



## 1. Norms and Standards

### Definition and objectives

Norms and standards are rules and targets set by public authorities ('command') that subsequently are enforced by compliance procedures ('control'). This has led to the term 'Command and Control' for this group of policy instruments. Norms and standards include amongst others laws, directives, and technical guidance documents as far as these are of a legally binding nature.

Norms and standards are applied to achieve numerous aims: Reducing emissions and waste, increasing resource or energy efficiency, reducing the use of toxic substances and protecting eco-systems. Furthermore they aim to increase the application of certain technologies regarded as beneficial for resource efficiency gains. Norms and standards can also be used to implement the 'polluter-pays-principle', a policy approach that attempts to shift the costs and responsibilities associated with pollution to the polluter who is compelled by the state to address the societal-damaging aspects of their activities (UNEP 2004, GTZ 1998c).

### Mode of operation

Depending on the concrete environmental issue and target group to be addressed, there exist different types of norms and standards. Norms and standards most commonly address businesses but can also target private consumers. They can address environmental issues at different phases of a product life cycle, e.g. during the manufacturing phase, during the use phase or at end-of-life treatment. Different types of norms and standards may require businesses or consumers to comply with a number of dimensions as listed in Table 1:

Type	Description
<b>Emission standards</b>	Specify the maximum level of permitted emissions in quantitative terms (performance-based standards).
<b>Ambient standards</b>	Set minimum desired level of air, water or soil quality that must be maintained.
<b>Technology standards</b>	Specify which kind of technology must be used, e.g. by prescribing or forbidding certain technologies, or by referring to best available technologies.
<b>Management and process standards</b>	Specify certain behaviours and activities, e.g. regular monitoring or maintenance activities or the set-up of take-back-schemes.
<b>Product standards</b>	Specify certain product characteristics, e.g. on chemical residues in products or energy efficiency characteristics.

Table 1: Different types of norms and standards (Porrini 2005, Huppes/Simonis 2000)

Several issues have to be considered for establishing and implementing norms and standards:

Step	Issues to consider
<b>Gather information</b>	Before setting-up norms and/or standards the regulator needs to collect and assess relevant information that is necessary to decide on the physical actions.
<b>Design policy intervention</b>	Policymaking bodies need to appropriately design the respective norm or standard, taking into account possible economic and social side effects.

<b>Monitor compliance</b>	Compliance with norms and standards needs to be monitored and assessed.
<b>Sanction non-compliance</b>	In case of non-compliance, sanctions have to be imposed, e.g. fines or, in grave cases, penal action. Sanctions need to be sufficiently severe and have to be sufficiently enforced to effectively deter non-compliance.

Table 2: Steps and issues to be considered for establishing norms and standards (Porrini 2005, Huppel/Simonis 2000)

## Strengths and Weaknesses

Norms and standards have certain strengths and weaknesses as an instrument promoting resource efficiency as summarised below in Table 3. Due to the variety of different types of norms & standards it is important to carefully analyse and assess existing framework conditions to choose the right norm and/or standard and to set realistic and achievable targets

Strengths	Weaknesses
<p><b>High effectiveness and certainty in achieving objectives</b> If norms and standards are enforced they achieve their aim with certainty. This makes them attractive for problems requiring immediate action and certainty of achieving set goals; especially those related to serious human health problems.</p> <p><b>Relatively easy to set up</b> Norms and standards are in principal relatively quick and easy to formulate and to enact. However, the need to address complex problems or pressure from powerful interest groups may hinder and prolong the process. (Harrington/Morgenstern 2004)</p> <p><b>Clarity for businesses</b> Norms and standards with a clear and verifiable procedure for assessing compliance make it easy to determine whether a polluter follows the norms and standards. This simplifies the task for businesses to assess the consequences of non-compliance and to understand the level of environmental performance they have to achieve.</p> <p><b>Fairness on national level</b> On a national level norms and standards ensure that all businesses are treated equally since all have to achieve the same norms and standards</p> <p><b>Experience and policy-cases available</b> The long record of experience with norms and standards, especially in developed countries, can be used, with regard to both successful and failed examples of norms and standards.</p> <p><b>Independence from market conditions</b> Supportive infrastructures such as functioning markets, tax, and fiscal payment systems are not needed. (UNEP 2004)</p>	<p><b>Norms and standards are economically inefficient</b> Environmental goals tend to be reached at higher total costs than with other, especially economic instruments.</p> <p><b>Low innovation incentive</b> They do not necessarily stimulate the development of new technologies in the long term, as no incentives for companies exist to improve beyond the set standard. Continuous revision of standards can partly overcome this problem. However, in a short-term perspective, they have proven to promote innovation to a considerable degree (e.g. air pollution standards in Germany).</p> <p><b>Impacts on competitiveness and international trade</b> Concerns exist that norms and standards might reduce competitiveness of national industries. Still counter-examples exist, especially in the area of environmental technologies. At the same time norms and standards can be seen and criticised as international trade barriers.</p> <p><b>Vulnerable to corruption</b> If corruption is wide spread, enforcement of norms and standards can be difficult.</p> <p><b>Information requirements</b> It may be difficult to define optimal standards considering all relevant scientific, political and economic information.</p>

