

EXPLAINER

How Can Policy Makers Promote Green Business?



An environmentally sustainable farm resort in Thailand operates a store selling organically grown produce from its farm. Photo credit: ADB

Creating a market for green business requires policies that help businesses make or save money from environmental compliance.

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Introduction

It's easy to take markets for granted. If someone needs a pencil, bowl of rice, or shirt, those products are readily available. In simple terms, buyers and sellers meet, and at the right price, products are sold. Such is the basic nature of market transactions.

Markets, or rather a lack of markets, can also explain the lack of clean air, clean water, and healthy ecosystems in many countries. While urban dwellers in Asia can choose from a wide variety of clothing brands, they cannot avoid noxious car exhaust on their way to the mall. Alas, there is no market for clean air.

For Daniele Ponzi, Chief of the Environment Thematic Group at the Asian Development Bank (ADB), creating new markets is the key to achieving green growth. At ADB's first Green Business Forum, Ponzi

urged policy makers in Asia to put in place appropriate policies and regulations to better harness the power of markets. While markets are not perfect, there is no better alternative.

“Ecolabeling, certification, industry codes of conduct, and environmental performance disclosures can play an important role,” Ponzi shared.

High and upper-middle income countries that have prioritized the environment through policy improvements have become green market leaders. Developing Asian countries can pursue similar growth pathways, and the key is overcoming market failures related to “negative environmental externalities,” such as air pollution, which leads to under-investments in green sectors.

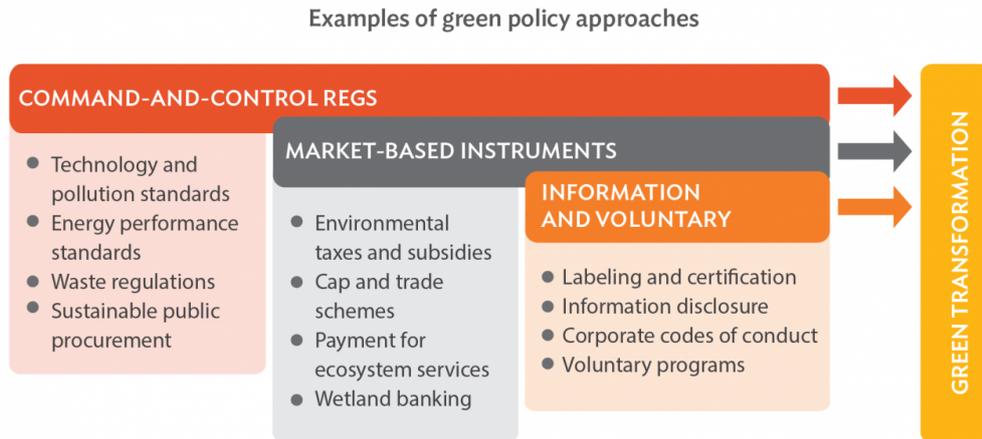
What kinds of policies can countries pursue?

Companies increasingly see opportunities to invest in process and efficiency improvements, reducing costs, and improving product quality. Governments can implement a mix of policies and regulations stringent enough to ensure compliance, predictable enough to engender long-term investments, and flexible enough to adjust to changing circumstances, especially new technologies. Both economy-wide and sector-targeted policies are required to enable structural and behavioural change among producers and consumers.

Policies and regulatory instruments can be broken down into three major categories:

1. **“Command-and-control” approaches, such as technology and pollution standards** . These are generally perceived to be inflexible and not business-friendly. However, some believe that regulatory measures can help foster innovation and create competition.
2. **Market-based instruments, such as green taxes, tradable permits, and payment for ecosystem services**. This approach is considered flexible, efficient, and effective. It can deliver environmental outcomes with the least cost, and thereby relax the trade-off between economic growth and improved environmental quality. However, for reasons discussed below, there is skepticism about the potential effectiveness and replicability of market-based instruments in developing countries.
3. **Information-disclosure and voluntary policy tools** . Policy makers can devolve some of the responsibility for environmental protection to consumers, investors, and the public. It is difficult for

a small number of enforcement officials to police millions of polluters.



