



HAL
open science

The effectiveness of environmental law : a key topic

Sandrine Maljean-Dubois

► **To cite this version:**

Sandrine Maljean-Dubois. The effectiveness of environmental law : a key topic. The effectiveness of Environmental Law, Intersentia, 2017. halshs-01675498

HAL Id: halshs-01675498

<https://shs.hal.science/halshs-01675498v1>

Submitted on 15 Jan 2018

HAL is a multi-disciplinary open access archive for the deposit and dissemination of scientific research documents, whether they are published or not. The documents may come from teaching and research institutions in France or abroad, or from public or private research centers.

L'archive ouverte pluridisciplinaire **HAL**, est destinée au dépôt et à la diffusion de documents scientifiques de niveau recherche, publiés ou non, émanant des établissements d'enseignement et de recherche français ou étrangers, des laboratoires publics ou privés.

INTRODUCTION

The Effectiveness of Environmental Law: A Key Topic

Sandrine MALJEAN-DUBOIS

*Aix Marseille Univ, Univ Toulon, CNRS, DICE, CERIC, Aix-en-Provence, France**

Over the last five decades, there has been a rapid expansion in the use of law in the service of the environment. We now have a collection of legal instruments aimed at protecting the environment, at the international, regional, national and subnational levels, ranging from treaties to national legislations, from constitutional provisions to municipal regulations, from hard to soft law. There is certainly a breath-taking number of instruments today, as well as a variety of protected domains.

However, this impressive development in environmental law has not always been matched by corresponding improvements in environmental quality. The threats to our environment and, by extension, to our health have never been so numerous or serious. Ecosystems and natural resources are declining at an alarming rate. Yet, climate change is a reality. Environmental degradation is an ever-growing challenge. These threats jeopardize our children's future, and subsequent generations' futures, because of their long-term consequences, not to mention their irreversibility. Without sounding overly melodramatic, we must recognize that this is now a question of our very survival.¹

Indeed, if successive environmental reports are to be given any credence, there is a steady decline in environmental quality, bringing into sharp focus questions relating to implementation, as well as questions related to the true value of the existing instruments. In brief, it gives rise to some questions about legal effectiveness.

* The author would like to thank Lavanya Rajamani for having accepted the publication of this text partially based on their common introduction of the book *La mise en œuvre du droit international de l'environnement / Implementation of International Environmental Law*, S. Maljean-Dubois, L. Rajamani (ed.), The Hague Academy of International Law, 2011, Martinus Nijhoff, 812 p.

¹ See for example F. Biermann, 'Planetary boundaries and earth system governance: exploring the links' (2012) 81 *Ecological Economics* 4.

For this brief and modest introduction to a very rich conference topic, I will first underline that effectiveness has been a long-neglected issue. Secondly, I will try to define what is a polysemic term. Thirdly, I will remind the reader of the difficulties involved in assessing effectiveness. Lastly, I will try to identify some avenues by which to improve the effectiveness of environmental law.

1. THE EFFECTIVENESS OF ENVIRONMENTAL LAW: A LONG-NEGLECTED ISSUE

In the early years of environmental law – from the 1970s to the 1990s – a time characterized by “normative frenzy,” the stress was primarily put on constructing a body of regulations aimed at environmental protection. As this body of regulations attained critical mass, academics and practitioners turned the spotlight on the causes for the relative ineffectiveness of a lot of instruments that had been adopted and the means by which to remedy it. The academics followed the same trajectory: after a phase of interest in the conditions for creation and content of new regulations, they began asking difficult questions relating to implementation and enforcement.

Indeed, the problem of the implementation of international environmental law has gradually emerged as a field of research in economics, political sciences and law², generating varied analyses, some more empirical, some more theoretical, with authors looking to qualify and even quantify³ the degree of these instruments’ effectiveness and to explain the disparities that emerge. This wave of introspection extended beyond international law to European⁴ and national law.⁵ But, and “even though environmental lawyers are probably the species of lawyers most interested in empirical research on the effectiveness of legal and policy instruments”⁶, relatively few published works evaluate the effectiveness of domestic environmental legal systems.⁷

² D. F. Sprinz, *Research on the Effectiveness of International Environmental Regimes: A Review of the State of the Art*, 1, Paper prepared for the Final Conference of the EU Concerted Action on Regime Effectiveness, IDEC, 9-12 November 2000, Barcelona.

