i) the changes between the initial proposal and the finally adopted legislation, (ii) the players involved in the process (industry interest groups and national/EU public authorities). The European fabric of environmental policy has been examined through the observation of eight regulatory processes. They are listed in figure 1.

This range covers a wide spectrum of:

policy instruments: economic incentives (e.g., eco-tax), standards related to products (e.g., pesticides registration; sulphur content of fuel oil) or processes (e.g., SO₂ and NO_x emissions of power plants; technical standards in land filling),

industries: agro-chemical, electricity, oil, motor-vehicle, chemical, packaging, waste management,

environmental concerns: pollution due to production (e.g., SO₂ and NO_x emissions) and due to use (e.g., packaging waste); local pollution (e.g., pesticides) and global pollution (e.g., atmospheric emission of CO₂).

However, the project does not comprehensively cover the European policies dealing with the environment. In particular, the range does not contain any regulatory proposal related to the management of natural resources (e.g., forestry, biodiversity).

Each regulatory process was described as an historical sequence which is bounded by two events: the first proposal and the finally adopted regulation. The first proposal is issued from the European Commission or a national government. In the case of a non-ended process, the final document considered is the last available version of the regulatory project (e.g., the Proposal for a Council Directive Introducing a Tax on Carbon Dioxide Emissions and Energy, COM(92) 226 final, for the eco-tax regulatory process)

The contents of the initial and final proposals were described in terms of principle (polluter pays principle, liability rules), environmental objective, other objectives (e.g., employment creation), conditions of compliance and enforcement, and means to achieve the objectives (e.g., a tax, an emission standard).

Two concerned parties were scrutinised: firms and public authorities. Firms were described through the industry interest groups that they created. Public authorities were described according to their geographical field of competence (European, national, local) and their sectoral competencies (environment, trade, energy, etc.).

It is important to notice that green organisations have not been investigated. The reason is that they are not very involved in the regulatory process as defined in this research. Their main involvement precedes the appearance of the initial regulatory proposal. Environmentalists play a strong role in the emergence of the initial proposal, but their influence on the outcome of the process is weak.

The position (i.e., obstruction or support) and claims (e.g., introduction of an exemption) have been observed for each party at the moment of their entry into the process.

This approach has been aimed at: (i) documenting the changes which occur between the initial and the final proposal, (ii) examining how this evolution relates to the moves of firms and public authorities involved in the process.

FIGURE 1: LIST OF STUDIED REGULATORY PROCESSES

Regulatory process	Final draft or adopted legislation
Registration of pesticides	Directives 91/414 and 94/43
Eco-tax	Commission Proposal COM (92) 226
NOx and SO2 emissions controls	Directives 80/779.85/203. 88/609 and 93/12
Packaging waste	Directive 94/62/CE
End of life motor-vehicles	Proposal strategy of the Project Group for the treatment of end of life vehicles. Feb. 94. (N.B. not yet approved, the Commission has subsequently made a new proposal)
Proximity principles	Regulatory Act of the Council 259/93
Municipal waste facilities	Directives 89/369 and 89/429
Eco-management and audit scheme	Council Regulation 1836/93

III MAIN RESULTS

Changes between initial and final proposal

Very significant changes were observed. Important revisions in the initial objective of pollution reduction and the means to achieve it are a general rule.

The following illustrations can be briefly mentioned. The original European regulations in pesticides proscribed more than 0.1 microgram of any pesticide's residue in drinking water. This is a very stringent standard since it means a decrease by one-half of the use of pesticides registration in agriculture. This reference was dropped from the final version of the Directive. The initial proposal of the Commission on the sulphur content of petroleum products had included the introduction of a 0.1% sulphur limit for industrial/marine gas oils and the tightening of existing standards on heavy products (e.g., diesel oil). These two objectives were not adopted in the Directive 12/93. The initial goal of the French Ministry of the Environment was to reduce waste disposal to 10% per car as from 2002 on a weight basis. As the outcome of the process, a 15% objective was finally retained. Some changes in the pollution reduction objective are indirectly obtained through the postponement of the compliance date (e.g., the achievement of recycling targets related to packaging waste), the inclusion of exemptions (e.g., a partial exemption to the eco-tax for energy intensive industries), and the introduction of conditional clauses (e.g., the adoption of the EU eco-tax only if similar measures were adopted by other OECD countries). In addition to this pattern in the reduction of the environmental objective, an enlargement of the regulatory goal to include non-environmental objectives was observed. The eco-tax process is a sound example. The creation of employment and the setting of fiscal reform was progressively integrated into the proposal as new objectives. Important changes have also been observed with respect to the means. The first draft of the German decree on packaging waste was based on the obligation for retailers to take back and recycle their packaging. The finally adopted German regulation includes the possibility for firms to use an alternative route. They can contract with a specialised network of packaging waste recovery: the so called *Duales System Deutschland*. In France, at the beginning of the regulatory process related to car recycling, a mandatory standard was planned; the final proposal refers instead to a voluntary agreement. The implementation of an Eco-Management and Audit Scheme, the so-called EMAS regulation, was initially proposed by the European Commission as mandatory, while the adopted Council Regulation stipulates that the adoption by firms is voluntary. When the regulatory process related to hazardous waste started, the idea was to stop the illegal traffic by increasing control procedures rather than by restricting its transportation. At the end of the process, the limitation of transporting waste (proximity and self-sufficiency principles) was adopted.