It is also important to look at the role of government in a broader perspective. For instance, removing perverse/distorting subsidies, pricing resources at the right level, and green procurement are important measures.

Furthermore, interventions must address systemic failures, like unclear goals, lack of accountability, and poor communication and coordination between the public and private sectors. These hinder the flow of technology and knowledge, thereby reducing the efficiency of green business innovation efforts.

It is also important to understand what types of companies that policies should target. In Asia and elsewhere, those that have taken on green business innovation are mainly larger companies. While there are some small companies that are innovative, policy makers still largely need to focus on assisting small and medium enterprises (SMEs) in transforming their business models.

Can command-and-control approaches encourage innovation?

Command and control policies codify environmental guidelines into legislation and clarify what is prohibited. As such, they provide clear boundaries for private sector activity. Critics argue that command and control policies give firms little flexibility in how to comply with an environmental standard, and as a result, “tend to force firms to take on similar shares of the pollution-control burden, regardless of the cost”.

Command and control policies that establish technology standards may also stymie the development of technologies that could result in improved pollution abatement and provide no (or limited) incentives for businesses to exceed the environmental standards.

Especially in developing countries, regulatory policies stretch the ability of cash-strapped governments to monitor firms for compliance, enforce laws, and sanction violators. This is further impeded by a large informal sector with SMEs that are often outside the regulatory system. There is also the risk that

regulatory agencies that were created to act in the public interest instead advance the interests of the industries that they should regulate (so-called “regulatory capture”). Indeed, while most countries in Asia have put forth air and water standards, adherence to these standards is still lacking.

On the other hand, the “Porter Hypothesis” posits that properly designed regulations can stimulate innovation by improving business performance and making firms more productive and profitable. Environmental regulations can help increase corporate awareness of a pollution problem and reduce uncertainty about the value of investments in pollution control. They can help lead firms to measure their discharges, understand the sources and costs of pollution generation, and assess options for reducing pollution.

Indeed, companies that face strict regulations can gain a competitive position compared with companies in countries where regulations are not effectively enforced. As firms adjust to the rules, they can enjoy a “first mover advantage.” In addition, studies have noted that larger firms in more environmentally damaging industries over-comply with regulations as an insurance policy, stimulating innovation along the way.

For example, the People’s Republic of China (PRC) is seeing increased patenting activity in green industries, aided by strict energy efficiency and renewable energy targets. Partly as a result, the PRC is now the world’s largest manufacturer of wind and solar equipment and soon, it will be the largest consumer of clean energy too.

What are the types of market-based instruments?

Market-based instruments can be either price-based or rights-based. Carbon pricing can be either, depending on whether it is implemented under an emissions trading system or through a direct tax.

Price-based instruments

These instruments incorporate the externalities of production or consumption activities through taxes or charges on processes or products. A few examples from around Asia are listed below.

- **Water pricing.** Singapore has implemented its water pricing policy since 1997 to integrate the ecological costs of water and streamline the rate based on the amount of water used.
- **Emissions fees.** Japan has had emissions fees for sulphur oxide emissions since 1974, with the resulting revenues destined for victims of air pollution.
- **Congestion pricing.** Singapore has the world’s most sophisticated system of congestion pricing, which has helped it avoid the major congestion problems that its neighbors suffer.
- **Feed-in tariffs.** The Philippines has feed-in tariffs with installation caps for each type of renewable energy and a “first come-first serve” policy, which has created intense competition among developers. Between 2008 and 2014 (when the guidelines were being finalized), the country approved 325 renewable energy installations.
- **Subsidy reform.** Indonesia introduced subsidy reform to increase fuel prices gradually, which greatly reduced the budget deficit. The government eased the negative impact of higher prices on

the poor with a direct cash transfer program.

