CHAPTER 3

# Moving through the Regulatory Jungle toward Compliance

There are many drivers that determine whether and when a corporation will become "greener" and move toward compliance with environmental laws and regulations. Businesses can be attracted to improve their environmental performance by the "pull" of the market or by the "push" of drivers that are either external to firms or a function of internal production economics and company characteristics.

Governments in Asia and the Pacific have often found it difficult to encourage firms to comply with existing environmental regulations. However, the types of global pressures described in Chapter 2 are likely to push corporations to rapidly move toward compliance and even beyond. Though there are some policy adjustments that can help, the region's governments will probably follow in the wake of these external pressures rather than lead them. Corporations already face a formidable range of existing and developing laws, regulations, and standards, and they can expect these to tighten in the future. These are emanating from (i) subnational and sector goals and targets; (ii) national environmental laws and standards; (iii) commitments that governments make to global and regional agreements; and (iv) industry-led "new regulation" or quasi-standards.

Environmental compliance has traditionally been defined as a corporation attempting to meet performance standards laid down in law by a government regulatory authority. In such a command-and-control regulatory context, standards often dictate specific effluent or emission reduction technologies for a given production process. For example, a license to operate a coal-fired power station may require scrubber technology to be installed to catch particulates before they reach the end of the stack in order to meet specified emission limits. The limits for each pollutant are usually based on scientific predictions of impacts to human health or on estimates of ambient pollution levels that can be accumulated by the natural environment, though in practice these have largely been borrowed from North America or Europe and applied in Asia and the Pacific without adjusting them to local conditions. Corporations comply when they meet the conditions specified under their operating licenses. This traditional view of compliance has corporations meeting standards as designed by independent regulators—a system transplanted from the developed-country model first implemented aggressively in the late 1960s and early 1970s especially in North America and Europe.

While this approach has met with considerable success in controlling "end-of- pipe" pollution problems in developed countries, it has not been without its difficulties. It may not be the best approach to improving the environmental performance of corporations in Asia and the Pacific as firms in the region generally have not met the compliance targets set through this traditional method. Continued environmental degradation associated with the region's rapid economic growth has been the result.[84] This lack of compliance appears to be due to a range of factors such as (i) lack of regulatory resources to enforce standards; (ii) uncertain laws, with few penalties for noncompliance;

(iii) corruption; (iv) inadequate laboratory facilities and an inability to collect evidence that is reliable enough to secure a prosecution; and (v) lack of information about laws and clean technologies.[85] In much of Asia and the Pacific, environmental agencies do not have enforcement powers and must rely on ill-equipped and poorly trained police forces to apprehend and prosecute polluters as well as those abusing natural systems such as illegal loggers and poachers.

## Multiple "Licenses" to Operate

While regulators will always want corporations to meet environmental performance standards, a tentative response to the problems of the traditional command-and-control regulatory approach is beginning to present itself in Asia and the Pacific. This response is based on the idea that some corporations—especially the larger ones with international markets—are starting to think of their "licenses to operate" as having three prongs: regulatory, economic, and social. In the past, if a corporation had all of its government approvals and operating permits, then it was considered to have met the demands of the regulatory license.

A more contemporary view is that corporations need two additional kinds of licenses to operate in the modern world: an "economic license" that requires meeting rate-of-return targets and debt obligations and a "social license" provided by significant stakeholders (and in particular, local communities).[86] Of the three, the social license is the least precisely defined and may be the hardest to obtain. However, ignoring the demands of community neighbors or environmental groups can result in significant damage to the reputation of a firm and/or its key brand(s), repeated complaints to the authorities, and consequent direct loss of sales and/or calls for tougher regulation. Because the demands of the social license can be tougher than an existing regulatory license, this can sometimes push firms to move beyond compliance. The response to this social license is now commonly referred to as part of "corporate social responsibility" or CSR.[87]

## "New Regulation"

The recognition of the need for a social license to operate has resulted in very different ways of thinking in government circles about how to get corporations to perform. For example, private standards have been developed where corporations in a similar industrial sector band together to establish tougher environmental performance conditions (by way of a voluntary code) than previously existed.

The "new regulation" tools now being considered and increasingly utilized center on (i) education, (ii) providing information, and (iii) voluntary measures. Education tools attempt to alter behavior through formal and informal learning. This can range from public programs of moral suasion on issues such as recycling and using public transport to corporate attempts to encourage employees to generate eco-efficient innovations. Providing information is less didactic, focusing instead on initiatives such as the transparent publication of emission data and the public availability of corporate performance ratings. Examples of the former include the Toxics Release Inventory in the US, and the National Pollutant Inventory in Australia. Sometimes these initiatives are termed the "public or environmental right-to-know."[88] Examples of the latter include independent audits and the Program for Pollution Control, Evaluation, and Rating (PROPER) in Indonesia, a pollution database.[89] Building on cultural characteristics of "saving face," the mere prospect of being named and shamed in public can often motivate firms to "voluntarily" change their behavior, and a number of voluntary pollution reduction partnership arrangements have emerged in recent years though the majority have been in Europe.

Providing information lies at the core of what is becoming known in developing-country environmental policy as "informal regulation." Informal regulation includes efforts to monitor and publicize emissions but also includes activities such as organized demands for compensation, social ostracism, and threats of physical violence.[90] New empirical research in PRC, Colombia, India, Indonesia, Mexico and Philippines shows that where formal regulation (meaning command-and-control) is weak or absent, informal regulation through local community participation can lead to more effective pollution abatement.[91]

The third and final category of new regulation is voluntary agreements (VAs). These include those made between regulatory agencies and corporations (which can be either non-binding or negotiated legal contracts) among firms in an industrial sector and unilateral commitments by firms to meet a certain standard or to carry out a particular practice.

Sorting out the compliance jungle begins by outlining the pressures from traditional regulatory sources that are defining the basic compliance standards that corporations in Asia and the Pacific must meet. The sorting process ends with more detailed explanations of these new regulations.

# SUBNATIONAL AND SECTORAL GOALS AND TARGETS

There is a wide range of subnational and sector goals and targets embedded in various policy and planning instruments including national forestry action plans, sustainable agriculture plans, industrial sector plans, and provincial and watershed development plans. As this field is comprehensive, only a selection of the key approaches is dealt with here.

Claimed as one of the greatest results of UNCED, local Agenda 21 plans have been prepared throughout Asia and the Pacific. At the 1992 summit, each local authority was called upon "to enter into a dialogue with its citizens, local organizations, and private enterprises and adopt a local Agenda 21." As the bulk of the region's population is likely to be located in cities, it may be assumed that local plans will generate rules and standards that may be of importance to corporate considerations of their obligations in relation to the environment. Indeed, the original resolution at UNCED went on to say, "Local authority programmes, policies, laws, and regulations to achieve Agenda 21 objectives would be assessed and modified, based on local programmes adopted."

By 1997, 170 local Agenda 21 plans had been produced in Asia and the Pacific, and the Asia Pacific Economic Commission (APEC) had called for the number to be doubled by 2003. In a December 1998 survey, the International Council for Local Environmental Initiatives found that over 300 local governments had completed or were undertaking local Agenda 21 plans. The range of actions included under these plans is as diverse as the cities themselves.

For example, Shiga Prefecture in Japan, with a population of 1.4 million, has tackled the growing pollution, exotic species invasion, and red tides in Lake Biwa through the creation of sub-basin councils. Each council is required to set goals and targets and to develop a plan of action for part of the watershed draining into Lake Biwa. In Nagoya City, Japan, the 2.2 million residents generated 1 million tons of solid waste per year and faced a waste crisis when a proposed landfill did not proceed and the city's incinerator was shut down. The citizens were challenged to work together to reduce waste generation by at least 20%. Through recycling and charging businesses for the collection of general waste, this goal was achieved within 1 year. As neighborhood associations and citizens' groups became more involved in recycling, purchase patterns started to change and the waste generated fell even further. The current plan is to reduce waste generation to 620,000 tons by 2010 and to reduce the waste sent to landfills to 10% of the 2000 level.

The city of Melbourne, Australia (population 3.4 million) has developed a "zero net emissions by 2020 strategy" that will appropriate 800,000 tons of carbon dioxide emissions, increase renewable energy by 22%, and achieve a 50% improvement in energy efficiency. Sendai City in Japan is implementing a systematic and comprehensive green procurement program. The product groups defined in 2003 were paper, printing paper, sanitary paper, stationery, office furniture and supplies, office automation equipment (such as personal computers, photocopiers, and fax machines), home appliances, lighting, uniforms and work wear, interior and bedroom goods, work gloves, textile products for sports/events/outdoor (including tents and tarpaulins), automobiles, and materials for public works, facilities, and services. The proportion of "green" to traditional items was set at 90% for the entire city, generating considerable incentive for producers to change their product mix.

