

## 9. Information Disclosure

For the purposes of this chapter, information approaches to environmental protection may be defined as policy instruments that influence the behavior of firms and individuals through the dissemination of information on inputs, production processes, and the environmental consequences of final products. Some information approaches rely purely on voluntary reporting, while others have mandatory reporting.

The environmental information embodied in these approaches has economic value to consumers, individuals, scientists, academics, and state and local government officials even in the absence of any changes in emissions by firms. For example, information on the use of hazardous materials may reduce the uncertainty faced by local officials in planning for emergency preparedness. Regulators can use the information to monitor the progress of voluntary efforts to control pollution. Consumers may gain utility from assurances that products are manufactured in ways approved by the federal government. Individuals can make more informed decisions about where to live and work. And scientists and academics gain new sources of data that can be used in research on health, business management, and the environment.

Information disclosure rules may have ancillary economic effects that stem from the incentives they create for change in producer or consumer behavior. For example, information disclosure approaches are an increasingly popular method of encouraging companies to voluntarily prevent pollution. In contrast to end-of-pipe traditional approaches or technological mandates, pollution prevention can be achieved through a much wider array of actions: changes in input use, technologies, processes, management, and other parameters. Because the full range of these parameters and possibilities cannot be well-known to regulatory agencies, governments try to stimulate firms to engage in pollution prevention by mobilizing workers, financial markets, and the community through the provision of information.

When a rule is promulgated, ancillary changes are hard to specify. The economic analyses of information rules often ignore these changes and consider the benefits and costs of environmental information as a good itself, one with independent production and consumption considerations. This chapter complements the partial equilibrium analysis of information embodied in many economic analyses by considering the incentives created by disclosure and the subsequent use of that information.

This chapter reviews many of the United States' unique experiences with information disclosure methods. Available evidence, some of it conjectural in nature, suggests that at least two factors are important in evaluating the incentive structure of information disclosure rules. First, the information should be accurate and credible. Perhaps the best information would be based on measured data and standardized criteria and provided or verified by an independent source, but few programs meet these ideals. Second, the information must be made available to the right people, at the right time, and in a format accessible to participants in an economic transaction. Unfortunately, not all information policies take note of these considerations.



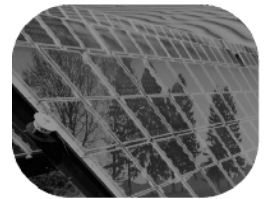
Pollution Charges, Fees, Taxes



Deposit-Refund Systems



Trading Programs



Subsidies for Pollution Control



Liability Approaches



Information Disclosure



Voluntary Programs

## **9.1 Background**

The earliest attempts at pollution control used approaches such as emissions standards, mandated reductions in emissions, or requirements that sources adopt particular control measures or technologies. After the most obvious and easily remedied pollution problems had been addressed, it became evident that the traditional regulatory approaches to pollution control would be excessively costly, incapable of achieving all environmental objectives, or both.

A second approach to pollution control responded to these limitations of traditional regulatory approaches by harnessing the forces of the market. These mechanisms included tradable permits, emission fees, deposit-refund systems, subsidies, and performance bonds. In most cases, they have complemented traditional regulatory remedies, but in some instances they are developed as stand-alone measures.

Although market-based approaches have helped improve the cost effectiveness of environmental regulation, the problems of pollution regulation have not been fully solved. Environmental regulators are burdened by the vast number of harmful substances that need to be controlled if environmental goals are to be achieved. Furthermore, they find that market-based mechanisms have limits in terms of the sheer numbers of substances that can be controlled and the modes of behavior that can be encouraged.

In response to these difficulties, pollution control policy evolved to provide information as a mechanism for making employees, shareholders, and customers of businesses active participants in the regulatory process. Information disclosure strategies are timely for at least three reasons. First, environmental regulators need more regulatory tools (as noted in the previous paragraph). Second, the means by which information is collected, processed, and disseminated are rapidly falling in cost. Third, with rising incomes and better education, the demand for environmental information by workers, shareholders, and consumers is increasing.

In the product market, consumers may react to environmental labels by buying “environmentally-friendly” products, even when they cost more. Some export markets for products may be effectively closed to firms until they achieve ISO (International Organization for Standardization) certification. Purchasers of intermediate products increasingly are concerned about a host of issues regarding their manufacture, such the raw materials used (e.g., virgin timber, recycled materials) and the environmental performance of the supplier. In the labor market, firms with better environmental records may be viewed as more attractive places to work, making it possible for them to hire more talented or productive employees. In the capital market, shareholders and lending institutions increasingly are concerned about the prospect of future environmental liability for pollution harms caused by a firm. Hence, firms with better environmental records may be rewarded with better access to, and a lower cost of, capital.

Information approaches have been used in environmental protection on both the state and federal levels. This chapter begins with a discussion of the National Environmental Policy Act, the first disclosure-type program. Following is a review of the Federal Emergency Planning and Community Right-to-Know Act (EPCRA) and two similar state programs. The chapter then discusses California’s Proposition 65 and reporting requirements for the release of air toxics, reporting requirements for environmental impact assessments, product labeling, environmental performance awards, the Securities and Exchange Commission’s (SEC) environmental reporting requirements, and disclosure requirements for radon and lead paint. Other voluntary programs in

which industry is encouraged to reduce pollution below permitted amounts are described in Chapter 10.

## **9.2 National Environmental Policy Act (NEPA)**

The 1969 National Environmental Policy Act of 1969 (NEPA) is the basic environmental law of the United States.<sup>206</sup> The Act requires that environmental impact statements (EIS) be prepared for federal activities that significantly affect the environment. An EIS provides for a full, fair, public discussion of environmental impacts and an examination of reasonable alternatives that will minimize adverse impacts. Implementing regulations issued by the Council on Environmental Quality (CEQ) establish procedures to ensure that high-quality environmental information is available to public officials and citizens before decisions are made and actions are taken.<sup>207</sup> In numerous instances, the mere fact that potential adverse environmental impacts were anticipated and would have to be disclosed motivated project designers to alter their plans to reduce impacts.

## **9.3 Emergency Planning and Community Right-to-Know Act (EPCRA)**

Enacted in 1986 as Title III of the Superfund Amendments and Reauthorization Act, the Emergency Planning and Community Right-To-Know Act (EPCRA) requires emergency planning and disclosure of information on the releases and transfers of hazardous chemicals to disposal facilities. Section 313 of EPCRA requires certain businesses to report each year on the amounts of toxic chemicals that their facilities release into the environment and transfer to treatment, storage, and disposal facilities. As a result of the 1990 Pollution Prevention Act, reporting requirements were expanded beginning in 1991 to include source reduction and recycling information. Data for a given year must be submitted by July 1 of the following year. EPA then compiles the information and makes it available to the public as the Toxics Release Inventory (TRI).

