

# **EMPOWERING THE PUBLIC: INFORMATION STRATEGIES AND ENVIRONMENT PROTECTION**

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THE THEME OF THIS PAPER IS THE IMPORTANCE OF INFORMATION IN achieving effective environmental policy making and environmental protection. Its particular focus is on toxic substances and chemical hazards. It asserts that the community is a major stakeholder in respect of environmental policy, and it argues that access to information is an essential prerequisite for effective community input into environmental decision-making. More specifically, information concerning industrial waste and chemical hazards is fundamental to public accountability and for people to protect themselves and the environment from those hazards.

The need for information is graphically demonstrated by major accidents at Seveso, Bhopal, and the explosion at the Coode Island chemical and storage facility in 1991. Such disasters have sensitised the community not only to the severity of the toxic hazards problem, but also to the need for access to information as a fundamental first step in addressing that problem. The threat of chemical accidents in particular, generates a need for access to risk assessment, emergency response planning, and more general information about the toxic properties of chemicals stored, used, and emitted from manufacturing installations.

Of course, if adequate information is already available in the public domain, and those who have that information are willing to provide it voluntarily, then there is no problem. Unfortunately, this is usually not the case.

Industry, which has access to crucial information about toxic substances and chemical hazards, has often been extremely reluctant to disclose that information voluntarily. Companies often fear that disclosure will enable some competitor to gain an unfair advantage, that some public interest group will sensationalise or otherwise exploit information provided or that the public will misunderstand its significance and overreact. In any of these cases, the company concerned stands to lose, either indirectly in terms of its reputation, or directly if the information is used to pressure it to spend on clean-up or safety measures, or as the basis for bringing a law suit against it.

Governments have also, on occasion, chosen to disclose far less than they know about environmental hazards, or their own role in policing pollution, fearing both political embarrassment and electoral disadvantage.

Since business—and perhaps also government—has a strong incentive not to disclose sensitive and potentially damaging information about environmental hazards, the public interest might best be served by requiring disclosure of relevant information—and the most obvious way to do that is by means of legislation (*see*, for example, Brodeur 1985).

When disclosure is mandatory then non-governmental organisations (NGOs) and public interest groups (PIGs) can make effective use of that information as advocates of the public interest to pressure regulators and industry to both improve their environmental safety performance and reduce the use of toxics. Information in this way becomes a regulatory tool that can complement traditional licensing and enforcement.

The importance of information to effective environmental decision-making, and the crucial role of NGOs, was made explicit in Agenda 21, the main policy document to emerge from the Rio Earth Summit in 1992. Agenda 21 urges governments to make accessible to NGOs the information necessary for them to contribute to the design, implementation and evaluation of environmental programs. In particular, it recommends the enactment of legislation requiring the communication of hazard information to the general public, and the provision to citizens of greater access to chemical information (UNCED 1992, Chapters 19 & 27).

So if legislation mandating information disclosure is desirable, what form should it take? In particular, are existing statutory provisions up to the task or is some new legislative scheme necessary to achieve the aims stated above?

It must be acknowledged that some legislation already on the statute books, does require business and others to disclose information about hazardous substances in certain circumstances. Modest and limited rights to information on specific issues are contained in a variety of statutes relating to occupational health and safety, dangerous goods, drugs, poisons and controlled substances, agricultural preparations and under the National Industrial Chemicals Notification and Assessment Scheme (PIAC 1991). More generally, freedom of information legislation also enables access to information about emissions from manufacturing facilities where government has a monitoring, oversight and management role. However, as has been pointed out elsewhere:

Existing legislative provisions are not all encompassing, contain many gaps and exemptions, lack enforcement, sometimes only provide access to specific constituencies and do not provide researching and information to enable the community to use information that is made available (Adams & Ruchel 1992, p. 17).

Accordingly, there is a *prima facie* case for the enactment of broader, environmental focussed legislation, compelling the disclosure of information about toxic chemicals and environmental hazards.

However, one further objection to the enactment of such legislation might be raised—namely that we already have voluntary codes of practice in place under the terms of which industry discloses relevant information voluntarily, without need for a more formal, and perhaps unnecessary, expensive and restrictive legislation approach.