It is not only governments that have prepared sector plans for environmental management. In 1997, Japan's Keidanren (Association of Industries) produced its Voluntary Action Plan on the Environment encompassing specific plans for their various sectors and their industry associations.[92] The voluntary plan focuses on measures to combat global warming and to improve waste disposal. Many industries set quantitative targets and 2010 as their target date to achieve their objectives. The sector plans are not binding nor are they formal agreements with government. In some respects, the plans resemble private voluntary agreements described later in this chapter. Because they are "aspirational" plans, there are no penalties for noncompliance, only peer pressure from other association members.

# NATIONAL ENVIRONMENTAL LAWS AND STANDARDS

National standards and policies remain the most important influences on corporate compliance because it is at this level that laws and behavior can be enforced. Environmental controls can be thought of as relating to "exploitation" (the use of natural resources), "protection" (nature conservation), and "management" (the ongoing protection of the environment from existing activity). Within these categories, governments attempt to influence how new developments are designed (e.g., through the EIAs and other approval mechanisms), how pollution is controlled, and how natural resources are managed.

Until recently, most of these approaches to setting environmental standards were copied from developed countries. This applied to both "process" standards (related to approving new developments) and "output" standards related to pollution. In more recent times, developing countries have begun to amend these standards to make them more specific to their own circumstances.[93] Often the "adopted" standards could not be enforced because local laboratories were not sophisticated enough to measure the minute levels of pollutants embodied in developed-country standards.

As standards are being tightened in developed countries, the region is fast catching on. A recent example is the commitment made by the Government of Singapore to tighten air pollution regulations to meet Europe's "Euro-4" fuel standard. This will reduce permitted poisonous emission levels by half.[94] To meet this standard, many of the world's carmakers are adding complex filtering systems to diesel engines to reduce tiny particulate pollutants of 2.5 microns or less that are small enough to bypass the human body's regulatory defense system. The PRC is also enforcing a much tougher standard on fuel economy. To be introduced in two stages, the new standard will in the end be slightly more stringent than US fuel economy regulations. Some vehicle manufacturers may require higher capital expenditures to meet these tighter standards.[95]

Such regulatory developments are underpinned by new scientific research showing that much lower levels of pollution than originally thought can damage health. In some cases, there may be no safe limit. In addition, new technology is now able to measure increasingly minute quantities of pollutants. One outcome of these twin developments is that the pressure for environmental standards to tighten is likely to continue to increase. For new industrial plants, it is necessary, therefore, to design for tomorrow's standards not for today's, as the plants may still be operating in 30–40 year's time and by then almost certainly the standards will have been tightened. Retrofitting to meet new standards can be much more expensive than allowing for significant over-compliance in new plant designs.

However, mere tightening of environmental standards implemented through traditional command-and-control regulation will not necessarily result in improved compliance rates in Asia and the Pacific. This is due to a combination of lack of enforcement, corruption, weak courts, and lack of access to information.

A good example is the control of vehicular pollution in Delhi, India. Over the past 20 years, the regulation suffered from weak enforcement by government agencies. Then an NGO petitioned the court to force the government to implement the 1981 Air Act.[96] Actions taken by national and local governments included policy changes announced in 1989–1990 on increasing penalties and tightening emission standards, but these again failed due to lack of monitoring and testing equipment. Over the period 1994–1998, the court forced the government to implement policies that had "died on the vine," including the phaseout of leaded gasoline, use of premixed fuels for two-stroke engines, and the phaseout of 15-year-old vehicles. Frustrated with the slow pace of implementation, the Supreme Court issued a notice ordering the Government of Delhi to submit an action plan to control the city's air pollution. Both local and national governments prepared comprehensive plans in 1996 and 1997, respectively.

Using the 1997 plan as a trigger, the Court then directed the Ministry of Environment and Forests to use its authority under the Environment Protection Act to establish a committee—the Environment Pollution (Prevention and Control) Authority—to monitor implementation of the plan and to suggest other policies to control pollution. With a mandate from the court and under inspired leadership, this authority became a powerhouse recommending even more drastic measures including shifting the entire bus fleet to compressed natural gas (CNG) by March 2001. As the deadline approached, only about 25% of the old buses were allowed on the roads, leading to riots in the streets by frustrated commuters. An extension to the conversion order was granted until March 2002. In April 2002, the Supreme Court directed the immediate installation of 1,500 CNG buses and replacement of 800 diesel buses per month. Any diesel bus operator ignoring the order was subject to a heavy fine. Nearly half the bus fleet (7,000 diesel buses) was forced off the road. By December 2002, all diesel buses had been converted to CNG. Based on the success in Delhi, similar initiatives were started in Bangladesh, Nepal, Pakistan and Sri Lanka—often with less effective outcomes. It may be argued that reliance on an independent judicial body to enforce the laws rather than on the mandated government agency does not bode well for command-and-control regulations in the region.

Another interesting approach to forcing compliance in Asia and the Pacific is through the use of what has become known as "informational regulation."[97] Governments either encourage or require information about environmental impacts to be provided to the public. For example, in the PRC in 1997,

SEPA initiated the Weekly Air-Quality Status Report Program through local media in 13 key cities. The Daily Air Quality Status Report Program covering 47 key cities is presented on closed-circuit television and in major national newspapers. Public disclosure may be encouraged through corporate environmental reporting or may be required through environmental "right-to-know" laws.

A well-known variation of the required right-to-know approach is Indonesia's PROPER program. Launched in 1995 by the country's Environmental Impact and Management Agency (also known as BAPEDAL which stands for *Badan Pengengdalian Dampak Lingkungan*), the program has created culturally sensitive incentives for compliance through "honor and shame."[98] In the trial phase, BAPEDAL developed a priority list of 187 water polluters that were required to negotiate pollution control agreements with regulatory teams (with the involvement of environmental groups). Regulators then ranked the performance of facilities using past emission information, self-reporting, and independent audits. Enterprises were ranked in a color-coding scheme that was easy for the public to understand (gold and green for the best performers, black, blue, and red for those not in compliance). The ranking information was released to the public; good performers were praised publicly and poor performers were given time to clean up before public disclosure.

Evidence from evaluations indicates that this trial program was very successful reducing pollution by over 40% in the trial group of 187 between December 1995 and July 1997. By the end of this period, more than half of the plants were in compliance (compared with only one third at the start of the program). Primary research indicated that the key factor in spurring pollution abatement (and the move toward compliance) was information dissemination, that is, improving factory managers' knowledge about their own plants' emissions and abatement opportunities. This contrasts with the prevailing view that external pressure from community groups and other stakeholders is what drives improvement, although it should be noted that the research showed that both drivers work together to improve performance.[99]

PROPER fell into decline in the late 1990s when BAPEDAL was disbanded. However, it has recently been restarted with company participation increasing from 84 in 2002 to 466 in 2004. Participation is expected to reach 1,750 by 2008.[100] The initial success of PROPER has led to tentative trials in other countries, most notably the Philippines and Thailand; however, as an essentially "political" process, it has often fallen afoul of political interference by well-connected businesses. In societies where corruption remains prevalent, some businesses can subvert and undermine command-and-control regulation as well as voluntary agreements. Firms can pay public relations people to stretch the truth, bribe third-party verifiers, and offer incentives to subservient media. The solution lies in tackling corruption at its roots and in adopting environmental policy measures that are realistic and efficient in terms of their enforcement and compliance costs.

## National Environmental Strategies

Another source of national influence on environmental standards is a series of instruments generally known as "national environmental strategies." These sometimes have the force of law and may be backed by new institutional arrangements, but in many cases they are influential instruments of policy. Some of these approaches focus narrowly on environmental issues and others are broader and deal with the integration of environmental, development, and social concerns. They are being mainstreamed into economic development plans and poverty reduction strategies through an evolutionary process similar to the progressive improvements in EIAs over the past two decades. They fall into the following categories:

- national environmental action plan (NEAP);
- national sustainable development strategy (NSDS);
- national conservation strategies and/or biodiversity action plans;
- documents that contribute to the strategic process of identifying and responding to environmental problems such as country environmental profiles and state-of-the-environment reports.

Where environmental issues have been sufficiently integrated or mainstreamed into regular economic analysis and planning, stand-alone national environmental strategies are not needed. To some extent, NSDSs can be integrated, but generally they still tend to sit outside of traditional economic planning.[101] The rest of this section discusses the relationship between the most influential of these strategy types (NEAP and NSDS) and evolving environmental compliance standards.

Since the mid-1980s, international development agencies and NGOs have been helping developing countries to prepare NEAPs. In 1990, the World Bank initiated a program to assist International Development Association borrowers to complete their NEAPs; by the mid-1990s most borrowers as well as developed countries had prepared national environmental plans. Most NEAPs have similar objectives and attempt to analyze the environmental impacts of macroeconomic and sector policies, programs, and projects.