Rights-based instruments

Rights-based (or quantity-based) instruments are designed to control the quantity of the environmental good or service (or a suitable proxy) to a pre-determined level. They create rights to use environmental resources, or to pollute the environment, up to that limit. Quantitative targets for pollution control are set at the aggregate (national/regional) level and allocated or auctioned to individual firms, such that compliance by firms will achieve the aggregate target. These are more commonly used in developed countries. Examples are:

- **Tradable permit programs.** These were implemented in the United States to reduce sulfur-dioxide emissions from power plants, and in Europe and some regions in the US to reduce carbon-dioxide emissions.
- **Renewable energy certificates** Tradable, non-tangible energy commodities represent proof that a certain amount of electricity was generated from an eligible renewable energy resource and was fed into the grid. Authorities in India have deployed renewable energy certificates (along with Renewable Purchase Obligations) to close the demand gap by encouraging investment in renewables.
- **Wetland banking.** In the US, this innovative system involves private companies purchasing the property rights to degraded wetlands and rehabilitating them to meet defined regulatory requirements, for which they earn credits. These companies then sell the credits to construction and development firms that are required, by law, to offset the environmental impact of land development.
- **Nutrient trading.** This provides a mechanism to use nutrients for the best economic gain, while also limiting the amount of nitrogen entering waterways. It places a cap on total nutrient losses within a catchment area and introduces a system of nutrient allowances (credits) that can be bought and sold. Enterprises with high nutrient requirements, such as dairy farms, can purchase credits from enterprises with surplus allowances.
- **Conservation offsets.** Also known as biodiversity offsets or conservation allowances, these are actions taken by companies that help compensate for significant adverse impacts from development.

Carbon pricing

This is a cost-effective approach to reducing greenhouse gas emissions. Carbon can be priced via an emissions trading system (cap and trade with emissions permits at market-determined prices) or with a direct tax.

Countries in Asia with carbon pricing mechanisms include:

- Japan, which was an early adopter, having established a subnational emissions trading system in Kyoto and Tokyo in 2010 and a carbon tax in 2012;

- the Republic of Korea, which launched a national scheme in 2015 that covers two-thirds of emissions in the country; and
- the PRC, which announced that it would expand the seven regional cap-and-trade pilot schemes launched in 2015 into a national program by 2017.

Together, these three countries account for 21% of global GDP and over 30% of carbon emissions.

What are the advantages, challenges, and trade-offs of market-based instruments?

Advantages

Whether price-based or rights-based, market-based instruments offer some clear advantages over command-and-control approaches. On a macro level, they address the main market failure that prevents efficient resource use and adequate investment in green opportunities and innovation—that market prices do not reflect the full costs of environmental resources, such as energy, water, forests, land, and clean air. Thus, by taxing pollution or pricing water, for example, they provide an *economically efficient* approach to aligning economies toward environmental sustainability by “getting the prices right” so as to internalize environmental externalities.

In addition, governments can recycle revenues into a variety of programs and policies that can promote green innovation. For example, France imposed a general tax on polluting activities, allocated a share of tax revenues for environment improvement, and spent part of the revenue as capital subsidies for adopting recommended pollution control technologies.

On the level of firms, properly designed instruments can stimulate innovation by improving business performance and making firms more productive and profitable. They can encourage managers to undertake pollution control, which is in their financial self-interest and conducive to the achievement of policy goals.

Market-based instruments do so by:

- giving firms flexibility in choosing their lowest cost method of pollution abatement, rather than requiring all firms to achieve the same level of abatement or adopt the same abatement technologies;
- providing firms incentives to make continuous progress in reducing their emissions without the government having to re-set technology standards;^[1] and
- in the case of rights-based instruments, equalizing the incremental/marginal cost of abatement across firms with the greatest reductions in pollution undertaken by firms that have relatively lower costs of abatement.