In particular, the Australian Chemical Industry Council's Responsible Care scheme—which covers well over 90 per cent of the Australian chemical industry, already

includes specific provisions dealing directly with information disclosure. Responsible Care's stated objective is to reduce chemical accidents and pollution and to involve the community in decision-making. The vehicle through which this latter aim is to be achieved is the "Community Right to Know" Code of Practice. In general terms, this Code requires industry to provide information to the public and in particular to the local community concerning the dangers presented by on-site chemical hazards.

The Code is yet to become fully operational so it is too early to judge its effectiveness. However, it is fair to point out that:

- the code only applies to companies that have agreed to participate in Responsible Care. Thus, a small minority of chemical companies and the entire non-chemical sector of industry (about 90 per cent of industry in total) are not subject to its terms;
- the code is voluntary and relies entirely on self-monitoring and self-regulation. There is no independent third party monitoring or oversight;
- the code does not extend the type of information companies are required to prepare beyond existing licensing or internal management requirements such as corporate management and performance codes;
- the chemical industry has a very poor record of disclosing information to the public, having only recently advanced beyond what one astute commentator describes as "the stonewall stage" (Sandman 1991);
- studies produced by organisations such as Friends of the Earth, in the USA, the UK, and Australia, all suggest that only a small minority of companies are currently disclosing information consistent with the Community Right to Know Code of Practice. For example, one study in the UK found only six major companies willing to provide information voluntarily on toxic emissions, with a further 19 companies refusing to provide details (Friends of the Earth 1992; *see also* Bloustein et al. 1992).

For all these reasons, it would be most unwise to rely exclusively on information supplied voluntarily by industry itself. Given the compelling need for such information identified earlier, and the inadequacy of existing legislative provisions, there is a compelling case for legislative intervention to guarantee a public right to information about environmental pollutants.

What role then can and should the law play in requiring the disclosure of relevant information? What are the essential elements of an information based strategy and how should it be implemented?

Probably the best vehicle for addressing these concerns and making information available is Community Right to Know legislation (CRTK). Such legislation is already in operation in the USA and is the most desirable and likely approach for Australia to follow—if and when it enacts its own legislation in this area.

### **What is Community Right to Know?**

In general terms, CRTK requires industry to provide information to the public and, in particular, to the local community, concerning the dangers presented by on-site

chemical hazards or industrial waste that may be released into the environment as a result of industrial processes. The central components of CRTK were admirably summarised in one recent report as including the right of the community and workers:

1. to have information about hazards they may be exposed to from the manufacturing, processing, storing, handling, disposing or transporting of hazardous chemicals;
2. to be warned about plans to introduce new hazardous chemicals into their environment and workplace, and to be involved in decisions about whether this should occur;
3. to know what toxic chemicals have been used to make consumer products;
4. to be informed and be involved in decisions concerning the planning and siting of chemical facilities;
5. to know and have a say in how hazardous chemicals are to be transported through their areas;
6. to inspect hazardous chemical facilities with their own experts and representatives;
7. to monitor the performance of government regulation and monitoring of chemical facilities;
8. to have information about hazardous chemicals in forms which are accessible and up-to-date (Adams & Ruchel 1992, pp. 3-4).

A further component of CRTK is access to government and industry monitoring information with respect to emissions, waste and efforts towards achieving cleaner production. For present purposes, neither emergency planning provisions (for example the establishment of state emergency response and local emergency planning arrangements) nor toxic use reduction legislation are included in CRTK, though both are clearly important developments in their own right.

In the United States, the Emergency Planning and Community Right to Know Act 1986 (EPCRA) involves various measures designed to ensure that information about chemical risks are adequately communicated to the public. Specifically, that legislation stipulates:

1. that manufacturers who produce or use designated hazardous chemicals in excess of threshold levels must compile an annual inventory of the quantities of such chemicals they are using or storing at their facility (chemical inventory reports);
2. they must provide both the public and the Environmental Protection Authority (EPA) with estimates of the amounts of the chemicals they are releasing into the environment annually and supply details of accidental releases of acutely toxic chemicals (toxic chemical release and emissions inventory reports);

3. they must file material safety data sheets (MSDS) with State and local authorities in respect of each designated chemical they manufacture, use, handle or dispose of. Under EPCRA, CRTK operates in conjunction with (and provides the information base) for a number of related strategies: accident prevention planning, emergency response planning, accident reporting and enforcement mechanisms.