World Bank reviews of NEAPs have indicated that three elements are crucial: (i) prioritizing problems; (ii) proposing actions; and (iii) monitoring their implementation.[102] The last two elements tend to result in the selection of policies and instruments to deal with problems and the identification of legal and institutional reforms to tackle them. Table 2 provides some significant examples of national environmental strategies that have been instrumental in leading to new compliance requirements, many of which are directed toward corporations.

According to a World Bank review of 30 NEAPs undertaken in 1995, categories of policies and instruments proposed by countries tend to include: (i) awareness building (88%), (ii) regulatory instruments (85%), (iii) market-based approaches (58%), (iv) property rights (27%), and (v) direct investments (24%). The review showed that implementation relies heavily on legislative reform and emphasizes command-and-control instruments. However, it already has been noted that traditional regulatory instruments require strong institutions to work effectively, and these are often missing in Asia and the Pacific.

A small number of countries has addressed this issue by promoting "new" regulatory approaches in their national environmental strategies. Probably the best-known example from the developed world is the Netherlands' NEPP. The approach is unusual because it requires private sector groups to enter into voluntary agreements (covenants) to implement specific sector environmental objectives and targets, to audit the implementation of environmental management plans, and to prepare annual environmental reports. Over 100 covenants have been signed between the Government of Netherlands and industry.[103] The covenants, "…address both collective and sector-wide environmental issues and are legally binding on individual enterprises through the permit system, and are thus intimately linked to mainstream command-and-control regulatory standards."[104]

A good example is the Dutch Third Packaging Covenant, a pact between the packaging industry and the government signed by 250 companies.[105] The covenant commits the enterprises to increase their paper and board collection rate to 75% of total consumption. Under the agreement, enterprises draft environmental plans for each of their plants, identify environmental targets, and devise strategies to meet them. These targets are set at a level intended to collectively meet the objectives stated in the NEPP.

## Table 2: Selected Examples of Linkages between National Environmental Strategies and Compliance Requirements

| INITIAL STRATEGY | CONSEQUENT OR LINKED OUTCOME | COMPLIANCE REQUIREMENT |
|---|---|---|
| **Bangladesh** | | |
| National Environmental Action Plan (1991) | National Conservation Strategy of Bangladesh (1991)<br>National Environmental Policy (1992)<br>National Environmental Management and Action Plan (1992) | Establishment of environmental units in line Ministries<br>Establishment of an EIA system<br>Establishment of polluter-pays principle<br>Numerous laws to combat industry-related pollution problems |
| **Nepal** | | |
| National Conservation Strategy (1989) | National Biodiversity Action Plan (not complete at time of writing) | National EIA Guidelines (1993)<br>Environmental Protection Act (1997)<br>- establishment and enforcement of pollution standards<br>- legal backing for EIA guidelines |
| **Pakistan** | | |
| National Conservation Strategy (1992) | Ninth Five-Year Plan (1998) | Environmental Technology Programme for Industry<br>National Environmental Quality Standards<br>Industry sector-specific pollution control projects |
| **Cambodia** | | |
| National Environmental Action Plan (1998) | Governance Action Plan (2001)<br>Second Five-Year Socioeconomic Development Plan (2001)<br>National Biodiversity Strategy and Action Plan (2002) | 1993 Royal Decree on the Creation and Designation of Protected Areas<br>1996 Law on Environmental Protection and Natural Resource Management<br>1999 Subdecree on Water Pollution Control<br>1999 Subdecree on Solid Waste Management<br>1999 Subdecree on Environmental Impact Assessments |
| **Mongolia** | | |
| National Environmental Action Plan (1995) | National Plan of Action to Combat Desertification<br>Biodiversity Conservation Action Plan<br>National Plan of Action for Protected Areas<br>Mongolian Action Program for the 21st Century (MAP-21) | Law on Environmental Protection (1995)<br>Law on EIA (1998)<br>23 laws, regulations, or standards governing use of water resources<br>41 laws, regulations, or standards governing use of forest resources<br>19 laws, regulations, or standards governing toxic chemicals<br>20 laws, regulations, or standards governing use of mineral resources<br>18 laws, regulations, or standards governing protected areas |
| **Maldives** | | |
| National Environmental Action Plan (1990) | Second National Environmental Action Plan (1999) | Environmental Protection and Preservation Act (1993) and associated regulations dealing with environmental impact assessment, waste management, protected areas designation and management<br>Amendment of the Fisheries Law of Maldives |

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*Table 2 continued*

| INITIAL STRATEGY | CONSEQUENT OR LINKED OUTCOME | COMPLIANCE REQUIREMENT |
|---|---|---|
| **Kazakhstan** | | |
| National Environmental Action Plan (1997) | National Action Plan to Combat Desertification (2002)<br>Strategic Water Resources Plan<br>National Drinking Water Action Plan<br>Energy Strategy | Law on Environmental Protection<br>Law on Energy Saving<br>Law on Air Pollution (2002)<br>Law on Ecological Expertise Large-scale land use zoning |
| **Kyrgyz Republic** | | |
| National Environmental Action Plan (1995) | National Program of Agricultural Development | Law on Environmental Protection (1999)<br>Law on Ecological Expertise (1999)<br>Law on Waste Production and Consumption (2001)<br>Law on Tailings Ponds and Dumps (2001)<br>Land Code (2003)<br>Law on Drinking Water (2003)<br>Law on Fisheries (1998) |
| **Tajikistan** | | |
| Draft National Environmental Action Plan (1999)<br>State Environmental Program (1997) | National Program of Action to Combat Desertification (2002)<br>Strategic Plan of Sustainable Development<br>National Action Plan on Environmental Hygiene and Health (2000)<br>National Strategy and Plan of Action for Biodiversity Protection and its Rational Utilization (2003) | EIA Law of 2003<br>Law on Waste, Waste Generation and Waste Utilization (2002)<br>Water Code (2002) |

Sources: (i) ADB 2004. *Kyrgyz Republic: Country Environmental Analysis.* Manila; (ii) ADB. 2004. *Kazakhstan: Country Environmental Analysis.* Manila; (iii) ADB. 2004. *Cambodia: Draft Country Environmental Analysis.* Manila; (iv) ADB. 2002. *Mongolia's Environment: Implications for ADB's Operations.* Manila; (v) ADB. 2000. *Bangladesh: Toward an Environment Strategy.* Manila; ADB. 2004. *Country Environmental Analysis: Tajikistan.* Manila; and (vi) Dalal-Clayton, Barry, Krystyne Swiderska, and Stephen Bass. 2002. Stakeholder Dialogues on Sustainable Development Strategies: Lessons, Opportunities, and Developing Country Case Studies. *Environmental Planning Issues 26.* London: International Institute for Environment and Development.

An example of a developing country national environmental strategy that makes provision for greater private sector participation in environmental policy is Thailand's Policy and Prospective Plan for the Enhancement and Conservation of National Environmental Quality (1997–2016). The plan proposes the establishment of a "participatory environmental management committee" aimed at (i) promoting the adoption of cleaner production practices, (ii) the provision of technical and financial assistance for the implementation of EMS, and (iii) the adoption in cooperation with business groups of an EcoWatch "environmental right-to-know" program.[106]

An NSDS is a national strategy that may have a direct impact on environmental standards and thereby influence the performance of corporations. Called for by Agenda 21 to be completed in each country by 2005, NSDSs are developed through participatory processes to achieve economic, environmental, and social objectives in an integrated fashion. Nearly all countries in Asia and the Pacific have some form of NSDS, although the quality of these strategies varies. Since 1994, more than 140 countries have submitted such reports to the UN Commission on Sustainable Development.[107]

Two examples from the region show the link between NSDSs and corporate environmental performance. In the PRC, the State Council has approved a comprehensive environmental plan to support its Agenda 21, the main features of

which are: (i) enforcing a total load control policy to maintain pollution from industries at 1995 levels; (ii) increasing pollution levies to equal or exceed waste treatment costs; (iii) increasing the use of market-based economic and financial instruments such as environmental taxes or tradable permits; (iv) promoting the use of clean production technology; and (v) adopting the Trans-Century Green Project.

The environmental plan for the tenth 5-year period (2001–2005) emphasized eight aspects: (i) ecological protection will be accorded equal importance with pollution, (ii) cleaner production, (iii) pollution control will be further promoted for industrial pollution abatement, (iv) sustainable urban development, (v) environmental protection of agriculture, (vi) nuclear safety, (vii) institutional strengthening, and (viii) transboundary and international environmental issues. The plan aimed to prevent pollution at the source rather than to treat it at the "end of the pipe," and it viewed environmental improvement and economic growth as a win-win combination. The eleventh 5-year plan both continues and seeks to accelerate these approaches.