Through 1998, TRI reporting was required of all manufacturing facilities that met the three following criteria: (1) they had at least 10 employees; (2) they operated in Standard Industrial Classification (SIC) codes 20 through 39; and (3) they manufactured, processed, or otherwise used one or more of the chemicals listed in the TRI in quantities that exceeded certain threshold amounts. Threshold amounts are 25,000 pounds per year for manufacturing and processing, and 10,000 pounds per year for other uses of any listed chemical during the calendar year. In 1998, seven additional industries were added. (See text box entitled “Industrial Sectors Subject to TRI Reporting in 1998.”) Federal facilities were required to submit their first TRI reports by July 1, 1995, for the 1994 calendar year. Data for 1998 were available in May 2000.<sup>208</sup>

Individuals and organizations can petition EPA to add or remove chemicals from the list. The number of listed chemicals was originally set at 320, but it has since increased. (A few chemicals have also been deleted from the list.) A significant expansion took place in 1994. That year, EPA added 286 new chemicals and chemical categories to the list, bringing the number to 654. These additions were in effect for the 1995 calendar year. In October 1999, EPA lowered the reporting thresholds for many persistent bioaccumulative toxic chemicals, and added several other such chemicals to the list.

Facilities that have a total annual reportable amount<sup>209</sup> of 500 pounds or less of a TRI chemical and that manufacture, process, or use 1 million pounds or less of a TRI chemical can now submit

a shorter, annual certification statement in lieu of the longer Form R. These streamlined requirements became effective for the 1995 calendar year. The rule attempts to strike a reasonable balance between maintaining the community's right-to-know about toxic chemical releases and the economic costs to EPA and industry of collecting the information. EPA estimated that simplifying the reporting process for some facilities would result in annual cost savings of about \$18.4 million for industry and \$700,000 for federal, state, and local governments.<sup>210</sup>

EPA makes TRI information available to industry, environmental groups, and the general public, so they can know about the toxic releases and other waste management activities of facilities. This information is available via several media, including printed reports, CD-ROM, and the Internet. The emergency-planning component of EPCRA calls for the creation of state and local emergency response bodies that will develop emergency response plans.

This part of EPCRA also requires facilities to perform the following three tasks.

1. Facilities must inform these emergency-response bodies that certain hazardous substances are located on their premises.
2. They must give immediate notice of accidental releases to emergency response bodies.
3. They must develop response plans that can be implemented in the event of the accidental releases of hazardous substances.

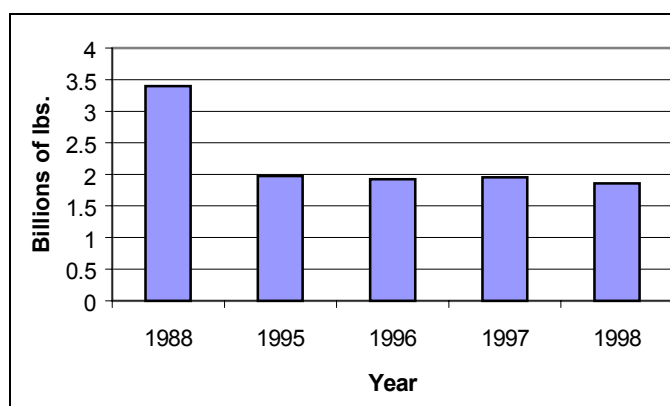
Information provided by facilities is available to the public.

Governments use TRI data to establish baselines, measure progress, set priorities, and identify targets of special concern. The general public uses TRI information to identify potential problems in their local environment and to take part in national and local debates concerning regulations that could affect their health and welfare. Corporations and investors use TRI data to gauge the performance of a corporation and individual facilities relative to their peers.

### 9.3.1 Trends in Toxics Release Inventory (TRI) Data

As shown in Figure 9-1, reported TRI releases have decreased 45.3% in the 10 years since 1988. Although the data suggest significant reductions in toxic releases, there are several reasons why these reported decreases may not be equal to *actual* decreases in releases. EPA points out that TRI increases and decreases can be “real changes” or “paper changes.” The latter result from errors, changes in facilities' estimation or calculation techniques, changes in reporting guidance and facilities' interpretation of that guidance, and facilities' use of exemptions. In general, companies determine their TRI release amounts through an estimation process rather than through monitoring. EPA guidance has not been issued for all aspects of TRI reporting, and companies can sometimes lower reported releases by using different estimation techniques.

**Figure 9-1. Reported TRI Releases**



Source: [www.epa.gov/tri/tri98](http://www.epa.gov/tri/tri98)

EPA indicates that estimation errors are more likely to occur for releases such as fugitive air emissions and complex wastewater effluent, releases for which little monitoring data are available. However, EPA audits have found companies' estimation techniques to be reasonably accurate. For example, EPA's review of TRI data quality for 1996 surveyed 60 industrial facilities: 27 in the primary metal industry, 14 in the electrical equipment industry, and 19 in the transportation equipment industry. The survey found that facilities were able to calculate thresholds for reporting correctly 95% of the time. For chemicals that exceeded the threshold, these facilities correctly identified the threshold 88% of the time. Reports by facilities concerning their releases agreed closely with an auditor's assessment in the transportation equipment industry. However, these reports differed significantly in the primary metals and electrical equipment industries. The differences were attributed to confusion over the definitions of the terms "recycling" and "reuse."<sup>211</sup>

Another potential problem is that most chemicals have not been subject to TRI requirements. A 1994 GAO study stated that over 70,000 chemicals are used commercially in the United States, of which only 320 had been included in the TRI. "Consequently," the study added, "the companies may maintain or even increase their usage of toxic chemicals while concurrently reducing the chemicals that are reported to EPA."<sup>212</sup> The original list focused on the most important toxics, and, as noted in a previous paragraph, EPA included another 286 chemicals in TRI requirements effective 1995. However, some highly toxic chemicals still have not been added to the list because they are generated in amounts that are too small to meet criteria for inclusion.

At present, facilities with fewer than 10 full-time equivalent employees in listed SIC codes are excluded from TRI reporting. Furthermore, all sources of releases outside that code range are also excluded. It is not known what percentage of releases is currently exempt from reporting.

Releases are not weighted according to the type of disposal method, the magnitude of potential population exposure to these toxic substances or the potential effects of these releases on human health and the environment. Moreover, the TRI data do not include information on the quantity of toxic chemicals in products leaving the facility. Such products themselves can eventually be released into the environment.