Probably the most important of the above sources of information required under EPCRA is the toxic release and emissions inventory report which requires firms to disclose to State and Federal agencies the amount of specified hazardous chemicals<sup>1</sup> they release annually into the air, land, water and transfer to off-site facilities for treatment and storage.<sup>2</sup> Data on both routine and accidental emissions of toxics are required. The EPA stores this information in a computer database and makes it publicly available. Methods of dissemination include published reports, an online computer database, CD-ROM and a phone hot line. This reporting mechanism is known as the Toxic Release Inventory (TRI).

### **Benefits of CRTK**

The potential benefits of CRTK are readily apparent. In respect of toxic and hazardous chemicals, where the connection between exposure and ill-health is difficult to establish, then access to adequate information is fundamental to effective community action.

Community right to know:

- gives community groups insights into the severity of the chemical hazards they face, and through this coverage encourages greater public participation and involvement in the environmental policy making process;
- gives community groups increased political leverage both through the media and in plant level negotiations, enabling them to more effectively pressure polluters to reduce emissions.<sup>3</sup> For example, in the United States, some of the worst polluters, conscious of the likely public reaction now that their environmental record is in the public domain, have voluntarily implemented

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<sup>1</sup>. Initially, the list contained over 320 substances. A further 200 chemicals are expected to be added by EPA later in 1993. Since 1988, nearly 20 000 manufacturing facilities have been filing statements on their direct emissions into the environment and their production of toxic waste. In April this year the EPA announced that the reporting obligations will extend to other facilities, including government enterprises and electricity utilities.

<sup>2</sup>. The Pollution Prevention Act 1990 expanded the Toxic Release Inventory reports to promote pollution prevention and the development of cleaner technologies by including information in the inventory about on-and-off site recycling and treatment, and source reduction activities.

<sup>3</sup>. Data from the US National Toxic Release Inventory indicate that release of toxic chemicals have decreased approximately 20 per cent since 1987 (Pease 1991 quoted in Adams & Ruchel 1992, p 24 which noted that "on the eve of the first national release of US Toxic Release Inventory data in 1987, Monsanto Corp went public with a pre-emptive pledge to reduce by 90 per cent the company's worldwide toxic emissions to air by 1992".)

pollution control measures on a scale far greater than previously contemplated;

- exposes government and regulatory agency shortcomings, creating pressure to increase levels of inspections and enforcement and to enact new and tougher laws to protect the environment;<sup>4</sup>
- stimulates pollution prevention by sensitising companies to toxic hazards, raises the priority of that issue within companies, and strengthens the hands of environmental managers;<sup>5</sup>
- gives workers more opportunity to reduce workplace hazards, and provides for union and community group collaboration to achieve cleaner production processes (Adams & Ruchel 1992, p. 25);
- can lead to the establishment of "good neighbour agreements". Information gained under Right to Know laws has served as the impetus both for citizen inspection of local industries and for direct negotiations with local companies to enhance environmental protection measures (Lewis quoted in Adams & Ruchel 1992, p. 66);
- improves the quality of public debate about the environment, enables better policy decisions by both government and industry by providing a much clearer profile of the extent and location of toxic hazards;
- provides the public with sufficient information to enable the challenge of licensing and enforcement decisions.<sup>6</sup>

The toxic release inventory in particular has had a dramatic effect in its early years. Specifically, the TRI:

- in its first year revealed that 22 billion pounds of harmful chemicals had been discharged into the environment by manufacturing plants covered by the

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4. Over a dozen States have now supplemented the EPCRA regulation with specific regulations, to reduce the use and emissions of certain toxic substances. Federally, TRI statistics demonstrating that 80 per cent of all toxic industrial emissions into the air were not covered by any regulation, were used to justify changes to air quality incorporated in the *Clean Air Act 1990* (Cwlth).

5. A Tufts University research group also found "that the mere gathering of information promoted mutual assistance in the company, the transfer of good practices from division to division, and increased contact with customers and suppliers. And although SARA required no community relations efforts, most companies (studied) developed outreach efforts nonetheless": *Harvard Business Review*, July/August 1991, p. 42.