To ensure implementation of these plans, the PRC has implemented wide-ranging regulations and standards. By 2003, the legal framework consisted of nine laws on environmental protection, 24 laws on natural resource management, 34 administrative rules and regulations, and 427 standards for environmental protection.[108] SEPA and its provincial and municipal counterparts supervise monitoring of polluting corporations, although mostly they rely on self-reporting supplemented by random supervision checks. Local environmental supervision bureaus have teams responsible for environmental law enforcement and collection of pollution levies. Many of the worst polluters have been forced out of business. Highly ranked firms have been cited as "national excellence enterprises for environmental protection" and "national environmental protection advanced enterprises."[109]

It is a useful contrast to examine how one of the region's developed countries deals with the role of the private sector in attaining its national environmental objectives. Japan prepared its National Action Plan on Agenda 21 in 1994.[110] In its national assessment prepared for WSSD in 2002, Japan noted that one of its best achievements was that "business operators have made progress by launching voluntary activities, obtaining ISO-14001 certification, introducing environmental accounting, and compiling/publishing environmental reports."[111] In addition, the national assessment states that, "…we must give up the practices of mass production, mass consumption, and mass disposal by our current society and start to put into place a legal system that will enable us to build a society with a sound material cycle, that has low environmental impact and that is sustainable." In this respect, a basic law for establishing a recycling-based society was passed in May 2000. A pollutant release and transfer register system has also been introduced. Other laws on global warming, the rational use of energy, promoting new sources of energy, eco-friendly procurement by the state, and access to information and sustainable agricultural practices provide a comprehensive suite of laws to guide society toward sustainable development.

This brief review of national environmental strategies has pointed to the influence that these initiatives can have on environmental legislation and performance standards and thereby on corporations' freedom to operate. Corporations in Asia and the Pacific should take an active role in formulating national environmental strategies, so that the blend of environmental policy instruments chosen will create appropriate incentives and opportunities for their improved environmental performance.





# GLOBAL AND REGIONAL TARGETS DRIVING NATIONAL STANDARDS

## Global Targets

The development of environmental standards in national jurisdictions should be intimately linked to international environmental governance. Countries rarely develop environmental laws and regulatory approaches without reference to the wider world. Without the benefit of the extensive research capacity needed to define appropriate environmental standards, developing countries usually look to developed countries for guidance when first setting national standards. In the absence of better information, they frequently have copied developed-country laws, regulations, and standards—often unaware that the developed country actually started with much less stringent controls. Hence, recent developments in environmental standards around the world will continue to influence national regulation and consequently the operations of firms in Asia and the Pacific.

This applies directly to approaches taken at the national level for the implementation of obligations under multilateral environmental agreements. A key environmentalist outlined how the process is intended to work, by using the Montreal Protocol for control of ozone-depleting substances as an example:[112]

***Stage 1: Problem identification, fact-finding, and agenda setting***. Concern about ozone depletion was initially triggered by concerns over exhaust emissions from supersonic aircraft followed by research in 1974 that showed that chlorine-forming compounds could deplete ozone in the stratosphere. In 1977, several countries asked UNEP to conduct fact-finding and to define the issue, thus moving it onto the international agenda.

***Stage 2: Negotiation, bargaining, and agreement on what action to take, usually at the level of broad goals and institutional arrangements***. For ozone depletion, UNEP called for international negotiations in 1981. In 1984–1985, the National Aeronautics and Space Agency (NASA) coordinated an international scientific review, thus making a powerful case for action. The framework convention followed in 1985 and established a convention of the parties and a UN secretariat. The negotiations that led to the Montreal Protocol started in 1986. Despite initial resistance from many affected businesses, the discovery of a huge hole in the ozone layer over the Antarctic gained public attention and demanded resolute action by governments.

***Stage 3: Formal adoption***. This usually requires a minimum specified number of countries to ratify the treaty.

***Stage 4: Implementation, monitoring, and assessment, leading to further strengthening***. The Conference of the Parties has continually strengthened the Montreal Protocol. If developing countries reduce their emissions, then the ozone layer should recover by 2050.

Unfortunately, the Montreal Protocol was more a product of good fortune (an affordable technological option became available), and is not necessarily proof that MEAs lead to tough enforcement at the national or global levels. Some activists question the value of MEAs in solving local problems. Their views are characterized by claims that a preoccupation with international legal treaties to address global environmental degradation instead of efforts to address root causes has, "…wasted much of the 20 years [that] could have [been] spent preparing for action."[113]

Despite limitations in rallying local action around global problems, international environmental law remains the global environmental community's weapon of choice, and national environmental laws and standards often draw from the same well. There has been an impressive expansion in MEAs over the course of the last 15 years.

MEAs developed as a public policy tool because countries working alone could not solve environmental problems that do not respect national boundaries. Most countries have now entered into several international environmental agreements, many of which have produced global environmental standards.[114] Perhaps the most significant and far-reaching of these agreements are (i) the UN Framework Convention on Climate Change and its Kyoto Protocol, (ii) the Convention on Biological Diversity, (iii) the Montreal Protocol on Substances that Deplete the Ozone Layer, (iv) the UN Convention on Combating Drought and Desertification, and (v) the Convention on Long-Range Transboundary Air Pollution. Though the process has been slow, the interaction of these types of agreements has progressively and incrementally raised environmental, health, and safety standards at the national level. Thus, in turn, it is having an impact on the national and international policy climate faced by the private sector.

It is generally understood in international law that "hard law," as agreed in treaties, is legally binding on the parties (i.e., countries) that ratify them. In practice, this means that if a country ratifies a treaty, then it must implement the conditions of the treaty in corresponding domestic law. Many national environmental laws only exist because countries have ratified treaties and were subsequently required to implement them. By extension, where a treaty specifies an environmental standard of some kind, it must eventually find its way into national law. An example of this rule is the Renewable Energy (Electricity) Act 2000 of the Government of Australia that is in part a mechanism for implementation of the UN Framework Convention on Climate Change and requires energy utilities to obtain 2% of their electricity from renewable sources by 2010. Similarly, in 1997 Japan approved a law concerning special measures for the promotion of new energy use and in 1998 a law concerning the promotion of measures to cope with global warming (subsequently amended in 2002) and an amended law concerning the efficient use of energies. If voluntary commitments by industry are not sufficient to reduce emissions of GHGs, then the Government of Japan is also holding out the threat of a future environmental tax.

Several countries in Asia and the Pacific have prepared legislation or implementing rules to implement their commitments under the Montreal Protocol. For example, India has drafted Ozone Depleting Substances (Regulation) Rules under the Environment Act covering the production, sale, consumption, export, and import of ozone-depleting substances. Singapore used a tender and quota allocation system that distributed a limited quantity of the substances to companies with the highest replacement costs and sent a strong market signal to look for alternatives, conservation measures, and recycling. From 1992–1996, Singapore also introduced legislation to prohibit the use of halons in fire extinguishers, the import of equipment using chlorofluorocarbons (CFCs), and the import of CFCs, carbon tetrachloride, hydrobromofluorocarbon, and methyl chloroform.

Standards produced in international hard law can be either "content-focused" or "process-focused." Brief examples of content-focused standards include the following:[115]

- the 1985 Helsinki Protocol to the Geneva Convention on Long-Range Transboundary Air Pollution that required parties to reduce sulfur dioxide emissions by at least 30% by 1993 using 1980 levels as the basis for reduction calculations;
- the 1987 Montreal Protocol on Substances that Deplete the Ozone Layer that required parties to phase out the production and consumption of CFCs by 2000;
- the 1997 Kyoto Protocol to the United Nations Framework Convention on Climate Change that requires developed-country parties to reduce overall GHG emissions by different percentages using 1990 as the basis for reduction calculations;[116]
- the 1992 Convention on the Protection and Use of Transboundary Watercourses and International Lakes that requires parties to set emission levels for discharges from point sources into surface waters based on best available technology and to define water-quality objectives and criteria.

Several global treaties have important implications for the corporate sector. Out of 45 countries in the region, the maximum number of signatories is 44 for the Convention on Biological Diversity, UN Convention to Combat Desertification and Framework Convention on Climate Change, and the minimum is 8 for Prior Informed Consent and Persistent Organic Pollutants. Other natural resource-related MEAs such as the Convention on International Trade in Endangered Species and the Ramsar Wetlands Convention also have relatively few signatories from the region. There has been no systematic effort to determine how many of these agreements have been followed by legislative or regulatory changes at the national level.

Process-focused standards tied to MEAs also are numerous. Some relate to the evolution of a duty to inform states that might be affected by the creation of a source of new or increasing pollution. The tool most often prescribed for this purpose is an EIA; some of the treaties that mandate one include the (i) UN Framework Convention on Climate Change, (ii) Convention on Biological Diversity, (iii) the Espoo Convention on EIA, (iv) all UNEP regional seas conventions, (v) Association of Southeast Asian Nations (ASEAN) Agreement on the Conservation of Nature and Natural Resources, and (vi) UN Convention on the Law of the Sea.