³ H. Carsten and D. F. Sprinz, Measuring the Effectiveness of International Environmental Regimes, 45 *Journal of Conflict Resolution*, 630-652 (2000); and, D. F. Sprinz, The Quantitative Analysis of International Environmental Policy, in D.F. Sprinz, Y.Wolinsky-Nahmias (eds.), *Cases, Numbers, Models: International Relations Research Methods* 424 (2004).

⁴ See Communication from the Commission to the European Parliament, the Council, the European Economic and Social Committee and the Committee of the Regions on implementing European Community Environmental Law, COM/2008/773 final, 18 November 2008.

⁵ In French Law, this is reflected in for example the adoption of the law called “Bamier,” no. 95-101 of 2 February 1995 related to the reinforcement of environmental protection, JORF no.29 of 3 February 1995, p. 1840.

⁶ M. Faure, “The effectiveness of environmental law: what does the evidence tell us?”, *Wm. & Mary Envtl. L. & Pol’y Rev.*, Vol. 36 (2012) 295.

⁷ Chris McGrath, *Does environmental law work?*, Lambert Academic Pub, 2010, p. 21.

However, as environmental threats worsen, strengthening the effectiveness of environmental law seems to be a major challenge for the future.⁸ Assessing the actual and projected *effects* of environmental measures is necessary for developing models or scenarios in relation to future trends in the state of the environment.

As lawyers, we do not have all of the keys on hand. Nevertheless, we have a great responsibility in participating in this assessment, in identifying the difficulties, obstacles and limits of legal rules and instruments and in exploring or even proposing solutions to policy makers. Improving the effectiveness of environmental legal systems is certainly an ongoing task.

2. EFFECTIVENESS: WHAT IT IS?

According to the Cambridge Dictionary, “effectiveness” means “the ability to be successful and produce the intended results”. This is the usual meaning. As a working definition, effective rules or instruments are those that create a result that meets their objectives. The main question, then, is: does a legal rule or an instrument contribute to improve the environment or to achieve the intended policy objective? In that sense, measuring the “effectiveness” of laws means measuring the extent to which laws solve the problem they were designed to address. This is, without any doubt, the ultimate concern of legal rules and instruments.

2.1. EFFECTIVENESS AND OTHER RELATED CONCEPTS

Again according to the Cambridge Dictionary, “efficacy” means the “ability, especially of a medicine or a method of achieving something, to produce the intended result”. In that sense, it could be used as a synonym for effectiveness.

In common language, compliance, implementation and effectiveness or efficiency are sometimes perceived to be interchangeable, but they do have specific connotations. This is why we need to clarify some potential ambiguities that deeply inform the theoretical discussion about the concept of legal effectiveness. To that end, I propose some working definitions.

The term “compliance” refers to a state of conformity or identity between an actor’s behaviour and a specified rule.⁹ As mentioned previously, if an instrument

⁸ This is a need that has also been recognized in the Fourth Program of the United Nations Environment Program (UNEP) for the development and periodic evaluation of environmental law. See the Report of the meeting of senior government officials expert in environmental law to prepare a fourth Programme for the Development and Periodic Review of Environmental Law (Montevideo Programme IV), UNEP/Env.Law/MTV4/IG/2/2, 22 October 2008.

⁹ K. Raustiala, “Compliance & Effectiveness In International Regulatory Cooperation”, 32 *Case W. Res. J. Int’l L.*, 391.

is not well-designed, the environmental problem will not be solved, even if there is a very good compliance rate.

It is important to distinguish between compliance with commitments *per se* and the true impact that commitments have on the actor's behaviour.¹⁰ The latter is what matters; compliance is incidental. Take the example of Russia in the Kyoto Protocol. It is in full compliance with its commitments, because its economy, and thus its emissions, collapsed in the early 1990s. But this compliance is not the result, or not mainly, of behavioural change. Now their emissions are on the rise as their economy picks up.