6. At present, licences are granted following negotiation between an individual company and the Environment Protection Authority. Regrettably, in most States there is no direct right to community input at this stage, although in Victoria, public notification is given of works approval applications and there is opportunity for public submissions to be made. In some jurisdictions there is limited right to challenge decisions, provided rights of standing can be established (Preston 1989, pp. 36-9).

inventory. These alarming statistics brought substantial remedial action from industry and government (Environmental Action 1991);

- demonstrated that the vast majority of toxic chemicals are not regulated by government (*see* footnote 3);
- enabled citizens to develop a "league table" of toxic polluters, to compare one company's performance with another's and to compare the same company's performance over consecutive years and to produce national pollution score cards;
- enabled the identification of local toxic "hot spots" leading in turn to EPA enforcement action (Shenkman 1990);
- has provided compelling evidence to justify the introduction of Toxic Use Reduction Legislation: "legislation which seeks to reduce the quantity of toxic chemicals in circulation within the community by requiring large users of toxic chemicals to implement changes in their production processes and choices of raw materials" (Pick & Wells 1993, p. 171);
- produced information which has galvanised many companies into voluntary action. Thus "numerous companies, after years of thinking in terms of minimum compliance with pollution laws, have come forward with voluntary plans to cut toxic waste and reduce emissions to levels far below what is legally required" (Shenkman 1990, p. 22), in order to preserve their credibility;
- revealed to many facilities that they were emitting far higher levels of toxic substances than they realised. As they focused more directly on the problem, they often found that reducing emissions was a way of saving money or that they could find safer alternative substitutes for toxic chemicals;
- brings together in one place, information that is not available from another source, and which is geographically referenced.

In summary, CRTK and the TRI can mobilise public interest groups and workers in a number of effective ways and bring effective pressure to bear on industry and governments. As one report, summarising the USA experience put it:

As a result of Right to Know legislation the community is producing scores of reports that identify toxic pollution problems and advocate solution, negotiating directly with industry to change industrial practices, compelling enforcement of existing regulation, suing to bolster compliance and to establish pollution prevention plans, advocating passage of state toxics use reduction laws and illustrating the potential off-site consequences of sudden chemical releases (Adams & Ruchel 1992, pp. 24-5).

None of this is to suggest that CRTK is a panacea. Like any other single strategy, it has its limitations and is best seen as simply one important component of an overall regulatory mix, its strength being how it can be used in conjunction with other

strategies rather than operating in isolation. Among the most serious limitations of CRTK (Adams & Ruchel 1992, pp. 24-5) are that:

- CRTK does not imply a "right to act". In particular, it does not give any person the right to participate in decisions in respect of standard setting, licensing and enforcement of pollution control or chemical safety regulations. Nor does it deliver community involvement in management regimes to improve environmental performance, although this can be achieved indirectly;
- the TRI is limited to approximately 320 chemicals, only about 5 per cent of the total emissions discharged into the environment. Yet reporting requirements on the TRI chemicals alone, impose a substantial administrative burden both on industry in collecting the information and on government in collating and classifying it into a user-friendly form;
- much of the information provided under CRTK and the TRI "lacks explanation, context or regulatory direction. It provides no analysis of the data, and contains no mechanisms to ensure that the dangers noted in the hazard information have been minimised or eliminated".<sup>7</sup> In particular, EPCRA does not provide any means of putting the disclosed information in perspective by supplying the public with an assessment of the risk presented by a particular release;
- although EPCRA requires companies to communicate substantial amounts of information, it provides no independent means for this essentially self-reporting system to be verified by the public: "missing from the extensive array of communication duties is any authority for anyone, agency or industry to do a rigorous, site-specific facility safety analysis" (Wise & Kenworthy 1993, p. 145);
- a variety of strategies can be used to disguise the failure of companies to achieve significant reduction in emission levels. For example, pollution may be transferred from one medium to another (the toxic shell game) used off-site or put into products thereby avoiding the TRI reporting requirements even when the processes ultimately result in toxic releases (Adams & Ruchel 1992, p. 21). Thus effective tracking of toxics is still extremely difficult for public interest groups and resulted in amendments to the TRI reporting requirements in the 1990 Clean Air Act;
- information on toxic releases alone cannot be used to assess risks because "small releases of some chemicals may be worse than large releases of other chemicals but (the TRI) does not require the EPA to provide useful information on the potency or health effects of the chemicals on the list";

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<sup>7</sup>. This problem has been partly addressed in the Right-to-Know program of the New Jersey Department of Health, which has prepared more than 1000 Hazardous Substances Fact Sheets, providing easy to understand information about the chemicals including all of the 320 TRI chemicals.