These international treaties, among other motivations, have driven domestic legal systems to feature EIA as an indispensable tool. There are direct implications for the environmental performance of corporations as EIA approval and costly mitigation measures are often legally required before regulators will approve new developments.[117] More recently, tentative moves have been made to extend EIA above the single-project level to examine cumulative or multiproject impacts and even sector-wide or policy impacts.[118] Environmental management plans, an essential component of EIAs, are also being extended into decommissioning or land rehabilitation plans where appropriate essentially extending EIA into LCA. EIAs may also call for environmental monitoring by independent third parties to ensure that mitigation measures are not only implemented but also are effective.

Another process-focused standard is the "precautionary principle." This effectively places the burden of proof on corporations to show that where an intrinsically serious risk of harm exists, a proposed project or new technology is only acceptable if adequate assurances can be given that adjustments can be made to prevent that risk from materializing. Treaties that include references to the precautionary principle include the (i) UN Framework Convention on Climate Change, (ii) Treaty Establishing the European Community, and (iii) Protocol to the Convention on the Prevention of Marine Pollution by Dumping.

Numerous environmental standards are also presented in nonbinding instruments of international law known as "soft law." The environmental field has generated a considerable amount of soft law in the form of "declarations," "recommendations," "accords," "codes of practice," and "guidelines."

Perhaps the most influential articles of soft law in terms of the development and promulgation of global environmental standards are (i) Agenda 21 from the 1992 UNCED, (ii) the Millennium Declaration and MDGs put forth in 2000, and (iii) JPOI, which emanated from WSSD in 2002. Agenda 21 was one of the first environmental declarations with very specific recommendations for the private sector.[119] The Millennium Declaration resulted in governments and organizations across the globe (including ADB) committing to the

eight millennium goals, including one goal and three targets on the environment.[120] JPOI reaffirmed the global commitment to Agenda 21 principles, the full implementation of Agenda 21, the MDGs, and the Programme for the Further Implementation of Agenda 21.[121]

While these soft law instruments are not legally binding, they still have substantial influence in international politics and national policies and hence affect the operations of firms. For example, the Yangon Resolution on Sustainable Development signed by the 10 ASEAN environment ministers in 2003 specifically refers to JPOI (as a framework for international and regional cooperation) and the MDGs. Soft law instruments also drive many of the funding priorities of bilateral and multilateral development agencies though they have occasionally been criticized as too time consuming and costly for small, developing states thereby detracting from the "real" work of environmental agencies.[122] Nevertheless, soft law has often been followed by hard law at the international level (e.g., the 1948 Universal Declaration of Human Rights was followed by the 1966 Covenants on Human Rights and numerous other human rights conventions[123]). Anticipating a similar progression from soft to hard law, the World Conservation Union's Commission on Environmental Law and the International Council of Environmental Law have been working since 1985 on a draft international covenant on environment and development that would consolidate existing legal principles.[124] Debate over the promulgation of such a unified convention also has been tied to UN reform issues, specifically the question of whether a UN environment organization should be formed to coordinate the implementation of existing treaties and a unified convention.

As the most recent soft law instrument, JPOI recognizes concerns over globalization and agrees that there is a need for the private sector to operate within a transparent and stable regulatory regime that reinforces corporate responsibility and social contribution. While most of their implementation measures are aimed at governments, both Agenda 21 and JPOI set out the following broad goals and targets specifically for corporations:

(i) contribute on a voluntary basis to a world solidarity fund to eradicate poverty;
(ii) pursue a 10-year framework to accelerate the shift of production and consumption to a more sustainable pattern;
(iii) increase investment in eco-efficiency and cleaner production;
(iv) reduce the flaring and venting of gas associated with crude oil production;
(v) enhance corporate environmental and social responsibility and accountability through voluntary initiatives such as EMS, codes of conduct, certification, and public reporting on environmental and social issues;
(vi) develop and disseminate innovative technologies for the key sectors of development, particularly energy;
(vii) promote private sector investment in sustainable agriculture;
(viii) enter into partnerships to achieve sustainable forest management;
(ix) provide financing and technical assistance for developing countries and economies in transition, in particular to support SMEs, small entrepreneurs, and community-based enterprises;
(x) restructure unsustainable debt in a timely and efficient manner;
(xi) expedite the transfer of environmentally sound technologies in a cost-effective manner;
(xii) build greater capacity in science and technology for sustainable development;
(xiii) increase the flow of foreign direct investment into sustainable development activities including providing infrastructure.

Implementing JPOI is intended to promote the integration of the three components of sustainable development—economic development, social development, and environmental protection—as interdependent and mutually reinforcing pillars. Poverty eradication, changing unsustainable patterns of production and consumption, and protecting and managing the natural resource foundation of economic and social development are seen as the main objectives of sustainable development. Of these, poverty eradication has become the overarching institutional objective for most multilateral agencies, including ADB, as well as the highest priority for most developing countries.

Hard and soft international laws have been important but insufficient as the environment has continued to deteriorate despite the proliferation of treaties, agreements, and plans of action. There is little question, however, that these treaties are helping to shape the policy context within which corporations operate. As noted, criticisms have been raised that, "…the response that the international community has mounted has been flawed: the root causes of deterioration have not been addressed seriously, weak multilateral institutions have been created, consensus-based negotiating procedures have ensured mostly toothless treaties, and the economic and political context in which treaties must be prepared and implemented has been largely ignored."[125]

Furthermore, global agreements are often mirrored in regional and subregional programs and plans for implementation. Leading up to WSSD, a high-level meeting held in Phnom Penh in November 2001, for example, adopted the Regional Platform on Sustainable Development in Asia and the Pacific which identified seven initiatives:[126]
(i) capacity-building for sustainable development; (ii) poverty reduction; (iii) cleaner production and sustainable energy; (iv) land management and biodiversity conservation; (v) protection and management of and access to freshwater resources; (vi) oceans, coastal, and marine resources and sustainable development of small island developing states; and (vii) action on atmosphere and climate change.

At about the same time, UNEP produced its second Asia-Pacific Environment Outlook and UNESCAP released its State of the Environment in Asia and the Pacific 2000, both prepared in conjunction with ADB.[127] The 2000 Ministerial Conference on Environment and Development (MCED) in Asia and the Pacific was held in Kitakyushu, Japan and resulted in the Regional Action Program for Environmentally Sound and Sustainable Development: 2001–2004 as well as the Kitakyushu Initiative for a Clean Environment. At the fifth MCED held in March 2005 in Seoul, Republic of Korea, the Seoul Initiative—a program of action covering the 5-year period until the next MCED to support "environmentally sustainable economic growth"—and a revised regional implementation plan were approved.

JPOI specifically referred to the Phnom Penh Regional Platform on Sustainable Development, which recognized that the region contains over half of the world's population and the largest number of the world's people living in poverty. Hence, poverty reduction in this region was recognized as critical to achieving sustainable development at the global level.

Implementation at the regional and subregional levels was made a key requirement of JPOI.[128] Acting on this "mandate," UNESCAP produced the Regional Follow-up to the World Summit on Sustainable Development in Asia and the Pacific.[129] The subregional initiatives in this action plan were based on planned or ongoing activities with existing or likely financial and technical support from major partners, so there is an element of fitting existing programs into JPOI objectives rather than starting new ones. UNESCAP was concerned that no unfunded programs should be proposed. The subregional initiatives suggested in the publication are as follows:

- **Central Asia**: (i) Regional Environmental Action Plan for Central Asia and (ii) integrated water resources management;
- **Northeast Asia**: (i) cleaner production,

(ii) transboundary air pollution including abatement of dust storms, and (iii) desertification and land degradation;

- **South Asia**: (i) poverty reduction and food security, (ii) natural disaster mitigation, and (iii) public awareness and participation;
- **Southeast Asia**: (i) sustainable development of urban areas, (ii) globalization and its impacts, and (iii) Strategic Environment Framework for Greater Mekong Subregion;
- **South Pacific**: (i) Pacific Regional Environment Strategy and (ii) protection and management of coastal and marine ecosystems.

Regionally, the follow-up plan to implement the commitments made at WSSD adds little to previous global objectives other than referring to specific ongoing or already planned subregional activities and programs, most of which are to be carried out by governments in partnership with international organizations. Of the five subregional programs proposed, those of greatest import for the corporate sector are probably cleaner production in Northeast Asia and globalization and its impacts in Southeast Asia, but to date neither has been translated into substantive national programs. Hence, from the regional follow-up to JPOI, there appear to be few instances of regional agreements, plans, or programs generating specific standards or other constraints on industry.