Although a reduction in releases is, for the most part, desirable, another important question is how the reduction is achieved. Methods include controlled disposal, recycling, conversion to energy, and source reduction. The 1990 Pollution Prevention Act set source reduction as the preferred method of reducing releases, but transfer data show no clear trend toward using this method. Since recycling and conversion to energy were not reported as transfers until 1991 (as required under the 1990 Pollution Prevention Act), 1988 total transfers are difficult to compare with total transfers in the subsequent period.

The assessment of achievements in source reduction is complicated by the lack of TRI data on the quantities of waste decreased by source reduction measures. Only the practices used to reduce waste—not their results—are included in the TRI. Changes in waste generation that are reported in the TRI could be due to factors other than source reduction, including estimation errors or changes in the production levels of specific products.

The trend of decreases in releases and transfers is more pronounced under the voluntary 33/50 program. (This program is discussed further in Chapter 10.) Total releases and transfers under

this voluntary program have decreased every year from 1988 to 1994, with a total reduction of 51% during that period.

### 9.3.2 Incentive Effect of the Toxics Release Inventory

The incentive effect of the TRI program on polluters cannot be assessed solely on the basis of reported decreases in releases. A number of factors, including traditional regulations and other economic incentive mechanisms discussed in this report, have affected releases. Pollution prevention is also influenced by a number of factors unrelated to the TRI program.

Nonetheless, the TRI program is widely believed to have a significant impact on polluters.<sup>213</sup> EPA has called it “one of the most powerful tools in this country for environmental protection” and “one of the most successful policy instruments ever created for improving environmental performance.”<sup>214</sup> Vice President Gore called the annual TRI publication “the single most effective common-sense tool” to promote environmental protection.<sup>215</sup>

Shortly after the first TRI data were released in 1989, citizens groups placed a full-page advertisement in the *New York Times* that listed “the corporate top ten” land, water, and air polluters. Several of these polluters subsequently promised EPA that they would improve their environmental performance, effectively beginning the 33/50 voluntary releases reduction program.<sup>216</sup> Monsanto, for example, promised 90% reductions of 1987 air emission releases by 1992. AT&T said it would halt all TRI air emissions by 2000. Dow announced it planned to reduce overall emissions by 50% by 1995, and Dupont promised to cut air emissions by 60% by 1993 and cancer-causing components by 90% by the year 2000. In Minnesota, public outcry over revelations that an electronic circuits manufacturer was emitting methylene chloride led the facility to promise 90% reductions in emissions by 1993. After 1987 TRI data found an IBM facility in California to be the state’s largest emitter of chlorofluorocarbons (CFCs), a public interest group organized a campaign. IBM subsequently promised to end the use of CFCs at the plant by 1993.<sup>217</sup> TRI data also appear to influence investors. Some of the investor interest may be attributed not so much to socially responsible investing but rather to the belief that companies with relatively high emissions might face mounting environmental costs in the future.

Hamilton (1995) found that the 1988 TRI performance of companies (as reported in June 1989) was of interest to journalists and investors. The higher a firm’s TRI pollution figures, the study found, the more likely journalists were to write about the firm’s toxic releases, especially those firms that were less associated with pollution. Companies that reported TRI releases underperformed the stock market for five days after the data were released. The more chemicals for which a company submitted data, the greater was the extent of under-performance by the company. The under-performance was less significant, however, for companies previously associated with pollution.

The Investor Responsibility Research Center has analyzed TRI data to provide clients with environmental profiles of companies. The Clean Yield Investment Portfolio Management Group compares companies’ TRI data with industry-wide averages of releases per unit of sales. *Fortune* magazine has used TRI data in its “green index” of American manufacturers, assigning scores of 0 to 10 in 20 performance categories, including toxic emissions per unit of sales.

The regulated community uses TRI data as well. Wolf (1986) examined the effects of the program on regulatory agencies, legislatures, public interest groups, and affected firms. He found that major corporations issue environmental progress reports to counter the publicity generated

by their TRI reports. Often the progress reports specify baselines and milestones, so others can evaluate their progress. Pine (1997) suggested that TRI data are helping companies develop waste reduction strategies. Konar and Cohen (1997) studied the response of firms to large drops in their stock prices following the release of TRI data. The authors concluded that firms experiencing large, adverse impacts on the price of their stock reduced their TRI emissions more in subsequent reporting periods than the average firm in their industry. This action suggests that TRI reports *do* affect corporate behavior. EPA's economic analysis of the proposed rule to modify reporting requirements on persistent bioaccumulative toxic chemicals contains additional information on the beneficial effects of the TRI program.<sup>218</sup>

Although EPCRA's emergency-planning element has received less attention as an incentive mechanism than the TRI, EPCRA also could have a significant effect on polluters' behavior. Firms might reduce the amounts of hazardous substances on their premises if they are forced to disclose these amounts to local emergency response bodies and (indirectly) to the public. They might also manage hazardous substances more safely if they are required to plan for, and give immediate notice of, accidental releases.

#### **9.4 State Chemical Reporting Programs**

At least two states have toxic release reporting programs similar to the federal TRI program, but they have different reporting requirements. The requirements may cover additional chemicals, industries, or reporting elements; use of toxic substances and pollution prevention plans. The General Accounting Office (GAO) (Q: add to acronyms list) (1997b) conducted a survey of efforts to pass similar laws in other states, finding that initiatives had failed in California, Colorado, Florida, Hawaii, Maryland, and Michigan.

Programs in Massachusetts and New Jersey, for example, differ from their federal counterpart in that they require companies to use materials balance accounting to plan pollution prevention actions, to report their goals and progress on pollution prevention, and to examine whether material inputs to production are accounted for fully by the total of all outputs and pollution releases.

One advantage of requirements such as those in Massachusetts and New Jersey is that they offer more information on toxics use and wastes that could be of interest to companies, regulators, and the general public than do the TRI requirements. One disadvantage of these requirements appears to be the potential administrative burden they impose on polluters and regulators. If the state attempts to lessen its program costs by taxing the polluters, it adds to the polluters' burden. EPA has studied these programs in the context of its Phase III expansion, so the Agency can better understand how the federal EPCRA might be improved.

##### **9.4.1 Massachusetts Toxics Use Reduction Act (TURA)**

Enacted in 1989, the Massachusetts TURA requires the users of large quantities of toxic materials, including those in several SIC codes not covered by the federal EPCRA, to (1) submit an annual Toxic Use Report to the State Department of Environmental Protection, and (2) develop plans for using toxic chemicals and reducing waste. Facilities that are subject to these two requirements must report annually on their inputs and outputs of materials and on their waste generation and management methods.