- reported figures may themselves lack accuracy, particularly since companies are only required to estimate their releases and may use a variety of EPA approved methods to make that calculation. Some State legislation requires mass balance information to ensure that all inputs and outputs are accounted for. This allows accuracy of estimates to be tested and for emissions to be compared with rates of production;
- there is usually a massive disparity between industry's technical expertise and access to financial and other resources, and that of community groups. While CRTK helps redress the balance, it can only do so to a very limited extent;
- TRI does not include major non-manufacturing release of toxic chemicals including mining and milling operations, hazardous waste and treatment and disposal activities;
- the TRI only applies to facilities with at least ten full-time employees that manufacture, import or process at least 25 000 pounds or otherwise use at least 10 000 pounds of a toxic chemical and as such represents just "the tip of the toxic tower" (Wise & Kenworthy 1993, pp. 37, 44);
- the TRI does not provide information about "peak" releases, without which one cannot calculate the health effects of a company's discharges, for as Shenkman has pointed out: "the risk posed to a community may be very different if a chemical is discharged in a few bursts rather than at continuously low levels" (1990, p. 22). This means that the accuracy of data will vary from facility to facility.

### **Right to Know in Australia**

A number of Australian jurisdictions have actively considered a role for information-based strategies for waste reduction, control of chemical hazards, and Community Right to Know. In Victoria, following recommendations from the Coode Island Review Panel in 1992, the then Labor government actively considered legislating for CRTK, but interest lapsed with the change of government. In New South Wales, the objectives of the EPA include "promoting community involvement in decisions about environmental matters" and "ensuring the community has access to relevant information about hazardous substances" (s. 6 Protection of the Environment Administration Act 1991 (NSW)). New South Wales also requires State of the Environment Reports to be prepared by the EPA every two years for the purpose of assessing the effectiveness of pollution control regulations. It is not known whether the NSW Government plans to enhance these measures with Right to Know legislation, although a recent inquiry into hazardous materials suggests that this is a serious possibility.<sup>8</sup> Queensland has also re-examined its legislative requirements for the use

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<sup>8</sup>. Early in 1994 the Hazardous Materials Policy Coordination Committee is expected to release its discussion paper on community access to information regarding hazardous materials. However, the focus of this paper is expected to be on emergency response, rather than be the development of an emissions inventory. A previous Working Group report did, however, explicitly recommend the development and implementation of community right to know legislation.

and storage of chemicals and hazardous substances, including strategies for better communication of information and consultation processes with the community (*see*, in particular, Queensland Emergency Services 1992).

At the national level a number of developments indicate support for the principle of mandatory reporting obligations on industry and concomitant rights to information on chemical hazards and emissions. Firstly, the National Occupational Health and Safety Commission (Worksafe Australia) is introducing a package of Codes and a model regulation which provides comprehensive and consistent worker rights to information on hazardous substances.<sup>9</sup> While still in the developmental stages, after at least four years of public discussion, the Worksafe package will become law in the States and Territories when finally agreed upon.

Secondly, the Australian Democrats have shown great interest in Community Right to Know, introducing a Toxic Chemicals (Community Right to Know) Bill in 1992 and again in September 1993. The Toxic Chemicals CRTK Bill provides for the establishment of a Registrar of Toxic Chemicals who is to maintain a number of national registers of toxic chemicals, monitor production and use of toxic chemicals, prepare Codes of Practice and conduct public information programs. Unfortunately, the Bill has been developed without sufficient discussion with peak environment groups working in the area. It also appears to ignore the current administrative arrangements and expertise which are primarily within State government agencies, coordinated to varying degrees by national organisations such as Worksafe. The Bill is therefore of limited practical use. The Democrats have also proposed numerous changes to the *Agricultural and Veterinary Chemicals Act 1988* (Cwlth) reflecting community right to know principles in that area.

Thirdly, and most significantly, there is the Commonwealth's 1992 commitment to a legislatively backed National Pollution Inventory (NPI), based on information provided by State agencies and industry. A related commitment is the creation of a central national register on waste minimisation and recycling technology with Commonwealth funding sources to assist recycling initiatives (*see* CEPA 1992).