For its part, "implementation" refers more to the process than to the result. These processes involve applying rules or instruments, providing administrative infrastructure and resources necessary to apply them, instituting effective monitoring and enforcement mechanisms and so on.¹¹

Whereas implementation is usually a critical step towards compliance, compliance can occur without implementation. For instance, for international legal rules at least, this will be the case when an international commitment mirrors national law and practice, or where factors external to the legal process induce compliance.¹²

"Enforcement", then, is "the act of compelling compliance with a law".¹³ I will deal with this notion in greater detail below.

Moving on to "efficiency", the question that arises is: "Have these objectives been achieved at the lowest cost?" It is not a matter of effectiveness, except where we consider that more efficient legal rules will be more easily implemented and for this specific reason should be more effective.

2.2. THE MULTIPLE MEANINGS OF EFFECTIVENESS

Even effectiveness has multiple meanings. More specifically, there are three levels of effectiveness, that are often mentioned as such in the literature:

- 1) legal effectiveness, meaning that the law is respected;
- 2) behavioural effectiveness, which shows whether the situation is different from what it would have been without the treaty, obligation, rules. In other words, it refers to the ability of the legal provisions to change people's behaviour or

¹⁰ D. G. Victor, "The Use and Effectiveness of Nonbinding instruments in the management of complex international environmental problems", 91 *Am. Soc'y Int'l L. Proc.* (1997) 242.

¹¹ T. Risse, "Rational Choice, Constructivism and the Study of International Institutions." in Katznelson (I.), Milner (H.) (eds.). *Political Science as Discipline? Reconsidering Power, Choice and the State at Century's End*, 2001.

¹² K. Raustiala, "Compliance & Effectiveness In International Regulatory Cooperation", *op. cit.*, p. 391.

¹³ Black's Law Dictionary, 8th Ed. 2004, p. 569.

- to result in changes in the behaviour of socio-economic actors. The recipients of the legal rule – those to whom the law is addressed – could be public or private actors. They are to be distinguished from those affected by the law. Among public actors are the administrative and judicial authorities in charge of the implementation, monitoring, sanction of non-compliance, including penalties. They are the secondary recipients of the legal rule. The primary ones are those individuals to whom the law or the legal rule is addressed;
- 3) and problem-solving effectiveness, focusing more on the goals, interested in the aim of the legal provisions (has it been set too low?) and to how action is spurred towards achieving these objectives.¹⁴

An instrument could lead actors to try to reach solutions through a variety of initiatives and actions, including some that do not involve the instrument directly.

An instrument could have unintended effects or consequences.

It could even be counterproductive. However, this matter is no longer a matter of effectiveness then. According to the definition we have adopted, we cannot include effects in contradiction with the purpose of the legal rule, this would include effects producing a result that is opposed to the intended result.

Effectiveness is a phenomenon that is difficult, if not impossible, to comprehend and to explain. Even if we are to simply try to explain the legal effectiveness, it is quite difficult. Is the legal effectiveness spontaneous or due to an efficacious monitoring, together with severe penalties? Is the rule respected because it is considered to be good, justified or legitimate? Or is it motivated by fear of possible sanctions? Effectiveness is not only a question of fact; it also has a symbolic dimension.

Regarding international law, there are numerous theories that try to identify the factors that influence state-behaviour. Rationalist theories explain compliance in relation to the nature of the problem, the structure of the solution chosen and the costs and benefits associated with different behaviours.¹⁵ Norm-driven theories focus on the power of ideas to influence state behaviour.¹⁶ For instance, T. Franck argues that the legitimacy of rules and processes generates a “compliance pull.”¹⁷ A. Chayes supports “managing compliance” through financial, technical or informational assistance, or through interpretative dialogue.¹⁸ Liberal theories suggest that liberal societies, because of their domestic reverence for the rule of

¹⁴ A. Rieu Clarke, J. Gooch, “Implementing international water agreements”, in *Implementing Environmental Law*, P. Martin, A. Kennedy ed., The IUCN Academy of Environmental Law, 2015.

¹⁵ K. Raustiala, “Compliance & Effectiveness In International Regulatory Cooperation”, *op. cit.*, p. 405.

