



CHAPTER TEN

REGULATORS' CHOICE OF STRATEGIES

INTRODUCTION

This chapter introduces a selection of the best literature on the choices that face compliance officials in diagnosing problems and designing appropriate compliance and enforcement tools to solve a wide array of environmental problems. The analysis here complements and builds on earlier discussions about competing domestic theories of compliance, the various approaches available to regulators – including deterrence and detection, sanctions, liability and information measures – as well as the potential roles of different actors and institutions, including non-governmental organizations, courts and tribunals.

A major challenge facing officials is selecting the right tools for the job and designing the strategies to effectively implement them. Compliance officials, for instance, must choose the right mix of enforcement and compliance assistance mechanisms, which may vary by the industry sector and size.¹ Within enforcement, officials must choose how much to invest in detection strategies such as inspection, monitoring, and confirming self-reporting; sanctioning, including whether to pursue an administrative, civil, or criminal prosecution; and a communication

¹ For example, sectors with only a few players generally will be easier to regulate than a sector with hundreds, or thousands of players; and small and medium-sized industries generally need more assistance than larger firms, as they have fewer resources, less time and less technical capability. See, e.g., Chapter Nine: Compliance Assistance & "Beyond Complianace", Introduction n.9 (describing SMEnvironment 2003 Survey in UK). For a discussion on numerous policy tools that decision-makers use to regulate the dry cleaning industry, see Timothy Malloy & Peter Sinsheimer, *Pollution Prevention as a Regulatory Tool in California: Breaking Barriers and Building Bridges* (2001), available at <http://www1.law.ucla.edu/~erg/pubs/MalloyBuildingBridgesReport.pdf>. These tools include education about alternative cleaner technology, technical assistance and training, increased enforcement efforts (in the form of increased fines, for example), taxes or fees on certain solvents, financial incentives (in the form of direct or tax subsidies) for alternative technology, and complete bans on the use of certain solvents. *Id.* at 13-21.

strategy to alert the broader community and encourage deterrence.² Within compliance assistance, officials must choose among another set of strategies, such as providing information, technical support, training, or incentives.³

Given limited and fixed budgets, most enforcement and compliance agencies need to find the most cost effective means to ensure compliance.⁴ Agencies generally consider what is feasible, what is most important, and what presents the greatest risk, and then focus on the problems that cause the most severe environmental or public health damages.⁵ The Dutch environmental agency, for example, looks at the risk and the compliance rate in setting its priorities, utilizing the following 2 x 2 matrix.⁶

Risk ↑	Priority 2 Need some attention	Priority 1 Need immediate attention
	Priority 3 Not urgent	Priority 2 Need some attention
	non-compliance rate →	

² For a discussion on detection strategies, sanctions, court systems, and information regulation, see Chapter Four: Domestic Enforcement Strategies; Chapter Five: Courts, Tribunals, & Liability; and Chapter Seven: Information Regulation.

³ For more information on compliance assistance, see Chapter Nine: Compliance Assistance & "Beyond Compliance".

⁴ See INTERNATIONAL NETWORK FOR ENVIRONMENTAL COMPLIANCE AND ENFORCEMENT, PRINCIPLES OF ENVIRONMENTAL ENFORCEMENT, Chapter 10, at 6-7, available at <http://inece.org/enforcementprinciples.html> (hereinafter "INECE Principles"); see also ORAN YOUNG, COMPLIANCE & PUBLIC AUTHORITY, 112 (1979) (suggesting that it is useful to recognize that public officials generally will approach compliance issues as an investment problem, choosing how to invest their resources in various compliance mechanisms to obtain the best returns); Sandra Rousseau & Stef Proost, *The Cost Effectiveness of Environmental Policy Instruments in the Presence of Imperfect Compliance*, working paper series # 2002-04 (2002), available at <http://www.econ.kuleuven.ac.be/ew/academic/energmil/downloads/ete-wp02-04.pdf> (studying the impacts of various costs on the choice of environmental policy instruments and analyzing the administrative, implementation, enforcement and monitoring costs of different combinations of regulatory instruments (such as taxes and standards) and enforcement instruments (such as criminal and administrative fines)).

⁵ See MALCOLM SPARROW, IMPOSING DUTIES: GOVERNMENT'S CHANGING APPROACH TO COMPLIANCE, xxv (1994); see also MALCOLM SPARROW, THE REGULATORY CRAFT, Chapter 14 (2000) (discussing different stages that regulatory agencies go through in choosing risk control strategies).

⁶ Figure adapted from Van Der Schraaf & A. A., *The Compliance Strategy in the Netherlands*, 7th INECE Conference Proceedings (forthcoming 2005).