Yet, there may be some subregional agreements worth the attention of corporate managers. The ASEAN Agreement on Transboundary Haze Pollution, for example, was formulated after the disastrous agricultural and forest fires in Indonesia in 1997 and 1998. They burnt some 9.7 million hectares, emitted 700 million tons of carbon dioxide, and caused damages estimated at $9 billion–$10 billion. This innovative, legally binding environmental agreement aims to prevent and monitor transboundary haze pollution as a result of land or forest fires. The agreement states that, "…the Parties shall take legislative, administrative, and/or other measures to implement their obligations under the agreement." Ratified by Brunei Darussalam, Malaysia, Myanmar, Singapore, Thailand, and Viet Nam, the agreement took effect in November 2003. Unfortunately, the linchpin country, Indonesia, has yet to ratify it. With the exception of Government Regulation No. 4 of 2001 (Control of Environmental Degradation and/or Pollution in Relation to Land and/or Forest Fires), Indonesia has not yet put in place adequate legislation, administrative arrangements, or other measures to address the root causes of the problem: illegal use of fire to clear land for private plantations even in very dry years.[130] Even in the weak El Niño year of 2004, the fires returned with thick haze forming more than 1,000 hotspots although with less damage than in the very dry years of 1997 and1998. The situation was even worse in 2005. The 11th Ministerial Meeting on Haze in November 2004 merely agreed on the need to remain vigilant and to take necessary preventive and mitigating measures. This illustration shows that subregional agreements—like global ones—may ultimately lead to legislation, regulations, or standards, but it is usually a slow process.

Another innovation emerging from the 2002 WSSD was the concept of "partnerships." In line with a growing interest in simultaneously promoting economic development, social progress, and environmental protection, the conference called for the establishment of voluntary partnerships between any combination of governments, intergovernmental organizations, corporations, and other organizations. These partnerships are designed to solve particular sustainable development problems. As of January 2004, 266 partnerships were formally registered with the UN Commission on Sustainable Development, with approximately 60 of these being in the Asia and Pacific region. They cover a variety of themes the majority of which focus on improved water management, sustainable production and consumption, biodiversity, and agriculture.[131]

Some of the global-local partnerships of interest to the private sector in Asia and the Pacific include the following:[132]

(i) awareness-raising and training on sustainable consumption and production;
(ii) Be the change! Youth-led action for sustainable development;
(iii) Capacity 2015: Building capacity to benefit from globalization and to realize the MDGs while achieving sustainable development;
(iv) capacity-building taskforce on trade, environment and development, Phase II;
(v) capacity building in small island developing states to manage vulnerability and develop resilience, particularly to disasters;
(vi) capacity development for improved agriculture and the management of natural resources in the drylands of the world;
(vii) EcoSanRes, an international network for communications, research, and capacity development in ecological sanitation;
(viii) engaging the advertising industry to help communicate sustainability around the world;
(ix) environmental law capacity building program for sustainable development;
(x) environmental management capacity building for local government;
(xi) global technology transfer and knowledge management partnership;
(xii) linked university consortia for environment and development—industry and urban areas;
(xiii) local capacity building and training on sustainable urbanization: a public-private partnership;
(xiv) business alliance for solar water heaters;
(xv) the cement sustainability initiative;
(xvi) cleaner fuels and vehicles partnership;
(xvii) collaborative labeling and appliance standards program;
(xviii) certification for sustainable tourism;
(xix) the industrial energy efficiency initiative;
(xx) mandatory disclosure of automotive emissions.

Conceivably, some of these 20 partnerships could result in voluntary agreements between governments, civil society, and the private sector at the national and/or subregional levels, although most are still in the start-up phase. While it is relatively easy to enter into these arrangements, it is much harder to make them work effectively, to measure their real impact, and to sustain them in the longer term.

The substantial shift toward transnational environmental targets and standards in recent years has mainly been due to the character of modern environmental problems that elude effective national response. Problems that cross national boundaries and problems of the global commons require multilateral responses. Resolution of most global concerns, however, can only take place in practice at the level of the nation-state; hence, the slogan "think globally, act locally." Accordingly, there is extraordinary worldwide growth in demand for improved environmental performance from corporations that is being built into national laws and standards. Many of the partnerships listed above will attempt to implement the "think globally, act locally" principle. This process will continue, and could possibly accelerate in Asia and the Pacific as the region struggles to catch up with the environmental quality of the developed world.

# QUASI-STANDARDS

So far, this chapter has discussed environmental performance standards that are mandated either by "hard law" and backed by the threat of legal penalties or by "soft law" supported by government policy and the commitment of international development partners. Increasingly, however, new standards are being developed by the private sector itself working either independently or in collaboration with governments and industry associations. While these standards do not have the force of law or of government policy, in many instances they are becoming de facto or quasi-standards because the market demands adherence to them. This section deals with two types of quasi-standards that are rapidly becoming important drivers of corporate environmental performance. These are VAs and harmonized environmental management systems, or more specifically, the ISO 14000 series.

## Voluntary Agreements

Even where VAs are initiated by governments, their very nature implies that corporations can choose to accept or reject them. These initiatives may include agreements between regulatory agencies and corporations (which can be either non-binding or negotiated legal contracts and are often called "public-private partnerships") or among firms in an industrial sector, or they can be unilateral commitments by firms to meet a certain standard or carry out a particular practice. Sometimes they also involve consumers, for example, in for recycling or safe disposal programs.

The last decade or so has seen a dramatic increase in the use of VAs, especially in developed countries.[133] For example, the United States Environmental Protection Agency (USEPA) has calculated that there were 13,000 corporations involved in VAs in the US in 2000.[134] The reasons for this increase have been studied in some depth and appear to relate to both external and internal factors. External drivers include (i) the coercive influences of regulatory forces, market pressures,[135] and societal expectations; (ii) modeling on other organizations; and (iii) political cultures of jurisdictions. Internal drivers include (i) organizational culture, (ii) organizational learning styles, and (iii) the influence of individuals.[136] Overlaying all of this has been a strong trend over the last decade toward greater decentralization of environmental governance and toward subnational units and an increased engagement of intergovernmental organizations and NGOs.[137]

It is unlikely that any single dimensional typology can capture all the relevant differences among VAs because there will always be substantial variation within categories. Based on three recent reports,[138] however, three general types of VAs can be identified:

(i) private agreements between firms or between firms and stakeholders;
(ii) public voluntary programs developed by government agencies in which individual firms are invited to participate;
(iii) environmental agreements negotiated between industry and public authorities.

Private agreements do actively involve the public sector although regulators would almost always support them. There are two forms worth noting. The first is a situation where corporations "sign up" to a code of conduct. These codes can be established either by broad coalitions of interests or by industry associations attempting to self-regulate an entire sector. Examples of the former include the CERES principles that brought together a number of US environmental groups and socially responsible investors after the Exxon Valdez oil spill in Alaska. They commit members to protecting various environmental "components," and emphasize monitoring and reporting on progress. To date, more than 80 organizations and 70 firms have signed onto the CERES principles.

Other examples of codes established by coalitions of common interest include (i) the International Chamber of Commerce's Business Charter for Sustainable Development which has 2,000 corporate signatories; (ii) WBCSD's global network of 45 national business councils and partner organizations located in 40 countries involving some 1,000 business leaders globally united by a shared commitment to sustainable development via the three pillars of economic growth, ecological balance, and social progress; and (iii) the Sustainable Development Charter of the International Council for Metals and the Environment. This "broad coalition" approach to codes of conduct has been described as establishing broad guiding principles and statements of intent across subscribing organizations. They are often considered to be a first step providing common policy direction and a broad framework of action.[139]

A second type of code of conduct is where an industry association establishes an environmental charter that professes to cover an entire sector. There are now a vast number of industry association-generated environmental codes in existence around the world—too numerous to list here. These codes can establish the following:

(i) process-based management systems such as EMS;
(ii) performance-based management systems that establish minimum levels that must be met by all subscribing corporations like the demands placed on members of the Forest Stewardship Council and the Marine Stewardship Council;
(iii) hybrid process-based systems with performance elements.[140]

Most industry association codes apply in specific jurisdictions and cover sectors that are either high profile (e.g., mining), or pollution intensive (e.g., pulp and paper, textiles, petrochemicals).[141] While codes of conduct tend to be developed by national industry associations, they often have application outside of a nation-state. Two significant examples are the Australian Minerals Industry Code for Environmental Management,[142] and the international chemical industry's Responsible Care program.[143] The Australian mining code has 39 signatories representing over 300 sites and applies wherever a corporation operates around the world. As with most industry association codes, it includes commitments to improved environmental performance, to improved relations with customers and communities, and to greater transparency. As such, the Australian mining code requires signatories to commit to the following seven "elements and activities":

(i) accepting environmental responsibility for all actions;
(ii) strengthening relationships with the community;
(iii) integrating environmental management into decision making;
(iv) minimizing the environmental impact of activities;
(v) encouraging responsible production and use of resources;
(vi) continually improving environmental performance;
(vii) communicating environmental performance.