Additional data must be reported every two years on actual and projected changes in chemical use and wastes compared to both planned and base-year amounts. Summaries of the chemical use and waste reduction plans also must be submitted biennially, but the detailed plans remain at the facilities to ensure confidentiality. These plans must be endorsed by state-certified Toxics Use Reduction Planners.

TURA also created two agencies to provide technical assistance to users of toxic substances and to conduct training and research on TURA and on techniques that reduce the use of toxic substances. The operations of these agencies and other program costs are covered by toxics use fees that are based on the number of employees at a facility and the number of chemicals it uses. These fees are limited to \$31,450 per facility annually. They are not closely linked to the quantities or toxicities of the chemicals used. These fees generate roughly \$5 million a year in revenues.

### TURA FORMULA

For every production unit, facilities must also report on their use of chemicals and on use reduction techniques (within SIC range codes to protect confidential business information). Facilities must also indicate a Byproduct Reduction Index (BRI) and an Emission Reduction Index (ERI). ("Byproduct" can be considered "waste" in this context, although a byproduct may be reusable.) These two indices are determined in the following manner:

$BRI = (A-B) \times 100$  and  $ERI = (C-D) \times 100$ , where

A = Byproduct quantity in base year divided by the number of units of product produced in base year.

B = Byproduct quantity in reporting year divided by the number of units of product produced in reporting year.

C = Emissions quantity in base year divided by the number of units of product produced in base year.

D = Emissions quantity in reporting year divided by the number of units of product produced in reporting year.

Source : <http://www.turi.org/turadata/WhatIsTURA/>

TURA also contains provisions for citizen involvement. Citizens may assist in monitoring the use of toxic substances, and they can access the TURA information on toxics use that is reported to Massachusetts' Department of Environmental Protection. The Department is required to act on petitions to inspect a facility's plans and data if the petitions are filed by 10 or more residents living within 10 miles of the facility.

The information collected through TURA has also proven helpful to the subject facilities. By making facilities aware of the quantities of toxics used during production, released to the environment, and transformed into products, the reporting requirements allow them to identify improvements in their efficiency and cost-cutting opportunities relative to chemical use.

TURA set a waste reduction goal of 50% over 10 years, using 1987 as a baseline. Reporting began in 1991 for 1990 data. Between 1990 and 1997, toxics material use fell by 201 million pounds, toxic byproducts fell by 43.8 million pounds, and the on-site release of toxic materials fell by 16.2 million pounds. In 1999, the TURA program received an award for "Innovations in American Government."<sup>219</sup>

### 9.4.2 New Jersey Reporting Requirements

New Jersey's Worker and Community Right-to-Know Act was enacted in 1984, before the federal EPCRA. Since 1987, the state has collected data on inputs and outputs of materials and on the amounts of waste reduced through source reduction activities.<sup>220</sup>



The 1991 New Jersey Pollution Prevention Act required facilities to undertake pollution prevention planning. Like the Massachusetts law discussed in previous paragraphs, New Jersey set a goal of 50% reduction in waste output by 1997, with 1987 as a baseline. Plan Summaries must be submitted to the state's Department of Environmental Protection every 5 years.

Like Massachusetts, New Jersey requires the use of performance indices. Instead of focusing on waste generation and emissions, however, New Jersey has indices for waste generation and use of toxics. New Jersey requires that facilities making TRI reports provide additional information beyond the federal requirements. The additional information includes the quantities of each chemical brought on-site, produced on-site, used in the manufacturing process, and sent off-site in products or as waste. Such data, along with the federally required data on releases and transfers allows regulators to construct a materials balance for each chemical.

The New Jersey Department of Environmental Protection has conducted surveys showing that its reporting requirements have been beneficial to companies because the data helps them assess their options to minimize waste. Department officials also claim that the data allow companies to better manage their activities, including the implementation of the facility-wide permitting scheme described in Chapter 6.

## 9.5 Drinking Water Consumer Confidence Report

In an August 19, 1998, notice in the *Federal Register*, EPA required the suppliers of drinking water to provide households with information on the quality of their drinking water, beginning in 1999.<sup>221</sup> The reports must contain the following information:

- the lake, river, aquifer, or other source of the water;
- a brief summary of the susceptibility of the local drinking water source to contamination;
- how citizens can obtain a copy of the complete water system assessment from the supplier;
- the level (or range of levels) of any contaminants as well as EPA's health-based standards for the contaminants;
- the likely source of any contaminants;
- the potential health effects of any contaminants;
- the water system's compliance with other drinking water-related rules;
- an educational statement for vulnerable populations about how to avoid *Cryptosporidium*;
- educational information on nitrate, arsenic, or lead in areas where they are detected in quantities e that are more than 50% higher than EPA's standard; and
- the telephone numbers for additional sources of information.

EPA encourages water supply systems to post water-quality information online, and the Agency maintains links to this information on the Internet.<sup>222</sup>

## 9.6 EPA Reporting of Environmental Information

Several recent initiatives by EPA focus on two activities: (1) the aggregation or processing of environmental data that are submitted under existing programs; and (2) the reporting of this data in a form that is designed to be more useful to consumers, homeowners, and firms. This section describes three such initiatives.

### 9.6.1 Automobile Pollution Rankings

In 2000, the EPA launched a web site that uses emission certification data submitted by manufacturers to rank automobiles and light-duty trucks on the basis of their tailpipe emissions of hydrocarbons and NO<sub>x</sub>.<sup>223</sup> Rather than report actual emission certification data, the site ranks emissions on a scale from 1 (worst) to 10 (best). The information can be used by consumers to make more informed choices. It also may indirectly pressure manufacturers to improve the emissions performance of their vehicles.

### 9.6.2 Envirofacts

EPA's Envirofacts database provides users with a single point of access to select EPA environmental data sets, as well as a mapping function that finds the geographic location for data of interest.<sup>224</sup> Envirofacts allows the user to retrieve environmental information on air emissions from sources and information on

- individual chemicals,
- facilities,
- hazardous waste generators and transporters,
- risk management plans for facilities,
- EPA's Superfund sites,
- toxic releases,
- water discharge permits,
- suppliers of drinking water, and
- microbes and disinfectants in drinking water.