In the process, firms can experience cost savings that compensate for increased compliance and innovation costs. “Innovation offsets” can arise when environmental regulations lead to not only less polluting products but also higher-quality, lower-cost products resulting from efficiencies in the process

of production, less waste generation, and lower costs of waste disposal.

Challenges

Market-based instruments should supplement rather than replace regulations. Policy makers must plan carefully when considering them because of the following challenges:

- **Political will.** Tax increases are difficult to sell politically, as their impact on energy and other commodity prices can result in social unrest and loss of consensus. Potential losers have a strong incentive to organize against market-based instruments and they tend to be organized already. For example, Australia's mining industry launched a marketing campaign against the proposed carbon tax, which was later dropped.
- **Enabling conditions.** Market-based instruments are often information intensive,^[2] complicated to design, and dependent on strong legal and institutional frameworks for enforcement. The development of credible mechanisms for monitoring and verifying environmental performance is also critical for implementing these instruments.
- **Market failures.** Other market failures (e.g., non-competitive and missing markets, information asymmetries) may hamper the effectiveness of these instruments.

Trade-offs

In choosing and designing a mix of policy instruments, it is also important to consider trade-offs in efficiency, ease of design, and implementation and distributional effects. If the goal is to lower the costs of pollution control and induce technological innovation, the type of instrument and the way it is implemented can help entice firms to seek new opportunities to increase their competitiveness, rather than to just focus on avoiding problems and managing risks.

To this end, firms typically prefer quantity-based instruments over price-based instruments, as the former can lead to higher profits and does not require them to pay for the remaining pollution emitted, unlike taxes.^[3] Also, to induce firms to support market-based instruments, governments can return pollution fees to firms in the form of subsidies for abatement investments or allocate tradable permits that are free to firms rather than using auctions. Both methods have been tried in the European Union with some success.

How are information-disclosure and voluntary policy tools applied?

Regulatory agencies in the US, the EU, and a number of developing countries use information-disclosure and voluntary approaches with a focus on information and transparency. These include public disclosure programs, industry codes of conduct, certification, eco-labeling, and domestic voluntary agreements.

Public disclosure and green certificates can complement green finance by making it easier both for

banks to evaluate the feasibility of such projects and for manufacturers and users of green technology to access financing.

For instance, GreenTech Malaysia awards certificates to projects that adopt green technology. These certificates complement Malaysia's Green Technology Financing Scheme. ^[4]

Implementation options

Information disclosure requires partnering with industry associations and third-party organizations to encourage corporate environmental self-regulation.

This involves a two-pronged strategy:

- First, environmental agencies encourage firms to take a holistic perspective toward pollution control through multimedia strategies and waste minimization without reforming the media-specific, end-of-pipe control focus of existing legislation.
- Second, firms disclose information about their environmental performance, which allows consumers and investors to make informed choices and to signal their preferences for environmentally friendly firms.

Specific policy instruments can be further distinguished according to several factors, such as the type of actor that organizes them, the target business sector, and the types of compliance required from participating businesses or investors.

Advanced monitoring tools and electronic reporting reduce the costs and challenges of monitoring and enforcing environmental regulations. This can benefit both firms and regulators. Monitoring devices are becoming more accurate, mobile, and cheaper, allowing for real-time monitoring for both air and water. These also allow the public to more easily see pollutant discharges, environmental conditions, and noncompliance on social media.

Governments can look to NGOs as partners to help make oversight and effective auditing a greater deterrent against unfair practices. NGOs can serve as certifiers and auditors, and expose polluting firms to warn customers and investors. There are a number of organizations that coordinate certifications schemes, such as the Forest Stewardship Council, the Roundtable on Sustainable Palm Oil, and the Earth Island Institute's Dolphin Safe Tuna Monitoring Program.

Governments should also encourage a media that keeps large firms honest. Media outlets can effectively regulate an industry without reliance on taxpayers' money, the ideal cost-efficient public good. Notable examples include the New York Times' exposé into Thailand's shrimp industry, prompting regulatory reform.