Where the risk is high and the non-compliance rate is high, policy makers target their compliance and enforcement resources. On the other hand, where risk is low or non-compliance rate is relatively low, the policy makers invest fewer resources.

Similarly, the U.S. Environmental Protection Agency (EPA) has adopted an “effective targeting” approach to reduce the cost of compliance measures. “Effective compliance and enforcement is dependent on effective targeting of the most significant public health and environmental risks. Because of this and a recognition that government resources are finite, EPA has worked ... to improve [its] ability to target [its] efforts to the areas of greatest need.”⁷ By selectively targeting enforcement efforts, EPA seeks to achieve greater compliance with environmental regulations with the maximum benefit to human health and the environment at a reduced cost.⁸

In many agencies around the world, early enforcement efforts focused on particular industries that were high polluters, such as the power and steel industries, so that enforcement officials could regulate these key pollution sources and ensure that basic pollution controls were in place.⁹ In recent years, agencies have begun setting priorities not only to address pressing environmental and health problems but also to maximize deterrence.¹⁰ Moreover, newer programs are often more tailored and responsive to local priorities and needs.¹¹

In designing appropriate compliance mechanisms, agencies study the regulated industries' sophistication, ability, motivation, and willingness to comply so that they can choose the optimal compliance strategies.¹² Information that may help agencies in this endeavor includes: the firms' geographic location, the type of business or operation, the types and quantities of regulated materials or emissions that the businesses produce, and any risks associated with such releases.¹³

⁷ U.S. ENVIRONMENTAL PROTECTION AGENCY, PROTECTING YOUR HEALTH AND THE ENVIRONMENT THROUGH INNOVATIVE APPROACHES TO COMPLIANCE: HIGHLIGHTS FROM THE PAST 5 YEARS, EPA/300-K-99-001 (1999).

⁸ See Lana Friesen, *Targeting Enforcement to Improve Compliance with Environmental Regulations*, 46 J. ENVTL ECON. & MGMT 72 (2003).

⁹ See INECE Principles, *supra* note 4, at 6.

¹⁰ *Id.* at 6-7.

¹¹ *Id.* at 7.

¹² *Id.*, Chapter 4, at 2.

¹³ *Id.*



It is worth noting that NGOs, media, competitors, and private certifiers, among others, have significantly helped the budget-constrained agencies by providing the necessary resources to augment incentives for firms to reduce pollution.¹⁴ For instance, in the context of information regulation, the regulators can focus their limited resources on enforcing the disclosure requirement and providing third parties with good-quality information about actual emissions. This disclosed information can, in turn, be used by these third parties to exert direct pressures on firms through the market or citizen suits.¹⁵ Moreover, these stakeholders have also helped identify new priorities not previously considered by enforcement agencies.¹⁶

In addition to cost-benefit analysis,¹⁷ policy makers may also consider the following factors in selecting regulatory and non-regulatory instruments: fairness; demands on government; effectiveness; environmental equity and justice issues; flexibility; incentives for technology innovation and diffusion; and protection and restoration of environmental quality and public health.¹⁸

In making these instrument choices, policy makers must be aware that instruments that are successful in developed nations—where resources for enforcement and compliance assistance generally are more readily available—are not necessarily appropriate in some developing countries or countries with economies in transition. For instance, more flexible instruments such as the tradable permit system may help reduce emission levels more cost effectively in some developed nations.¹⁹ However, such

¹⁴ Agencies are learning how best to empower a broader set of actors who have their own resources to help them with various aspects of compliance. For more discussion, see Chapter Six: NGO Compliance Strategies; Chapter Seven: Information Regulation; and Chapter Nine: Compliance Assistance & “Beyond Compliance”.

¹⁵ See Annette Killmer, *Fostering Effective Civil Society Involvement in the Enforcement of Pollution Prevention Policies*, 7, 7th INECE Conference Proceedings (forthcoming 2005); see also Neil Gunningham, Martin Phillipson & Peter Grabosky, *Harnessing Third Parties as Surrogate Regulators: Achieving Environmental Outcomes by Alternative Means*, 8 BUS. STRATEGY & ENV'T 211 (1999).

¹⁶ See SPARROW, *IMPOSING DUTIES*, *supra* note 5, at 110.

¹⁷ There is significant uncertainty surrounding benefits and costs of implementation tools, however, and this uncertainty can hamper the policy makers from making an accurate cost-benefit analysis. See Robert Stavins, *Correlated Uncertainty and Policy Instrument Choice*, 30 J. ENVTL ECON. & MGMT, 218 (1996).