In implementing the code, signatories are required to publicly report their environmental performances and to assess their progress against code principles every year as well as to submit to an external, independent audit every 3 years.

The Responsible Care initiative was developed after the Bhopal disaster in India and now operates in 47 countries.[144] It is based on a set of guiding principles and six codes of practice with 152 individual elements covering (i) community awareness and emergency response, (ii) research and development, (iii) manufacturing, (iv) transportation, (v) distribution, and (vi) hazardous waste management. The codes set broad environmental objectives but do not specify performance levels. Firms set their own performance levels according to their circumstances, although a recent development by the US Chemical Manufacturer's Association has its member firms committing to one or two "beyond compliance" targets and mandatory third-

party verification.[145] The Responsible Care Management System has been merged with ISO 14001 to become RC14001, a single, cost-effective certification process.

The second kind of private agreement takes place between firms and stakeholders. There are numerous examples where corporations have negotiated with communities to reduce their pollution impact. Most of these are true private agreements and so are not publicly known. Over the last decade, a large number of agreements has been reached between corporations and NGOs representing shareholder groups that seek to transparently develop mutually beneficial solutions to environmental and development problems. An example of this kind of initiative is the Asia Foundation-sponsored NGO-Business Environmental Partnership Program. Through this program, the Foundation has made over 80 grants to NGOs in 9 countries, and more than 500 groups have attended workshops on cleaner production and partnerships in industrial sectors, including agricultural-processing, automotive, chemical, hotel, hospital, metal-finishing, tanning, and textile industries.[146]

While there are many of these types of new business arrangements in Asia and the Pacific, they do not tend to lead to general environmental standards or even to quasi-standards. Nevertheless, they do raise the level of awareness within participating corporations and may set the stage for improved compliance.

In public voluntary programs, the regulatory agency unilaterally determines the rewards and obligations from participation as well as the eligibility criteria. It designs the program, and then seeks participation from companies given the terms it specifies. These are effectively non-mandatory rules developed by a government body (though they often can be modified through a process of public-private dialogue).

While there are not that many of these programs in existence, some have a large number of participants and, as a consequence, they set effective standards in certain sectors. Researchers have suggested that there are approximately 20 such agreements in Europe and around 40 in the US.[147] There appear to be few examples of such approaches in Asia and the Pacific as the region has tended to rely more heavily on command-and-control systems perhaps due to a concern that not many corporations would participate. The best-known public voluntary programs include the following:

(i) 33/50 within which the USEPA encouraged manufacturers to voluntarily reduce emissions of 17 target chemicals by 33% by 1992 and 50% by 1995 with 1988 as the baseline;[148]
(ii) Canada's Accelerated Reduction/ Elimination of Toxics program where industry was challenged to reduce discharges of 30 specified chemicals by 90% and 87 others by 50% by 2000;
(iii) The USEPA's Green Lights program which encouraged the installation of energy-efficient lighting technologies in commercial and industrial buildings.[149]

More recent public voluntary programs also incorporate a "challenge" whereby governments are hoping to encourage corporations to identify improvements in energy use, chemical use, and waste minimization. Some examples include the French Glass Packaging Agreement[150] and the Australian Greenhouse Challenge.[151] The Australian Department of Environment and Heritage has entered into voluntary, 3-year eco-efficiency agreements with 25 industry associations covering the energy industry, paper industry, commerce, aquaculture and fisheries, automotive industry, wine and brandy, and housing industry.

These programs invariably involve some kind of target setting the firms. In addition, the programs will often require the implementation of particular management systems. Governments clearly need to offer inducements for corporations to join such programs which might include (i) technological or financial assistance, (ii) public relations benefits, (iii) avoidance of more direct regulation or reductions in administrative binders under existing regulations, and (iv) greater flexibility in reaching targets.

Negotiated environmental agreements have similarities in form with public VAs but differ in that they often contain specific performance targets and are more or less legally binding. They are also negotiated between government and industry to the point where the initiatives are "co-managed" with a sharing of responsibilities for their implementation and monitoring. In some cases, third parties can also have an advisory role.[152] In a legal sense, some of these agreements can be thought of as contracts and thus would not be truly "voluntary."

Developing negotiated agreements sometimes takes place initially with an industry association or other representative of an industrial sector, often at the national level. Examples of these initiatives include the Brazilian Tripartite Agreement on Benzene (1995), the European Cement Association Voluntary Initiative to Reduce Carbon Dioxide Emissions, the Australian Packaging Covenant,[153] the Dutch environmental covenant approach[154] and the Canadian Environmental Performance Agreements.[155] Once general sector-wide core design criteria are agreed upon, then specific performance agreements can be negotiated with individual corporations although this extension toward traditional regulation only happens in some jurisdictions.

Research suggests that negotiated agreements represent the most popular form of voluntary initiative in Europe where they have been developed in the areas of waste management, climate change, ozone depletion, and water pollution. For example, over 100 negotiated agreements have been signed in the Netherlands since it started using this approach in 1989. Negotiated agreements tend to be entered into by industry and governments with a background threat of stricter regulation if the agreement does not result in environmental improvements. An example of this situation occurred in Germany in 1995 when the Federated Association of German Industry agreed to reduce carbon dioxide emissions up to 20% by 2005 in exchange for a federal government agreement not to introduce a waste heat ordinance.[156]

An Asian example of a form of negotiated environmental agreement that has operated for more than 30 years is the Japanese environment and pollution control agreement (EPCA). More than 1,000 EPCAs are negotiated in Japan every year, and there are approximately 30,000 currently in place.[157] EPCAs are concluded between local authorities, firms, and local residents' groups to set and meet environmental goals in particular local contexts. The conditions of EPCAs vary, from vague declaratory statements, through to setting specific targets that are backed up with penalty clauses.

An example of the extent of variation can be seen in a comparison of EPCAs from Kitakyushu and Yokohama cities. The former agreement includes targets such as those to, "…achieve the national ambient air quality standard for sulfur dioxide," where the latter requires that, "…concentrations of sulfur dioxide be below 500 parts per million."[158] Another significant difference between the two agreements is that Yokohama's is with single companies and Kitakyushu's is a collective agreement concluded between the local authority and more than 100 emission sources.

There are several examples of negotiated agreements already in place in developing countries. In the mid-to-late 1990s, the Colombian government signed 11 negotiated agreements with different industrial sectors (small-scale gold mining, coal, sugar cane, pig breeding, flower growing, oil producing, electricity, palm oil, pesticides, and brick manufacturing) all of which sit beneath the national Framework Agreement on Cleaner Production that was the personal initiative of the then environment minister. In Mexico, 10 sector agreements involving more than 600 companies have been negotiated under an amendment to the General Act on Ecological Equilibrium and Environmental Protection.[159]

There are very few known examples of negotiated environmental agreements in the developing countries of Asia and the Pacific although tentative steps have been taken in India and Thailand.[160] It is highly likely that this situation will change soon, possibly quite rapidly.

***Voluntary agreements as "standards:"*** VAs can take many forms, are rapidly expanding in application, and will soon make an impact on the operations of corporations in Asia and the Pacific. What is not always clear is that just like traditional command-and-control policies, these new mechanisms are starting to define compliance standards that corporations must meet. Sometimes these agreements are reinforcing compliance standards that are already in place as a result of traditional regulation. This is the case with some negotiated environmental agreements where performance is required by contract. A good example is the Japanese EPCA approach described earlier. More often, however, VAs are resulting in de facto or "private" standards.

De facto standards result when any of the three types of voluntary measures that involve industry associations or sector aggregations of firms produce targets that did not already exist in traditional regulations. In developing countries with weak regulatory structures, it is likely that these situations will be common. Governments may prefer to shift the onus onto corporations rather than to wait for a slow build up of capacity in the national environment agency.

"Private" standards are developed when corporations in a similar industrial sector band together to establish tougher environmental performance conditions (by way of voluntary measures) than previously existed. Companies that participate in such programs gain competitive advantage over nonparticipants by creating a cleaner image and reducing risks and compliance costs. The basic idea is that tightening regulations will hit nonparticipating competitors harder than participating ones who have gained a first-mover advantage. With this strategy, environmental costs can increase but at a rate that is lower than for competitors. While this kind of scenario may not result in a legally mandated environmental performance standard, there is no doubt that it can be just as influential in encouraging firms to achieve compliance. Corporations that are not part of whatever voluntary measure has resulted in a private standard are still embedded in networks of suppliers, customers, investors, competitors, and communities. These networks influence a firm's decisions on environmental protection and may substantially increase pressures to comply with private standards.