### 9.6.3 Sector Facility Indexing (SFI)

Sector facility indexing is a pilot effort by EPA to integrate environmental data in each of five industrial sectors: petroleum refining, iron and steel, primary non-ferrous metals, pulp and paper, and automobile manufacture.<sup>225</sup> SFI combines data from TRI and EPA's national enforcement databases and provides information on releases, the number of inspections, compliance history, and enforcement actions. Users can review data on releases from, and the compliance history of, individual facilities and then compare these data with other facilities in the same industry. EPA recently announced that the program would be expanded to include certain federal facilities.<sup>226</sup>

## 9.7 Proposition 65

California's Safe Drinking Water and Toxic Enforcement Act, commonly referred to as "Proposition 65," was adopted by voter referendum in 1986. It requires polluters to issue warnings if they expose people to significant levels of carcinogens or reproductive toxicants that are included in a list maintained by the Office of Health Hazard Assessment.<sup>227</sup> As of August 2000, the list contained 461 carcinogens, 241 reproductive toxicants, 35 female reproductive toxicants, and 46 male reproductive toxicants.<sup>228</sup>

If a substance is listed as a carcinogen, businesses may not discharge it into drinking water unless the quantities discharged pose "no significant risk." State regulation sets the levels of "significant risk" for most of the most toxic and high volume chemicals on the list, but they can be superseded by more stringent exposure levels that are mandated by other environmental laws. The defendant bears the burden of proof that the exposure is below the level of significant risk. Drinking water utilities, government agencies, and organizations employing fewer than 10 people are exempt from the rule.

Citizens have the right to initiate lawsuits under Proposition 65 if authorities do not respond to their requests to pursue potential violators. Under the "bounty hunter provision," the person who brought the suit can receive 25% of any fines collected. Fines can be as high as \$2,500 a day. Data obtained from the State Attorney General's office indicate that several environmental groups—including the Environmental Defense Fund and As You Sow—and individuals have been compensated for initiating lawsuits under Proposition 65.<sup>229</sup>

In some cases, businesses in California have avoided issuing clear warnings. They have been sued for providing warnings deemed too vague or inconspicuous. For example, the food, drug, and cosmetics industries established a toll-free product information number in lieu of placing hazard labels on their products. In another case, warnings for air emissions of ethylene oxide were published as advertisements in the classified section of a local newspaper. In both of these cases, the warnings were found by the courts to be insufficient.<sup>230</sup>

Process modifications, chemical substitution, and the use of pollution control devices have all been attributed to Proposition 65. Some products have been reformulated to avoid negative labeling. For example, solvents were removed from correction fluids and lead from foil and other products. The lead content of tableware was also reduced. However, products such as tobacco and alcohol have to bear warning labels. Businesses appear much more likely to take measures to avoid issuing warnings for products that consumers in general believe are safe, such as tableware, and for products that have unlabeled substitutes than they are for products that consumers know can be dangerous, such as spray paint.

At least one study found that consumers were indifferent to some warnings because they had become so prevalent. "Overuse of labeling may therefore result in a reduction of effectiveness."<sup>231</sup> Another study suggested that firms might collude to label in excess, thereby minimizing the impact of these warning labels.<sup>232</sup>

Proposition 65 gives polluters incentives not only to identify ways of reducing or eliminating toxic discharges but also to study the effects of toxics to determine safe exposure levels. Anecdotal evidence suggests that businesses devoted significant resources to assessing the risks of exposure to toxics after this law had been passed.<sup>233</sup> Business groups had asserted that compliance with the law would be very costly. However, they failed to provide evidence that

significant costs actually were incurred when they were given the opportunity to do so by the State of California during a retrospective analysis of the law.

## **9.8 Hot Spots Act**

Adopted in 1987, California's Air Toxics Hot Spots Information and Assessment Act (AB 2588) requires stationary sources to report releases of certain substances into the air. According to the California Air Resources Board (CARB), the goals of the Hot Spots Act are "to collect emission data, to identify facilities having localized impacts, to ascertain health risks, and to notify nearby residents of significant risks."<sup>234</sup> The Act uses at least two potential incentive mechanisms to reduce toxic air emissions: public notification requirements and unit-based fees. The latter mechanism, which is also intended to cover all of the administrative costs associated with the Act, is discussed in Chapter 4. The former mechanism, public notification requirements, is discussed here.

Facilities are required to submit an air toxics emission inventory plan and a subsequent inventory to their respective air pollution control district. Certain high-priority facilities must also submit a health risk assessment. If air quality managers in the district determine that a facility's emissions pose a potentially significant health risk, the facility operator must notify all persons who have been exposed.

The Hot Spots Act originally relied on the information requirement and fees to discourage risky toxic emissions. In 1992, however, it was amended to require facilities to reduce emissions below the significant risk level within 5 years or a period not to exceed 10 years, as determined by the district. This amendment introduced a considerable element of traditional regulatory policy to what previously had been an incentive-based instrument. However, emissions data and health risk assessments remain accessible to the public, and they could give polluters incentives to reduce their emissions more substantially and quickly than they would if this data were not in the public domain.

According to CARB, the Hot Spots inventory requirements have increased facilities' awareness of their toxic emissions, leading to reductions in emissions. Surveys have revealed voluntary reductions of over 1.9 million pounds per year of air toxics from 21 facilities. Potentially reduced costs, concern for worker health, improved community relations, and anticipation of future regulations are some of the motives for these reductions.

## **9.9 Labeling Schemes**

Labeling products according to their effects on the environment is another type of information approach to environmental management. Consumers can use the information provided by such labels in making purchasing decisions. If consumers, investors, and others prefer companies and products they believe are environmentally friendly, businesses have an incentive to improve their environmental performance to receive a favorable label or to avoid a negative one.

Table 9-1 shows the classification scheme for environmental labeling programs that were proposed by a 1994 EPA study.<sup>235</sup> Programs can be either voluntary or mandatory. Moreover, the information provided by labeling may be characterized in general as negative, positive, or neutral.

**Table 9-1. Classification of Environmental Labeling Schemes**

PROGRAM TYPE	POSITIVE	NEUTRAL	NEGATIVE	VOLUNTARY	MANDATORY
Seal of Approval	X			X	
Single attribute	X			X	
Report card		X		X	
Information disclosure		X			X
Hazard warnings			X		X

Source: EPA (1994a), p. 9.

Seals of approval are given to products that have been deemed less harmful to the environment, and single attribute programs certify that a product has a certain positive environmental attribute. Report cards and information disclosure schemes inform customers of the various impacts of products on the environment. Hazard labels warn customers of the harmful effects of a particular product.