¹⁸ U.S. CONGRESS, OFFICE OF TECHNOLOGY ASSESSMENT, *ENVIRONMENTAL POLICY TOOLS: A USER'S GUIDE*, OTA-ENV-634 (1995); see also INECE Principles, *supra* note 4, Chapter 4, at 3.

¹⁹ For more information on emissions trading programs, see Chapter Eight: Emissions Trading Compliance.



an instrument may not be appropriate in a country that lacks a strong foundation for the rule of law that can ensure the proper functioning of the permit system. Rather, in such a country, instruments that are more “command and control” oriented may work better since they are relatively easier to monitor and implement.²⁰

This chapter reviews various scholarly works that have studied how public agencies make the challenging decisions on appropriate environmental instruments. It begins with Robert M. Friedman, Donna Downing, and Elizabeth M. Gunn’s piece that essentially is a “user’s guide” that may help decision makers narrow the choice of environmental instruments for addressing a particular problem.²¹ The article first describes twelve policy tools, and then rates the effectiveness of these instruments.

The next article analyzes the factors that affect an agency’s policy choice. Jeremy Firestone looks at how agencies behave when making environmental enforcement venue choices between administrative, civil, and criminal prosecutions.²² Specifically, the study analyzes numerous factors that appear relevant to U.S. EPA’s decision-making, among them: the enhanced procedural protections afforded criminal defendants; the possibility that a judge will impose non-monetary sanctions on a criminal defendant; the collateral consequences that may result from a criminal conviction; and the control that can be exercised in the administrative realm.²³

²⁰ For a discussion of effectiveness of command-and-control regulations, see e.g., S. Dasgupta, B. Laplante, & N. Mamingi, *Pollution and capital markets in developing countries*, 42 J. ENVTL ECON. & MGMT, 310 (2001); J. Foulon, P. Lanoie, & B. Laplante, *Incentives for pollution control: Regulation or information?*, 44 J. ENVTL ECON. & MGMT, 169 (2002); Gunningham, Philipson & Grabosky, *supra* note 15; W. Harrington, *Enforcement leverage when penalties are restricted*, 37 J. PUB. ECON., 29 (1988); E. Hentschel & A. Randall, *An integrated strategy to reduce monitoring and enforcement costs*, 15 ENVTL & RES. ECON., 57 (2000); A.G. Heyes, *Implementing environmental regulation: Enforcement and compliance*, 17(2) J. REGULATORY ECON., 107 (2000); B. Laplante & P. Rilstone, *Environmental inspections and emissions of the pulp and paper industry in Québec*, 31 J. ENVTL ECON. & MGMT, 19 (1996); World Bank, *GREENING INDUSTRY: NEW ROLES FOR COMMUNITIES, MARKETS, AND GOVERNMENTS* (2000).

²¹ Robert M. Friedman, Donna Downing & Elizabeth M. Gunn, *Environmental Policy Instrument Choice: The Challenge of Competing Goals*, 10 DUKE ENVTL. L. & POL’Y F 327 (2000).

²² Jeremy Firestone, *Enforcement of Pollution Laws and Regulations: An Analysis of Forum Choice*, 27(1) HARVARD ENVTL L. REV. 105 (2003).

²³ For a full discussion on environmental criminal enforcement, see Kathleen Brickey, *Environmental Crime at the Crossroads: The Intersection of Environmental and Criminal Law Theory*, 71 TUL. L. REV. 487 (1996).



Peter Krahn's article provides case studies of numerous industries in British Columbia, and compares the varying impacts of different mandatory and voluntary enforcement measures in inducing compliance.²⁴ Generally, he found that mandatory measures are much more effective than voluntary programs.

The chapter concludes with Ruth Greenspan Bell's piece, which reminds us that environmental instruments in developed countries may not necessarily be appropriate or applicable in some developing countries and countries with economies in transition.²⁵ The author points out that some of these countries lack necessary institutions, infrastructure, and human capital to implement, monitor, and enforce the sophisticated environmental instruments that the developed nations promote.

²⁴ Peter Krahn, *Enforcement versus Voluntary Compliance: An Examination of the Strategic Enforcement Initiatives Implemented by the Pacific and Yukon Regional Office of Environment Canada 1983 to 1998*, 5th INECE Conference Proceedings, Vol. 1 (1998), available at <http://www.inece.org>.

²⁵ Ruth Greenspan Bell, *Choosing Environmental Policy Instruments in the Real World*, Presented at OECD Global Forum on Sustainable Development: Emissions Trading, Concerted Action on Tradeable Emissions Permits Country Forum, March 17-18, 2003.