¹⁶ *Idem.*

¹⁷ T. M. Franck, “Legitimacy in the International System”, 82 *Am. J. Int’l L.* 705 (1988).

¹⁸ A. Chayes et al., “*Managing Compliance: A Comparative Perspective*”, in *Engaging Countries: Strengthening Compliance with International Environmental Accords* (E. B. Weiss and H.K. Jacobsen eds, 1998).

law, are more likely to comply with the decisions of international tribunals than illiberal states, etc.¹⁹

Indeed, to reach the problem-solving effectiveness, which is the most important, instruments need to satisfy a double condition.

First, they have to be *well-designed*, that is to say that they are adapted to the purposes set forth. This is a matter of relevance: to what extent do these objectives adequately address the ‘needs’ of the issue or problem? This first condition is not easy to fulfil in the environmental field. Due to a lack of knowledge or a lack of will/consensus, environmental objectives or methods are not always expressed clearly. Environmental issues need to be well defined and understood. This level of thinking leads beyond the frontiers of law when it comes to finding an answer, on the basis of a substantive analysis, to this question: can the quality of the environment or the condition of the resource be improved by a treaty, law, regulation or rule? This assumes that the “needs” of the environment or the resource are known and that meeting them is possible, something which is easier to determine in some circumstances than it is in others.

Second, instruments have to be *well-implemented*. Does it result in, prove capable of, a behavioural change? The discussion goes beyond an implementation in its narrow connotation, to cover the ability of the legal rule in influencing the behaviour of its recipients in the sense desired by the rule maker.²⁰ We can say, with Pierre Bourdieu, that: “le jeu avec la règle fait partie de la règle du jeu”.²¹ For François Ost and Michel Van de Kerchove, “est effective la règle utilisée par ses destinataires comme modèle pour orienter leur pratique”, whether they are primary recipients (people to whom the law is addressed), or administrative and judicial authorities (in charge of its implementation). However, what works in one case may not work in others.

Furthermore, an instrument could be well-designed, but not well-implemented. In this case, the problem will not be solved and, vice versa, an instrument could be well-implemented, but if it has not been well-designed, the problem will not be solved.

These are two separate, but cumulative, conditions by which to get an impact in terms of problem-solving. *A priori*, if these two tests are met – a *well-designed* and *well-implemented tool* – in the final analysis, the quality of the environment or the state of the resource will be improved thanks to the tool in question.

¹⁹ K. Raustiala, “Compliance & Effectiveness In International Regulatory Cooperation”, *op. cit.*, p. 410.

²⁰ F. Ost et M. Van de Kerchove, *De la pyramide au réseau. Pour une théorie dialectique du droit*, Bruxelles, Publications des Facultés universitaires Saint-Louis, 2002, p. 329.

²¹ P. Bourdieu, “Droit et passe-droit. Le champ des pouvoirs territoriaux et la mise en œuvre des règlements”, *Actes de la recherche en sciences sociales*, 81/82, 1990, p. 89.

However, very few rules or instruments cumulatively satisfy these two aspects of effectiveness. Most often, a rule/instrument is only effective with respect to one of them.²²

At this point, I need to add that the effectiveness is rarely total, but is more generally partial. We could have some signs of effectiveness, but not full compliance; this is usually the case. The reality is rarely black or white. Total effectiveness is a kind of utopic dream. Ineffectiveness is more natural in social systems characterized by compromises, indulgence and the quest for the least amount of effort. As Jean Carbonnier has said: “C’est défigurer la réalité humaine et sociale qui s’exprime dans les systèmes juridiques modernes, que de n’en retenir qu’un besoin d’ordre, de régularité, partant de ponctuelle et totale effectivité des règles de droit. Il s’y rencontre des intérêts antagonistes: la propension au compromis, l’indulgence, et même la recherche du moindre effort, qui inclinent les règles de droit à une ineffectivité tout aussi naturelle”.²³

Conversely, we could find laws that are totally ineffective. But in that case, there is a risk that it falls into disuse. This further highlights the importance of effectiveness.

Having said that, effectiveness is not only difficult to circumscribe, but also to assess.