Experience with labeling schemes indicates that they are more likely to influence behavior if they are accompanied by promotional activities that target retailers and consumers. In many cases, the label itself is only one element of a larger effort to promote the use of environmentally friendly products. As a result, it is often difficult to isolate the incentive effect of a label from that of related promotional activities.<sup>236</sup>

Although the United States does not have a national, government-initiated environmental labeling program like many other industrialized countries, it does have a few labeling programs that have been created by the public- and private-sectors. The Consumer Labeling Initiative (CLI), a pilot program of the U.S. EPA, began in March 1996. Its goal is to foster pollution prevention, inform consumer choice, and encourage the safe use of household and consumer products.<sup>237</sup> In the pilot phases, the CLI is exploring issues such as how consumers react to different types of labels and the best ways to present information. This program could evolve into a national labeling program.

### 9.9.1 OSHA Warning Labels

The Occupational Safety and Health Administration (OSHA) promulgated hazard communication standards (29 CFR 1910.1200) in 1983 to assure that the hazards of chemicals in the workplace are evaluated and that hazard data subsequently are transmitted to employees and employers.<sup>238</sup> These standards require Material Safety Data Sheets (MSDS), container labeling, and employee training, as appropriate. Under a Presidential Directive, the Hazard Communication Workgroup began an evaluation of the program in 1995 and presented its report in September 1996.<sup>239</sup> The workgroup report determined that the standard was good and should not be reopened for comment. The workgroup also noted that MSDS tended to be overly lengthy and could be simplified to better communicate necessary information to workers and employers.

### 9.9.2 FTC Guidelines for Environmental Marketing Claims

The Federal Trade Commission's (FTC) Guidelines for Environmental Marketing Claims or "Green Guides" were issued in 1992 and, at the time of this writing, were under review for possible revisions. These guidelines do not constitute a labeling system as such, but they are designed to have an effect on labeling. They are intended to prevent false or misleading use of advertising claims such as "environmentally friendly," "degradable," and "recyclable."

Confusion over the meaning of such terms has affected not only consumers but also companies, who were concerned about lawsuits over their environmental claims.

The guidelines outline four general principles for environmental claims: (1) qualifications and disclosures should be sufficiently clear and conspicuous to prevent deception; (2) claims should make clear whether they apply to the product, packaging, or just a component of either the product or packaging; (3) claims should not overstate environmental benefits; and (4) comparative claims should be presented in such a way that the basis for comparison is clear. The guidelines also address claims about environmental friendliness, degradability, compostability, recyclability, recycled content, source reduction, refillability, and ozone friendliness.<sup>240</sup>

### 9.9.3 Green Seal and Other Seals of Approval

Founded in 1989, Green Seal is the nonprofit organization that awards the Green Seal of Approval to products that it finds less harmful to the environment.<sup>241</sup> The organization develops a set of standards for each product category it studies. Categories are chosen according to the significance of their associated environmental impact and their range of products. Products within a category are then studied to determine their impacts on the environment in their various stages of production, use, and disposal. After public review and comment, Green Seal adopts a standard.

Standard criteria vary across categories but may include the reduction of toxic chemical pollution, improved energy efficiency, the protection of water resources, the minimization of impacts on fish and wildlife and their habitats, the efficient use of natural resources, the protection of the ozone layer, and the prevention of global warming. Products are not subjected to a complete life-cycle analysis. Instead, products are judged according to those aspects of their life cycle that have the most significant environmental impact. Standards are reviewed at least once every 3 years.

Manufacturers pay product evaluation fees to apply for the Green Seal mark, and accepted products are also subject to annual monitoring fees. The fees vary according to the product category and size and the number of manufacturing facilities. The Green Seal mark for approved products appears with an explanation of the basis for certification.

The organization has published environmental standards or criteria for about 35 types of products. Its list of certified products contains central air conditioning systems (1 brand); architectural coatings (2 brands); cleaning products (1 brand); compact fluorescent lamps (5 brands); recycled paper (5 brands); recycled newsprint (1 brand); re-refined engine oil (3 brands); reusable utility bags (3 models); showerheads (four models); toilets (2 brands); watering hoses (several models); one manufacturer's line of windows and doors; and one brand each of unbleached coffee filters, baking cups, and parchment. Readers interested in the specifications for these and other products may visit the Green Seal web page: [www.greenseal.org/stanlist.htm](http://www.greenseal.org/stanlist.htm).

Besides labeling, Green Seal helps market environmentally friendly products in several ways. A list of certified products is included in a catalog with product information and the addresses and the telephone numbers of product vendors. Documents entitled *Choose Green Reports* are available on topics such as "Environmentally Preferable Printing" and energy-efficient lighting, computers, and other office equipment. Organizations that agree to purchase environmentally friendly products, reduce waste, and increase recycling are eligible for the Green Seal Environmental Partners mark. This mark can be placed on reports, letterhead, and store signs.

In a Green Seal survey, 4 out of 5 consumers said that they would be more likely to purchase a Green Seal-certified product than other products of equal quality and price.<sup>242</sup> However, the incentive effects of Green Seal's activities do not appear to have been studied in any detail.

Some retailers have adopted labeling schemes for products they find environmentally friendly. In 1989, for example, Wal-Mart created a program under which shelves were labeled to indicate that certain products were environmentally friendly. Wal-Mart ended this program in 1992. Store officials had difficulty in determining the criteria for environmental friendliness and in assessing manufacturers' environmental claims.

Wal-Mart's experience illustrates one of the main problems encountered by environmental seal-of-approval schemes: the lack of agreed-upon criteria for assessing environmental friendliness. While seals of approval may be relatively easy for consumers to understand, they risk not only lacking agreed-upon standards but also oversimplifying complex environmental issues. Menell (1995) cites a number of cases in which the assessments of environmental friendliness that are necessary for labeling are difficult. For example, a study of the environmental impacts of disposable cups found that wax-coated paperboard was preferable to polystyrene in terms of reduced volumes of solid waste generation, but inferior in the areas of energy consumption, air emissions, water pollution, and weight of solid waste generation. Disposable diapers generate more solid waste than cloth diapers, but they also use less water and result in less water pollution. Another study cited by Menell found that the environmental impacts of washing machines depend less on the model of the machine than on how it is used.

#### **9.9.4 Single-Attribute Labels**

The problems of lack of criteria and oversimplification are likely to be less serious for labeling programs that are based on a single product attribute. EPA's office equipment label, Energy Star, is reserved for computers, printers, photocopiers, and typewriters that are relatively energy-efficient. This label is part of a voluntary initiative designed to promote the purchase and use of energy-efficient office equipment. (This program is described in Chapter 10.)

The Flipper Seal of Approval was created in 1992 and licensed by Earthtrust, a non-profit organization based in Hawaii. It is awarded to companies that harvest tuna in a manner that minimizes the number of dolphins killed. The seal has been awarded to tuna companies in the United States and abroad.