Challenges

Public disclosure programs operate through their effects on investors and consumers, but these effects may not be as strong in developing countries. Most developing Asian countries have a high percentage

of small, privately owned firms so stock market effects are still limited in the region. Moreover, in countries with low per capita income, low willingness to pay for environmentally friendly products and continued dependence on polluting firms for jobs limit stakeholder and consumer pressures. [5]

Governments therefore cannot view public disclosure and other business-led programs as a substitute for weak regulatory and civic society pressures. Rather, a combination of voluntary approaches, law enforcement, and the development of community, market and civic pressures is optimal. For SMEs, the threat of penalties and fines for non-compliance could help motivate firms to participate in public voluntary programs.

Governments might focus their information-based programs on polluting industries where small enterprises dominate (e.g., tanneries). They can also engage them through education and awareness-raising activities, or by offering limited financial assistance. For instance, the Chinese government provides training aligned with ISO 14001 standards and subsidizes part of the certification fee. This assistance is important, as the cost of training and accreditation can range from \$2,000 to \$6,000, which can be a barrier to entry for smaller firms.

Next generation policies

Improving self-reporting and expanding transparency are features of “next generation” compliance (or Next Gen), an alternative approach mainly implemented in the US. Next Gen stresses increased dialogue between regulators and companies to reach a common understanding of challenges and new solutions.

What sets Next Gen apart is its integrated and modern approach to compliance, taking advantage of new tools and methods while strengthening vigorous enforcement of environmental laws. It consists of five components:

1. Designing regulations and permits that are easier to implement, with a goal of improved compliance and environmental outcomes.
2. Using advanced emissions/pollutant detection technology so that regulated entities, the government, and the public can more easily see pollutant discharges, environmental conditions, and noncompliance.
3. Shifting toward electronic reporting to help make environmental reporting more accurate, complete, and efficient while helping the US Environmental Protection Agency (EPA) and co-regulators better manage information, improve effectiveness, and transparency.
4. Expanding transparency by making information more accessible to the public.
5. Using innovative enforcement approaches (e.g., data analytics and targeting) to achieve widespread compliance.

Their common denominator is collaboration between regulators and companies, utilizing rules with compliance built in and aided by advances in information and emissions monitoring technology. Next Gen thereby reduces enforcement burdens and compliance costs while also limiting the reliance on costly litigation to punish violators.

To provide an example, EPA embarked on a new approach to improve compliance with drinking water standards in 2010. A scoring system identified the water suppliers with the most serious violations, and then announced that enforcement would ensue after 6 months if violators did not return to compliance. With increased federal and state attention, serious violations dropped significantly.

[1] ADB. *Greening Businesses in Asia and the Pacific: Opportunities and Challenges*. Unpublished.

[2] For example, the design of market-based instruments requires information on the costs of pollution control by enterprises, the options for abatement, historical pollution levels of firms, and the tax or permit allocations needed to achieve desired levels of abatement.

[3] ADB. *Greening Businesses in Asia and the Pacific: Opportunities and Challenges*. Unpublished.

[4] Green Technology Financing Scheme, Malaysia.

[5] ADB. *Greening Businesses in Asia and the Pacific: Opportunities and Challenges*. Unpublished.

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Related Links

Explainer: [Green Finance, Explained](#)

Explainer: [Making Green Business Work](#)



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Daniele Ponzi has worked for more than 30 years in the field of environment policy and management as staff and consultant for various international organizations and Italian companies, including the academe and NGOs. He was the Chief of Environment Thematic Group at ADB until March 2019. In his 18 years with ADB, Ponzi has worked in several departments and held a wide range of responsibilities covering the corporate strategic environment agenda and associated policies, and knowledge management for green growth.



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For the past 12 years, Jeffrey Bowyer has been contributing to environment-related publications for ADB, including on green growth, climate change, and water resource management. He has also worked on several regional programs, from environmental safeguards in Central and West Asia to climate change in the Pacific. He holds a master's degree in urban planning from the University of North Carolina.