The involvement of firms in the regulatory process

Firms were observed as very active participants to the regulatory process. General patterns can be divided into two sets depending on whether one looks only at the starting and end points or at the entire process.

Within a static view of the process, the general patterns are threefold. Firstly, there is a dominance of large firms. This was observed at all the levels. Large firms dominate individual lobbying activities; they make up most

industry interest groups and active industry associations; they lead the networks of several industrial interest groups (e.g., the networking by car manufacturers of material suppliers, equipment producers, and secondary materials and scrap industry to influence the regulatory process related to car recycling). Secondly, industry reacts to the first proposal rather than anticipating it. It was frequently noticed that industry was shocked by non-expected regulatory events. For instance, the opposition from the energy sector to the EC eco-tax project began in October 1991, when the details of the proposal were released. Business did not react before, although it had access to the early drafts of the Community's climate change strategy document. Thirdly, the common reaction of firms is obstruction and this obstruction is successful, at least partly. It has been observed that industry always pushes for a less stringent objective than the one expressed in the regulatory draft. A revision was always obtained, except in Germany. German industry did not succeed, for instance, in reducing the initial recycling targets for packaging waste. However, it obtained a revision in the proposed means to achieve them (i.e., the *Duales System Deutschland* scheme).

With a dynamic vision, the regulatory process can be seen as follows. A regulatory project triggers the entry of a first industry interest group because its potential losses are at stake. Then the first mover undertakes a double strategy of influence on the regulator. It lobbies for a reduction of the environmental objective to obtain a decrease in its absolute costs of abatement. And it lobbies to gain a competitive advantage by obtaining a reduction of his relative costs of abatement vis à vis its competitors. This triggers the entry of rival interest groups into the process. Finally, the process becomes more and more complex with the participation of different industry players. It was observed that entry into the process is driven by a perspective of a loss rather than a perspective of a gain¹. For instance, in the case of packaging waste, it was noticed that first movers belonged to the material supply industry and the sector of packaging users. The waste management firms which are the potential beneficiaries of new waste regulation had adopted a very low profile over the entire process. Similarly, glass and metal producers whose material is easily recyclable were less active in the process in comparison to plastic producers. The strategic use of the regulatory process to the detriment of rivals is soundly documented by the cases of ECO-tax and pesticides. Firms disadvantaged by a pure CO₂ emission tax entered first into the process. They lobbied the European Commission to adopt an energy tax which would also affect the nuclear industry. The latter entered into the process to counter-act this initiative. Large agro-chemical firms entered into the regulatory process to oppose a drastic standard for pesticide residues in water and the introduction of cut-off criteria for the registration of new molecules. They lobbied the regulator to drop out these two points, but also demanded better protection of registration dossiers to increase their market share to the detriment of me-too producers. The latter organised a rival industry interest group and entered into the process to fight the initiative of the major firms. It is interesting to note that the entry of industry interest groups is frequently associated with the entry of new public authorities. The regulatory process starts with a single authority, the one in charge of the environment (Directorate General XI, environment of the European Commission, or national Ministries of the environment). Then the number of public authorities grows as the number of industry groups increases since the latter attempt to get the support of the former. This is especially the case when national competitiveness issues are at stake.

VI. SCIENTIFIC INTEREST AND POLICY RELEVANCE

• Scientific interest and novelty

The case studies have shown that:

- (i) There are significant revisions of the initial environmental objective and the means to achieve it.
- (ii) The final proposal includes non-environmental objectives (e.g. employment creation, the strengthening of EU competitiveness).
- (iii) These changes between the initial and final proposals are caused by the entry and strategy of industry interest groups and public authorities involved in the regulatory process.

Does this mean that the regulatory process distorts environmental public policy, in particular because of the strong industry involvement?

¹ This asymmetry between winners and losers may be explained for several reasons. Firstly, for a given stake, the prospect of a cost may induce a stronger reaction than a benefit as a result of a firm's loss aversion. Secondly, at the beginning of the regulatory process relative gains related to competitive advantage are very uncertain. Thirdly, there is a risk to deliver strategic information when entering into the process.