Table 3: Strengths and Weaknesses of norms and standards (Source: UNEP 2004, GTZ 1995, OECD 2001, UNESCAP 2006, WBCSD/IIED 2002, Harrington/Morgenstern 2004)

The costs implied by norms and standards are determined by many factors, and they are borne by different actors (see Table 4). The costs can be shifted, e.g. business paying for monitoring services, or setting up private, certified monitoring systems. When evaluating the costs of norms and standards, the total costs should be considered, as well as who is facing them.

Category	Description	Faced by
<b>Formulation</b>	...for setting up the system as outlined above	Government
<b>Abatement</b>	...for getting informed on regulation and options to reach compliance. ...for activities to reach compliance	Private sector/ Polluter
<b>Monitoring</b>	...for monitoring and reporting of emissions ...for monitoring and reporting of emissions	Private sector/ Polluter Government
<b>Verification</b>	.. for verifying monitoring and reporting of polluters	Government
<b>Sanctioning</b>	...for assessing compliance and sanctioning	Government

Table 4: Costs associated to enacting norms and standards

While the costs of norms and standards in a specific situation depend on a variety of factors, research results argue that they are quite expensive in implementation and monitoring, inflexible in adoption and prove to be a rather static instrument (Cole/Grossman 2002, Harrington/Morgenstern 2004, Johnston 1999, Markandya 1998). The picture varies for the different cost categories and always depends on the actual design of the instrument. Abatement costs are generally considered to be relatively high for norms and standards, especially relative to alternative approaches such as economic instruments (Harrington/Morgenstern 2004). Administrative costs for policy formulation, monitoring and sanctioning can also be significant, but it is not evident whether they differ systematically from those of other instruments (Markandya 1998, Harrington/Morgenstern 2004).

### Success factors

The following success factors of norms and standards are drawn from experiences and might differ from case to case depending on the given political, economic and social framework conditions in which a norm and/or standard is going to be implemented. (For a more detailed analysis see: UNEP 2004, WBCSD/IIED 2002).

Success factor	Issues to consider
<b>Governmental capabilities</b>	Appropriate physical, human and organisational resources to collect and assess information on the environmental issues at hand, and the capacity to decide on appropriate measures need to be available. During enforcement, governments have to be capable to oversee compliance and impose sanctions if necessary.
<b>Legal authority and efficacy</b>	A functioning, responsive legal system is required for establishing and implementing norms and standards (e.g. corruption-free law making, implementation and enforcement).
<b>Effective control system</b>	A well-functioning control system with sufficient capacities (e.g. physical equipment, adequate number of competent employees) needs to be in place or to be set up. The system can be financed either by the state or through contributions by the business that is subject to regulation.
<b>Effective and transparent consultation</b>	Norms and standards should be enacted only after effective and transparent consultation. This process should enable governments to assess stakeholders' positions and gain access to their knowledge and experience, without allowing affected groups an inappropriate influence on the policy.
<b>Good political structure and clear priorities</b>	Many norms and standards impose costs on a small group of businesses, while benefits relate to the general public. Political commitment and appropriate political structures are needed to balance special interests with norms and standards enacted to protect or enhance public goods.