***Voluntary agreements and environmental improvement:*** Generally, VAs have benefited corporations through the incentives governments offer for participation. Benefits include (i) avoiding direct regulation and its associated costs, (ii) greater flexibility in reaching targets, (iii) risk management (including protecting themselves from potential litigation), and (iv) assuring or enhancing their reputations.[161]

A question remains as to whether or not VAs have led to overall environmental improvement. Numerous attempts have been made recently to evaluate their effectiveness and efficiency.[162] Most researchers agree that evaluating the effectiveness of VAs is especially difficult due to problems of data availability, credibility, and self-selection. This has led some commentators to suggest that there has been a tendency to overstate their benefits.[163]

The most influential evaluations claim that the environmental targets of most VAs seem to have been met but that there are only a few cases in which such approaches have been found to contribute to environmental improvements significantly different from what would have happened without the VA.[164] There is also a consensus on why VAs appear to have had only a modest impact on environmental improvement. The most obvious reasons appear to be "free-riding," "regulatory capture," and non-enforceable commitments.[165]

Despite these somewhat negative assessments, there is also significant agreement that VAs can result in "soft benefits." Voluntary agreements can often have indirect effects on organizational culture and practices as well as more direct effects on targeted environmental impacts. These indirect effects include (i) diffusion of information on pollutant abatement techniques, (ii) technical assistance, (iii) best-practice guidelines, (iv) evaluation tools, (v) training, and (vi) enhanced cooperation and trust.[166] While these benefits are difficult to measure, especially in the early stages of VAs, some commentators have suggested that these changes in firms may be even more important than short-term reductions in environmental impact.[167] There is an argument to suggest that these soft benefits may be of particular value in Asia and the Pacific where improved corporate governance is urgently needed.

***Significance of voluntary agreements for corporations in Asia and the Pacific:*** VAs are beginning to have an impact on the approach that corporations in Asia and the Pacific take toward environmental management; this influence will continue to grow. Pressures on corporations will come from both the international and national levels. At the international level, Chapter 2 has shown that there is significant evidence of a policy shift toward greater shared responsibility between public authorities and the business community. As a consequence, VAs that have international "reach"—especially codes of practice—are already operating in Asia and the Pacific, particularly through supply chains, and are pushing firms toward compliance.

These international pressures, combined with examples from developing countries in Latin America, will soon encourage the development of national VAs in Asia and the Pacific. There is a strong argument to suggest that where relevant environmental standards do not apply (or are ill defined), and where there are limited budgetary and administrative resources, then VAs can help to specify what standards should be adopted. This argument is supported by the "soft benefits" view mentioned earlier. Some commentators have suggested that private codes and some notion of private sector environmental responsibility could potentially serve as valuable adjuncts to intergovernmental programs and public-sector initiatives when transferring environmental technologies and management practices to developing nations.[168]

On the other hand, there is a counterview that VAs only work in jurisdictions where there is already strong regulation that can act as a "credible threat." In this argument, large firms—especially MNCs—will use the VA approach to exploit countries where standards and enforcement are weak. There is, however, no solid evidence that this extension of the "pollution haven" concern is valid.[169] Other commentators have suggested that the role of regulation as a "backup threat" is overplayed, and that developing country corporations could be motivated to participate in VAs for a range of other reasons including (i) community/NGO pressure, (ii) protection of reputation, (iii) enhanced market opportunities, (iv) requirements of financiers, and (v) pressure from industry peers.[170] In some developed-country jurisdictions, the role of the judiciary and of interested third parties may make negotiated agreements less easy to enforce. Given outstanding issues of poor governance in many developing countries, the institutional setting may determine how effective such VAs can be in Asia and the Pacific.

While there is no current resolution to this debate, there is a clear understanding that VAs do not necessarily work in all circumstances. There is now a growing understanding of the institutional and procedural conditions that might have to be present for VAs to be successful. Future developments needed for VAs to become effective in Asia and the Pacific are discussed in Chapter 7.

## ISO 14000 Series

The VAs outlined in the previous section tend to be made in a collaborative rather than unilateral fashion; the extent of their development around the world is the main reason why they are resulting in quasi-standards. One type of unilateral environmental commitment, however, has resulted in the establishment of a new kind

of performance standard. When EMSs are sufficiently harmonized across companies in a sector, they may be regarded as quasi-standards though not all EMSs fall into this characterization, however. Other forms of EMS are discussed in Chapter 4.

Since it was launched in 1996, "ISO 14001" has become the most commonly used EMS meta-standard. The Swiss-based International Standards Organization is a worldwide NGO made up of national standards bodies from 111 countries. ISO standards are developed through "expert" consensus-building processes where members contribute to, and ratify, the outcomes. On the surface, it would appear that developing countries have played a significant role in the design of ISO 14001. In the technical committee that drafted the EMS standard, for example, 28 of the 51 participants or observers were from developing countries.[171]

The adoption of the ISO 14001 standard by corporations has increased dramatically since its establishment. By April 2005, 88,800 certificates had been issued in more than 110 countries. This is an increase of more than 35% over 2002.[172] While ISO certification is clearly attractive to many firms, uptake has been uneven across countries. The top 10 countries for ISO certificates are Japan (18,104) which leads by a wide margin over the PRC (8,865), Spain (6,523), UK (6,223), Italy (5,304), US (4,671), Germany (4,440), Sweden (3,716), Republic of Korea (2,610), and France (2,607). Other Asian countries have smaller rates of participation. After Japan, the PRC and the Republic of Korea, the more significant Asian participants are India (1,500); Taipei,China (1,463); Thailand (974); Singapore (573); Malaysia (566); Indonesia (369); Hong Kong, China (355); and the Philippines (312). Asian corporations make up approximately 40% of the world total. Possibly the most significant statistic from the region is the substantial increase in certifications from PRC corporations—up by more than 200% from 2002 to 2005, from 2,802 to 8,865.

***ISO 14001 as an environmental "standard:"*** The ISO 14001 standard is different from the categories of standards discussed earlier. Because it was designed and adopted by a body whose members include national standard-setting organizations, it is not legally binding on any of the parties nor on the corporations that sign up for it. It is also different because its focus is on technical standardization and performance specifications, not on setting performance targets. This is not surprising given that the original reason for the existence of ISO was to ensure the uniformity and harmonization of international product performance requirements.

Despite its essentially voluntary nature, ISO 14001 has expanded its influence to the point where it may now be considered to be an "involuntary" standard with similar if not more power than mandatory regulations. The first reason for this development is the new link that the standard has with the WTO. The Uruguay Round of GATT strengthened the GATT Standards Code that urges governments to use international standards to make the free circulation of goods across national borders easier. The ISO has formal legal authority to establish its international standards under the WTO's Technical Barriers to Trade Agreement. As a result, national governments must take ISO standards into account when setting their own national, subnational, or local standards.[173] In a sense, this means that ISO standards such as 14001 have greater status due to their ties to WTO sanctions than do existing international environmental standards established through other multilateral rule-making institutions

The other main reason why ISO 14001 can be thought of as an "involuntary standard" is because it has become a de facto condition of the marketplace. ISO's earlier standard for quality assurance (ISO 9000) rapidly took on this role and in many jurisdictions became a prerequisite for government procurement contracts. There is a growing understanding that the same thing will happen for the environmental management standard. Some commentators claim that this will make ISO 14001 a "ticket of market access," and that it will drive corporations in developing countries to sign on for reactive reasons rather than because of a drive to improve environmental management.[174] Progress is also being made in developing an equivalent social standard.

For both of these reasons, ISO 14001 is clearly a quasi-standard that cannot be ignored by corporations in Asia and the Pacific, especially if they are involved with exporting and dealing with MNCs.

## FINAL WORDS

Corporations in the region have often struggled to comply with national environmental performance standards due to a range of factors such as (i) the lack of regulatory resources to enforce standards; (ii) uncertain laws with few penalties for noncompliance; (iii) corruption; (iv) inadequate laboratory facilities and an inability to collect evidence that is reliable enough to secure prosecution; and (v) a lack of information about laws and clean technologies.

A vast array of regulations and standards, both traditional and "new" are beginning to impinge on corporations' freedom to operate. These are emanating from (i) subnational and sector goals and targets, (ii) national environmental laws and standards, (iii) commitments that governments make to global and regional agreements; and (iv) industry-led "new regulation" or quasi-standards. Corporations in Asia and the Pacific can no longer ignore these pressures if they want to compete.

As firms move closer to compliance and encounter the "new" forms of regulation, they will be challenged to consider the possibility of going beyond compliance. For firms ready for this step, this approach brings with it many types of new business opportunities and new challenges to their corporate cultures. In the next chapter, some of the most significant tools for enhanced environmental performance are discussed, tools will lead many firms to recognize and capitalize on the new business opportunities discussed in Chapter 5.