3. DIFFICULTIES IN ASSESSING EFFECTIVENESS

Apart from the polysemic characteristic of the word, the evaluation of effectiveness is not easy.

To go back to the three levels of effectiveness, the first one, legal effectiveness, is fairly easy to measure. But a regime or instrument can be legally effective without solving the problem that led to its creation.²⁴

Behavioural effectiveness is less easy to measure, in particular for a lawyer and without any input from other social sciences.

Problem solving effectiveness is even less easy to measure, but it is the most important. As Lawrence Susskind suggests, “it would be a mistake to measure success in terms of anything less than tangible environmental improvements.”²⁵

²² K. Von Moltke, “Research on the Effectiveness of International Environmental Agreements: Lessons for Policy Makers”, *Paper prepared for the Final Conference of the EU Concerted Action on Regime Effectiveness*. IDEC, 9-12 November 2000, Barcelona; O. Young, *The Effectiveness of International Environmental Regimes. Causal Connections and Behavioral Mechanisms*. Cambridge: MIT Press, 1999.

²³ J. Carbonnier, “Effectivité et ineffectivité de la règle de droit”, *L’année sociologique*, vol. 9, 1957-58, p. 13.

²⁴ O. Young, *The Effectiveness of International Environmental Regimes. Causal Connections and Behavioral Mechanisms*, *op. cit.*

²⁵ L.E. Susskind, *Environmental Diplomacy: Negotiating More Effective Global Agreements* (Oxford University Press, Oxford, 1994), p 40.

Even where objectives are clearly articulated, assessments of effectiveness are difficult due to the complexity of social and political structures, the perpetual evolution of ecological systems and gaps of information

Appropriate effectiveness indicators and adequate benchmarks are still lacking; reflection remains extremely theoretical and the problems of establishing causal links between the legal rule or instrument and the observed results also remain.²⁶ The chain of actions linking the rules, policies and persons to the natural environment is complex, uncertain and discontinuous in a context where many overlapping policies and programs with similar intended outcomes exist.²⁷ Assessing effectiveness involves a multi-disciplinary task requiring the integration of environmental science and law. Much depends on the criteria used. Ultimately, “whether the protection offered to the (...) environment by law is ‘adequate’ in scope and stringency is of course a value judgment, which will depend on the weight given to the whole range of competing social, economic and political considerations”.²⁸

4. HOW TO IMPROVE THE EFFECTIVENESS OF ENVIRONMENTAL LAW?

I need to make three preliminary remarks here. The first remark is that there are actually many instruments in the field of the environment that do not meet their objectives. To improve their effectiveness, we have to take the causes of their ineffectiveness into account. These causes can relate to the design or the implementation of a law, regulation or treaty. But they can also depend on political, social or cultural factors. Of course, as a lawyer, it is more difficult to face the latter. However, better legislation should try to take political, social and cultural deadlocks into account.

The second remark is that the issue of effectiveness is posed in very different terms depending on the level of regulation: if it is international law, European law or domestic law.

The third remark is that better legislation and better implementation are two matters that are interlinked. Better legislation can lead to better implementation. An “efficient, cost-effective, equitable, politically acceptable, and ‘optimal’” environmental legal system should be quite effective.²⁹

²⁶ K. von Moltke, *Research on the Effectiveness of International Environmental Agreements: Lessons for Policy Makers*, Paper prepared for the Final Conference of the EU Concerted Action on Regime Effectiveness, IDEC, 9-12 November 2000, Barcelona, 4-5.

²⁷ *Idem*, p. 4.

²⁸ P. Birnie, A. Boyle, *International Law & the Environment* (2nd ed, Oxford University Press, Oxford, 2002), pp 1-10, quoted by C. McGrath, *Does environmental law work?*, Lambert Academic Pub, 2010, p. 13.

²⁹ C. McGrath, *Does environmental law work?*, Lambert Academic Pub, 2010, p. 13.

Having said that, we can identify two avenues by which to improve effectiveness: better legislation and better implementation.

4.1. BETTER LEGISLATION

The lack of implementation comes from various factors.