From 1986 to 1991, the Bonneville Power Administration, which supplies electric power in Oregon and Washington, managed a Blue Ribbon Award Campaign that promoted the use of energy-efficient refrigerators and freezers. Under this program, refrigerators and freezers in the top 15% of their size and function category were awarded blue magnetic ribbons.<sup>243</sup> A retailer's survey conducted early in the program estimated that about 22% of its customers had been "influenced" in their purchasing decisions by the presence or absence of these ribbons.<sup>244</sup>

Scientific Certification Systems (SCS), a for-profit business, has two single-attribute seal-of-approval programs. The first program, the SCS Forest Conservation Program, uses a 100-point index to evaluate the management of forest tracts by timber operations. A separate score is given for each of the following categories: the sustainability of timber resources, forest ecosystem maintenance, and the socio-economic benefits to the surrounding community. Scores over 60 are required in each category before timber companies can be awarded the "Well-Managed Forest" label. Operations scoring in the top 10% are further labeled as "State-of-the-Art."<sup>245</sup> In the

second program, SCS can use chain-of-custody certification to verify that wood products sold to consumers come from well-managed forests. About 10 forestry operations in South, Central, and North America have been scored by SCS.

SCS has also certified more than 500 environmental claims by manufacturers concerning recycled content, recycling rates, energy efficiency, water efficiency, biodegradability, and the lack of smog-producing ingredients. Some claims concern materials, whereas others concern final products and packages. Certified products are allowed to bear an authorized certification emblem.

According to SCS, anecdotal evidence indicates that its labels are valued by businesses and individuals, with consumers willing to pay a premium for products identified as environmentally friendly. Glidden Company, for example, found that a label designating its paints as free of volatile organic compounds (VOCs) is valued by institutional customers such as hospitals.

### 9.9.5 Report Cards and Information Disclosure

SCS also issues environmental “report cards” that rate products according to various criteria. (The company refers to these report cards as “eco-profiles.”) These profiles are based on a cradle-to-grave assessment of the environmental burdens associated with the raw material extraction, manufacture, transportation, use, and disposal of a product. These environmental burdens include resource depletion, energy use, air and water emissions, and solid wastes. Bar graphs for each of approximately 20 types of environmental impacts are included on the label. Eco-profiles have been done for Holiday Fair (handbags, accessories, and travel ware); North American Plastics (plastic bags); Plasti-kote (paints); Wellman, Inc. (polyester fiber); and Zeta Consumer Products (plastic bags). Some companies request eco-profiles for internal use rather than for marketing purposes.

The advantage of such an eco-profile is that it provides more information than simple seals of approval. Among the disadvantages are that the information on the card can be difficult to obtain and understand and that the report card may be misinterpreted by consumers as a product endorsement. Since the SCS report cards are voluntary and appear only on a limited number of products, they have led many consumers to believe that the card itself implies the environmental superiority of a product.<sup>246</sup>

### 9.9.6 Energy Efficiency Labeling

Two energy-efficiency disclosure programs are managed by the federal government. The first such program is EPA's Fuel Economy Information Program. It requires new cars to have labels in their windows that list their mileage-per-gallon for city and highway driving, the estimated annual fuel cost associated with their operation, and the fuel economy of comparable models. This program was voluntary at its inception in 1974 but was made mandatory by the Energy Policy and Conservation Act (EPCA) as of March 1976. Car dealers were also required to have the *Gas Mileage Guide* of car fuel efficiency available to customers.

A 1976 study found that more than one-half of new car buyers had seen the fuel economy label and that those aware of the label bought cars with higher fuel efficiency than other car buyers did. The program was credited with reducing fuel consumption for 1976 model cars by 893 million gallons. However, the influence of the labeling program decreased as a result of reductions in gasoline prices after the mid-1970s. Moreover, 64% of buyers did not believe the



mileage estimates. Consumers believed that fuel efficiency was not assessed in realistic driving conditions and that mileage was therefore overstated. A 1981 DOE survey found that this skepticism was the main reason why more consumers did not rely on the fuel economy label. In 1985, EPA changed the procedure by which fuel efficiency was assessed to make it more realistic.<sup>247</sup>

The second energy efficiency disclosure program managed by the federal government is that for Energy Guide labels on household appliances. In 1975, EPCA required that these Energy Guide labels be placed on refrigerators, freezers, water heaters, washing machines, dishwashers, furnaces, air conditioners, and heat pumps. The content of the labels varies, depending on the type of appliance. At that time, however, all the labels included information on the manufacturer, appliance model number, and capacity as well as an energy-efficiency rating (EER) or estimated annual operating cost, the EER or annual operating cost of the most and least efficient comparable appliances, and a table showing the annual estimated costs of various patterns of usage for different energy prices. The 1992 Energy Policy Act expanded these requirements to include the labeling of fluorescent lamps, showerheads, faucets, water closets, and urinals.

The Federal Trade Commission changed the labels in 1994, so refrigerators, freezers, dishwashers, clothes washers, and water heaters now include the number of kilowatt hours (kWh) of energy used by the labeled appliance and a list of the most energy-efficient and least energy-efficient comparable appliances. Climate control appliances are labeled not according to kWh of energy use but rather to fuel efficiency indices such as EER, seasonal EER, annual fuel utilization efficiency, or heating seasonal performance factor. The energy cost table has been replaced by a single estimate of energy costs for products with kWh energy-use ratings and for room air conditioners. Other products must have operating cost information available either on fact sheets or in industry product directories. In a press release on the new labeling requirements, FTC stated that they would “make the labels easier to read and more useful to consumers in comparing the energy efficiencies of the appliances.”<sup>248</sup>

An in-store survey of appliance buyers conducted for DOE showed that 90% of buyers had noticed the Energy Guide label and that three-fourths described it as “somewhat” or “very” helpful in comparison shopping. The same survey revealed that consumers found the labels confusing and believed that labels should emphasize one or two pieces of information, such as energy costs.<sup>249</sup> Studies have shown that the labels raise consumers’ energy awareness without necessarily influencing their purchases. The energy efficiency of appliances has risen significantly since the adoption of EPCA, but this increase appears to be due more to traditional regulatory requirements than to the Energy Guide.<sup>250</sup>

FTC has also adopted labeling requirements for the resistance-to-heat flow in insulation materials, the emissions characteristics of alternative fuel vehicles, and the minimum content of alternative fuels.