<b>Policy coherency</b>	Other policies might be obstructive to the intention of a regulatory policy enacted. Coherency between different policies enacted is necessary for norms and standards to achieve the desired effect at reasonable cost.
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Table 5: Success factors of norms and standards; Source: UNEP 2004

## Key Literature and Case Studies

- Turner, R. Kerry, D. Pearce, I. Bateman (1993):** *Environmental Economics: An Elementary Introduction*. The Johns Hopkins University Press
- GTZ (1995):** *Market Based Instruments in Environmental Policy in Developing Countries: Framework for Policy Planning and Institutional Development in the Environment*. Deutsche Gesellschaft für Technische Zusammenarbeit (GTZ) GmbH, Eschborn, 1995 (<http://www.gtz.de/de/dokumente/en-instruments-environmental-policy-1995.pdf>)
- OECD (2001):** *Sustainable Development: Policies to Enhance Sustainable Development*, Organisation for Economic Co-operation and Development (OECD), General Secretariat, SG/SD (2001) 5/FINAL, 27. April 2001 (<http://www.bmu.de/files/pdfs/allgemein/application/pdf/pol-report-f.pdf>)
- Harrington, Winston/Morgenstern Richard D. (2004):** *Economic Incentives versus Command and Control: What's the best approach for solving environmental problems?* Fall/Winter 2004, Resources for the Future (RFF) ([http://www.rff.org/Documents/RFF\\_Resources\\_152\\_ecoincentives.pdf](http://www.rff.org/Documents/RFF_Resources_152_ecoincentives.pdf))
- Cole, Daniel H., Grossman, Peter Z. (2002):** *Toward a Total-Cost Approach to Environmental Instrument Choice*. In: T. Swanson, ed., *An Introduction to the Law and Economics of Environmental Policy: Issues in Institutional Design*, 20 Research in Law and Economics 223-241 (2002).
- Johnston, Nick (1999):** *Environmental Policies and Industrial Competitiveness: The Choice of Instrument*. Gatekeeper Series, GK 99-01, International Institute for Environment and Development
- Markandya, A. (1998):** *The Cost of Environmental Regulation in Asia: Command and Control versus Market-based Instruments*, in: Asian Development Review 1998, Vol. 16, No. 1, P. 1-30 (<http://www.adb.org/documents/periodicals/adr/pdf/ADR-Vol16-1-Markandya.pdf>)
- UNEP (2004):** *The Use of Economic Instruments in Environmental Policy: Opportunities and Challenges*. United Nations Environment Programme
- UNESCAP (2006):** *Virtual Conference on Integrating Environmental Considerations into Economic Policy Making Processes*. United Nations Economic and Social Commission for Asia and the Pacific. Website accessed 19th April 2006 ([http://www.unescap.org/drpad/vc/orientation/M5\\_2.htm](http://www.unescap.org/drpad/vc/orientation/M5_2.htm))
- WBSCD/IIED (2002):** *Breaking New Ground – The MMSD Final Report*. International Institute for Environment and Development, World Business Council for Sustainable Development
- Porrini, Donatella (2005)** *Environmental policies choice as and issue of information efficiency*. Working Paper, Università degli Studi di Milano
- Huppes, Gjal/Simonis, Udo. E (2000):** *Environmental Policy Instruments in a New Era*, CML- SSP Working Paper 2000.002, November 2000, Centre of Environmental Science (CML), Leiden University (<http://www.leidenuniv.nl/cml/ssp/publications/wp2000-002.pdf>)

Case Studies / Examples	Link
Federal Ministry for the Environment, Nature Conservation and Nuclear Safety, Germany – Standards for air pollution control	<a href="http://www.bmu.de/english/air_pollution_control">http://www.bmu.de/english/air_pollution_control</a>
Japan's 'Top Runner' Standard	<a href="http://www.eccj.or.jp/top_runner/index.html">http://www.eccj.or.jp/top_runner/index.html</a>
An online compendium for a number of instruments and case studies on SCP (including regulatory instruments)	<a href="http://www.iisd.org/susprod/compendium.htm">http://www.iisd.org/susprod/compendium.htm</a>