Firstly, the threats to the environment are complex, difficult to identify and to deal with. For instance, protecting biodiversity presents a serious challenge. Our law is poorly tailored to face it. Law is traditionally governed by the principle of legal certainty, and always seeks to simplify and categorize reality, whereas biodiversity is a complex, dynamic, evolving and still widely unknown reality.

To go even further, the current environmental crisis is multi-dimensional, with permanent interaction between the different dimensions. Recently, the interdependence of planetary boundaries has been highlighted: planetary boundaries are closely interconnected, because transgressing one may both shift the position of other boundaries or cause them to be transgressed.³⁰

Hence, for example, climate change has a profound impact on biodiversity. According to the Millennium Ecosystem Assessment, climate change is to become one of the most severe drivers of biodiversity loss by the end of the century. This statement is even supported by the IPCC reports. Climate change could eventually claim one sixth of the world's species.³¹ On the other hand, the loss of biodiversity has consequences on climate change: the significant loss of marine biodiversity weakens marine ecosystems, for example, and consequently the climate and the biosystems of the entire planet, because seas and oceans are vital to biochemical cycles such as that of oxygen.

These interplays clearly complicate the governance of the Earth's system.³² They have been dealt with by law.

Secondly, the lack of implementation comes from the intrinsic quality of the law. Due to various factors, rules in this field are soft; they are often vague, indeterminate, open-textured, non-quantified and, for a lot of international norms and some European norms, non-self-executing. When it is the case, it opens a wide margin of appreciation in their application. Moreover, their implementation is difficult to monitor and to assess. Ultimately, their enforcement is rather impossible.

For instance, the effectiveness of multilateral environmental agreements (MEAs) is neither easily measured nor plausibly met. MEAs rarely have clear

³⁰ See *supra* footnote 1.

³¹ S. Perkins, "Climate change could eventually claim a sixth of the world's species", *Science*, 30 April 2015.

³² M. Nillsson, A. Persson, "Can Earth system interactions be governed? Governance functions for linking climate change mitigation with land use, freshwater and biodiversity protection", *Ecological Economics*, vol. 81, September 2012, pp. 10-20.

articulations of their principal objectives or the methods to achieve them. This could be due to the inadequate state of the science at the time the agreement was drafted or due to a lack of political consensus among states on how rigorous and precise the objective should be. In the absence of this agreement, objectives tend to be ambiguous, qualified and reflective of the least common denominator among states.³³ It is difficult, then, to monitor their implementation and to sanction non-compliance.

Indeed, designing “good” environmental norms is not easy. They have to be flexible but not too soft, evolving but not fluctuating. They have to combine incitative and coercive tools, general regulations and market-based approaches, public and private mechanisms and so on. One of this century’s major challenges (in terms of environmental law) will be to determine the best mix, the best combination between those different tools and approaches on a case by case basis. This challenge will also require the development of new ways of law-making, to strengthen expertise and the interface between experts and policy makers, or even new approaches such as participatory approaches.

However, better regulation should not be an excuse to deregulate. For instance, the EU “fitness check” that the European Commission is carrying out under its Regulatory Fitness and Performance Programme (REFIT) is an important building block in the “better regulation package”.³⁴ Officially, it serves to “make EU law simpler and to reduce regulatory costs, thus contributing to a clear, stable and predictable regulatory framework supporting growth and jobs”³⁵ In actual fact, the consequence is a loosening of environmental law. A lot of countries – France, for instance – are moving in the same direction. We have to be careful.

To quote Montesquieu, “La loi souffre de trop de maux, qui nuisent à sa compréhension et à son respect. Trop détaillée, alors qu’elle devrait être centrée sur l’essentiel, elle en devient incompréhensible. Trop déclarative, alors qu’elle devrait être normative, elle se dévalorise”.³⁶

4.2. BETTER IMPLEMENTATION

How might we improve the implementation of environmental law? This is also a very complex issue. The implementation of environmental law evolves with changes occurring in the design of environmental law. The problem is not the

³³ See for instance, United Nations Framework Convention on Climate Change, Article 2; Convention on Biological Diversity, Article 6.

³⁴ See for example: Communication from the Commission to the European Parliament, the Council, the European Economic and social committee and the committee of the Regions, *Better regulation for better results – An EU agenda*, Strasbourg, 19.5.2015 COM(2015) 215 final.