Given the evidence on the lowering of the abatement objective during the process and the active role of business in this, one would spontaneously say yes. The closest content to the prescriptions of environmental economists, which are assumed to be driven by a perspective of efficiency, is observed for the initial proposal rather than for the final one. The case of the eco-tax is very illustrative of this point. Thus, the regulatory process would be a negative phenomenon where bureaucratic red tape and special interests unrelated to environment issues pervert an efficient solution. Such a vision is inadequate for three main reasons. Firstly, the environment is not the unique component of the public interest. Before the beginning of the process, a pollution concern has raised a public interest. The first regulatory proposal is the reification of this specific interest. Its balancing with other legitimate public concerns such as employment or competitiveness is a major issue at stake within the regulatory process. Customarily, emphasis is put on the integration of environmental concerns in sectoral policies (e.g., agriculture, transportation, fiscal policy). But the reverse, that is to say to ensure compatibility between environment and non-environmental objectives, is necessary as well. Secondly, there is no reason to think that the initial objective is the right one, nor that the initial means is a cost efficient way to achieve it. Case studies show that the regulatory process gives room to creation of information which reduces initial uncertainties on abatement costs. They demonstrated that firms played a key role in this aspect. Thirdly, rivalry between industry interest groups, and even public authorities, limits the risk of capture. A very intense competition, both between firms and between Member States has been observed. Environmental regulatory projects have always been divisive amongst firms. Except in the case of the eco-tax, no industry interest group benefited from a monopolistic position in the process.

Policy relevance

Four speculative recommendations can be advanced as leading to a better outcome of the regulatory process.

The first is to separate the discussions on the environmental objective and on the means to achieve it. There is a convergent interest between industry and government to identify the cost-economising route to reach the target of pollution abatement whereas industry frequently opposes the regulator as regards the ambition of the abatement objective. When the two issues are discussed at the same time and by the same players, firms' obstruction is likely to prevail. This is why, without any considerations to informational costs, a two-tier process may well perform when the upper level (i.e., European Union) fixes the objective and the lower level (the Member States) sets the means.

The second recommendation is to encourage rivalry between industry interest groups. The greater the number of industry interest groups, the less the risk of capture of the regulator, and the higher the informational gains for the regulator. The regulator can encourage the entry into the process of participants who are traditionally underrepresented. He can, for instance, provide financial incentives to small and medium size enterprises whose costs of grouping are high. Given the asymmetry between the involvement of losers and winners, the regulator can also encourage the entry of the latter. Finally, and this is more counter-intuitive, the regulator may accept the claim of the first entrant who seeks a competitive advantage. This would trigger the entry of the rival interest group.

The third recommendation deals with the procedures to make an agreement with industry easier. If we assume that, for informational and institutional reasons, it is better for government to set a bargaining process rather than a coercive process, the obstacle to overcome is that there should be the interest of industry to reach an agreement (i.e., any outcome of the process should be better for industry than any outcome achieved without its presence). The case studies indicated that three procedures to overcome this participation constraint are interesting to use. The regulator can pose the threat to unilaterally set a more stringent regulation. In France, for instance, it happened during the government and industry discussions related to the cleaning of contaminated area and at the beginning of the process concerning car-recycling. Nevertheless, this is not so widespread because the credibility of the threat is not easy to achieve. A more common alternative consists in increasing the payoff for the industry player at the detriment to a third party who is not involved in the game. This is the typical example of the offer by a regulator of a competitive advantage to the national industry over foreign competitors. At last, the regulator can overcome the participation constraint through reputation effects (e.g., the regulatory process of the Eco-Management and Audit Scheme) and his ability to secure networks economies and inter-firm co-operation (e.g., car and packaging waste processes).

As a final recommendation, it is important to stress again the compatibility issue between environmental and competition policies. Throughout the case studies, it was observed that the environmental regulator is frequently confronted with the risk of reducing, or even freezing, inter-firm competition. An environmental gain in pollution reduction is easily associated with a loss in inter-firm competition. For instance, extending the duration

of innovation protection in the new pesticide regulation would strengthen the oligopoly of the major agro-chemical producers. Another example is given with the proximity principle which increases the local monopoly of waste facilities.

As a conclusion, the empirical evidence and general observed patterns surveyed in this research show that failures and successes of environmental policy are not only a matter of the choice of a principle (e.g., polluter pays, liability rules), an instrument and an enforcement system. The development of the regulatory process is also a source of potential efficiencies and inefficiencies. This opens a new perspective to environmental economics which has until now focused on improving policy and valuation instruments rather than bargaining procedures.