The National Fenestration Rating Council (NFRC), which is an industry initiative, rates the energy efficiency of windows. More than 120 manufacturers have submitted over 25,000 window products for NFRC ratings. According to NFRC, building energy codes and utility programs rely increasingly on these ratings. In addition, manufacturers try to improve energy efficiency to avoid being listed in the NFRC directory as a company with poor ratings.<sup>251</sup>

### **9.9.7 Hazard Labels**

Hazard labels inform consumers of the environmental risks associated with particular products. Proposition 65, which was discussed in Section 9.7 of this chapter, requires manufacturers to disclose information on the environmental hazards that could be caused by their products. This mandate frequently results in product labeling, and products have been altered to avoid a negative label. However, Proposition 65 warnings frequently take forms other than labels.

Ozone-depleting substances are subject to warning labels under the Clean Air Act. The incentive effect of this label might have been diminished by announcements that such substances would be phased out earlier than originally expected.

A variety of toxics, including polychlorinated biphenyls (PCBs) and asbestos, have been required to bear warning labels under authority granted to EPA by the Toxic Substances Control Act. Pesticides are subject to detailed labeling requirements under the Federal Insecticide, Fungicide, and Rodenticide Act.

Since 1991, retailers in Vermont have been required to identify household products that contain hazardous constituents with warning labels. These labels must be placed either on the shelves stocked with these products or near the subject products. The goal of this law is to discourage consumers from purchasing such products. Among the types of products subject to the requirement are cleaning agents, auto and machine maintenance products, hobby and repair products, shoe polish, aerosols, and butane lighters. The state's label bears the text: "REDUCE TOXICS USE. These products contain HAZARDOUS INGREDIENTS." Green exemption labels can be attached to shelves displaying products that have been included in the warning program but contain none of the 24 ingredients listed in the Vermont Community Right-to-Know list of hazardous chemicals. Vermont has a parallel warning program for pesticides and commercial fertilizers.

### **9.10 Environmental Performance Awards**

EPA and numerous state and local governments periodically issue awards for environmental behavior they deem to be exemplary. To the extent that such awards generate positive publicity, they could encourage environmentally friendly behavior.

In California, for example, 305 businesses won awards under the Waste Reduction Awards Program (WRAP) in 1995. The Target department store chain won awards at 2 distribution centers and 90 stores for recycling and their efforts to minimize waste, activities that have resulted in a 75% reduction in garbage. Winners received certificates of recognition from the Integrated Waste Management Board as well as the right to use the WRAP logo to publicize their waste reduction achievements.

The California EPA announces winners each year. The 1999 winners include Autrey Museum of Western Heritage, Cagwin & Dorward Landscape Contractors, Investec, Kraft Foods Inc. Visalia, Memorial Hospitals Association, Pebble Beach Company, Straus Family Creamery, Swinerton & Walberg Company, Trips for Kids/Re-Cyclery, and Unisys Corp.<sup>252</sup>

In Texas, Governor's Awards for Environmental Excellence are issued for the following categories: large business; large technical business; non-technical, small business; government, civic, and non-profit organizations; education; youth organization; media; agriculture; individual; and special.<sup>253</sup> These awards are part of the Clean Texas initiative under the Waste Reduction

Act of 1991. In the large technical business category, Lockheed Martin Tactical Aircraft Systems was the 1995 winner. The company has also received awards from EPA for reducing emissions of ozone-depleting chemicals and VOCs. It has also received the EPA Regional Administrator's Environmental Excellence Award for Excellence in Hazardous Waste Minimization Program Development.<sup>254</sup>

### **9.11 Securities and Exchange Commission Disclosure Requirements**

Section 14(a) of the Securities Exchange Act of 1934 empowers the Securities and Exchange Commission (SEC) to require disclosure by publicly owned companies "as necessary or appropriate in the public interest or for the protection of investors."<sup>255</sup> To date, the SEC has interpreted this statement to require the reporting of information that would be deemed important by investors.

The SEC requires disclosure of environmental liabilities that could have a "material" impact on the company's financial or competitive position, information that would be important to investors. Companies also must report individual environmental enforcement proceedings that are expected to cost more than \$100,000 as well as environmental litigation that might have significant financial impact on the company. SEC access to information submitted by companies to EPA enables it to verify company disclosures on Superfund sites, RCRA sites, and federal enforcement actions. The SEC is authorized to require companies to revise their filings in case of inaccuracies. In the past, the Commission has written to companies to inquire why the companies did not disclose certain environmental information in their filings.

The number of large companies disclosing environmental information in SEC Form 10-Ks is increasing. Among Standard & Poor's 500 companies, 322 submitted environmental information in 1990 as compared to 217 companies in 1988. The incentive effect of these disclosure requirements is not known. However, evidence presented elsewhere in this chapter indicates that information on the environmental performance of companies is of interest to investors.<sup>256</sup>

### **9.12 Summary**

Information programs have the potential for creating incentives for environmental change if they are credible and present data in a usable form. The best known of the information programs is the TRI. While changes in reported releases have been large following the establishment of the TRI program, its actual impact is difficult to assess quantitatively because the data are not measured or verified and no assessment of relative risks accompanies the reports. Information from the TRI program is widely distributed, well-used, and likely to be affecting environmental performance at many companies.

State information programs tend to base data on materials accounting and thus partially address the concern of data reliability. The New Jersey and Massachusetts programs seem to be well-regarded and well-used. Proposition 65 places the burden of proof on industry, which has incentive effects on firms similar to that of requiring more reliable data. Data collected as the result of Proposition 65 are well-used

Experience with labeling schemes indicates that they are more likely to influence behavior if they are accompanied by promotional activities that target retailers and consumers. In many cases, the label itself is only one element of a larger effort to promote the use of environmentally

friendly products. As a result, it may be difficult to isolate the incentive effect of a label from that of related promotional activities.<sup>257</sup> One of the main problems encountered by environmental seal-of-approval schemes is the lack of agreed-upon criteria for assessing environmental friendliness. While seals of approval may be relatively easy for consumers to understand, they risk not only lacking agreed-upon standards but also oversimplifying complex environmental issues.

OSHA MSDS sheets have been criticized as overly lengthy and complicated. FTC Guidelines for Environmental Marketing are intended to prevent false or misleading use of advertising claims such as “environmentally friendly,” “degradable,” and “recyclable.”

Experience with energy-efficiency labeling demonstrates the limitations of information that is perceived to be unrealistic, such as the fuel economy labels on automobiles before the 1985 revisions, or confusing, such as the Energy Guide labels on appliances.

SEC-mandated environmental disclosures by firms increasingly are used by investors as indicators of proactive management, legal liability, or risk at particular firms.