³⁵ [Http://ec.europa.eu/smart-regulation/refit/index_en.htm](http://ec.europa.eu/smart-regulation/refit/index_en.htm) [July 4 2016].

³⁶ Montesquieu, *Lettres persanes*, Lettres CXXIX.

same if we talk about a classical tool (command and control) or a more innovative one (incitative tools, market-based mechanisms, voluntary tools, private law ...). We have to forget an approach that is only imperative and repressive of law and implementation. On the one hand, a legal norm is not necessarily a mandatory rule of conduct that can be only respected or violated. A lot of norms are supplementary/suppletive. On the other hand, the sanction is not always the best tool of implementation. Sanctions are not always well-tailored, not always possible, not always decided upon. In fact, the likelihood that a violation ends up in court and is sanctioned is extremely low.³⁷

Actual incentives will often provide better incentives to prevention/implementation. In some cases, the cooperation model, whereby the agency tries to bring the polluter to compliance through persuasion and by providing information, has proven to be more efficacious than the deterrence one, whereby authorities are hard on polluters and prosecute all cases.³⁸

Effectiveness also has a symbolic or even a psychologic dimension, which contributes to maintaining its aura of mystery. According to an often-quoted old American survey, in front of an unexpected red light, car drivers can be divided into three categories: those who stop, those who do not stop, those who slow down. We can divide people into conformists, non-conformists, and superior conformists (those who take the matter into consideration before acting).³⁹ The possibility of sanctions is obviously not the sole driver of effectiveness. The acceptance of the norm, the recognition of its legitimacy, the existence of incentives are also some of effectiveness's important drivers. They could have a more preventive and deterrent effect.

Furthermore, in a case by case analysis, depending upon the specific context, type of pollutant regulated, institutional design, etc., we need to figure out the optimal combination of incentive and sanction. Seeing the concept of enforcement as an imposition of legal sanctions, or penalties, is too narrow. It is a far more multi-faceted concept than is often assumed. It encompasses a wide spectrum of means for "compelling compliance" with law.⁴⁰

As international lawyers, and even as the most resolute positivists, we know very well that enforcement is not the critical factor and: "at any rate, does not account for a law's binding effect".⁴¹ Because of the complex ways in which the law is made meaningful in the life of its subjects, "the law is ... not external, coercive

³⁷ M. Faure, *The effectiveness of environmental law: what does the evidence tell us?*, op. cit., p. 321.

³⁸ *Ibid.*, p. 327.

³⁹ W. Allport, "The Curve hypothesis of conforming behavior", *Journal of Social Psychology*, May 1934, p. 141 et s. Cit. J. Carbonnier, op. cit., p. 18.

⁴⁰ J. Brunnée, "Enforcement Mechanisms in International Law and International Environmental Law", in Ulrich Beyerlin et al, eds., *Ensuring Compliance with Multilateral Environmental Agreements: A Dialogue Between Practitioners and Academia* (2005).

⁴¹ *Ibidem.*

and alien but internal, logically necessary and familiar”, as it has been stressed by Sir Ian Brownlie.⁴²

This is why the following chapters will go from classical tools (control, criminal, administrative, civil sanctions, liability rules, strengthening of the regulatory structure and the role of judges ...), classical but still necessary, to more innovative ones (public participation, effectiveness of instrument mixes, collaborative governance, hybrid governance and private environmental enforcement ...).

As I come to the end of this brief introduction to the book’s topic, I realize that I have highlighted many difficulties and obstacles. We have to face them and we have to propose solutions to the shortcomings identified together. Comparative law can be very helpful in achieving this end. I also hope that this book, in the aftermath of the successful Third EELF conference in Aix-en-Provence, will serve this fundamental objective by bringing together practitioners and academics, from varied countries and varied fields, combining empirical and theoretical approaches.

⁴² I. Brownlie, “The Reality and Efficacy of International Law”, *British Yearbook of International Law*, 55 (1981), p. 1, quoted by J. Brunnée, “Enforcement Mechanisms in International Law and International Environmental Law”, *op.cit.*