The Prime Minister's Statement on the Environment on 21 December 1992, outlined the NPI initiative in the following terms:

The Commonwealth Government is committing \$5.9m over the next four years to establish a legislated National Pollution Inventory, in cooperation with State and Territory governments. It will provide an important stimulus for waste minimisation and the introduction of cleaner production practices.

The inventory will be publicly available, and will progressively bring together data on the emission of pollutants to the air, water and the land.

There is a demand for more information on the range of chemicals being released into the environment. There is currently no national database which collates this information; the National Pollutant Inventory (NPI) will fill this role. It is intended

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<sup>9</sup>. *See* National Model Regulations for the Control of Workplace Hazardous Substances; National Code of Practice for the Labelling of Workplace Substances; National Code of Practice for the Preparation of Material Safety Data Sheets. *See also* the Draft National Standard for the Control of Major Hazardous Facilities which specifies that various types of information should be communicated to the public regarding a major hazardous facility.

that reports on the NPI will be tabled annually in the various Parliaments of Australia.

Experience in the United States of America suggests that such an inventory not only meets the public need for information, but also acts as an important tool for promoting cleaner production practices. It achieves this in part through increased public awareness. Equally importantly, though, it results in organisations looking at wastes and therefore inefficiencies of their production process. This will often lead to cost savings.

If implemented, the NPI will make a very substantial contribution to effective CRTK in Australia by providing many of the benefits achieved in the USA through the TRI. It is this development which is the focus of the following section.

### **A National Pollution Inventory**

The concept of an NPI is now well recognised internationally. The USA has had at least five years experience with the TRI under EPCRA. A Canadian NPI, based on the USA model, was introduced in 1993 on a trial basis. In the UK, the government released a 1993 discussion paper proposing the introduction of a Chemical Release Inventory. This follows introduction of public rights to pollution information in 1991 under the Pollution Prevention Act. However, unlike the TRI, the 1991 Act only provides public access to existing information collected by Her Majesty's Inspectorate of Pollution as part of pollution control licence monitoring. Other NPIs maintained by European governments include: the Norwegian Government's more general Pollutant Inventory, based on annual environment performance reports which must be included in annual reports of corporations; and The Netherlands NPI maintained since 1974, based on three-yearly reports compiled by government with information provided voluntarily by industry. It is more akin to State of the Environment reporting as its purpose is environmental assessment and planning.

Internationally, there is considerable support for an NPI, not only in Agenda 21 but also through a number of international organisations which have subsequently taken initiatives in support of the concept. Agenda 21's Chapter 19 on Management of Toxic Chemicals calls on governments to adopt right to know programs and national pollution inventories. The UN International Program on Chemical Safety and the US EPA convened a planning meeting on NPIs in February 1992 which recommended that the OECD prepare guidance and technical programs to assist development of NPIs (*see Irwin 1993*).

An NPI is a potential tool for quantifying volumes of emissions from industrial and other activities. It will usually rely on estimates of total emissions to be provided on a regular basis by facilities processing, using or producing specified amounts of chemicals. The estimates are based on self-monitoring reports prepared as a condition of emissions licences, or on estimates made in accordance with guidelines approved by the relevant government agency. They provide a method for tracking not only chemical emissions but can also provide information on recycling and source reduction (reduction in the use of toxic chemicals per unit of production). This information is then actively disseminated to the public by the appropriate government authority.

An NPI generally covers a far wider number and type of facilities than are covered by pollution control laws. Traditional pollution control licensing is based on narrow concerns about a relatively small number of chemicals and on questionable assumptions

about the environment's assimilative capacity to absorb pollution. There is currently no compilation of statewide, let alone national, emissions information in Australia. A publicly accessible NPI in Australia would therefore offer a radical change to both the form and content of information available to the public on industrial emissions.

The proposed Commonwealth NPI is expected to operate on a voluntary basis for one year in order to allow industry and regulators to develop appropriate reporting requirements and to develop a legislative scheme. The NPI will probably be underpinned by joint Commonwealth and State legislation. The federal law will establish the database and the framework for the reporting system. Under a national agreement pursuant to the IGAE the States would each enact parallel laws requiring industry to report emissions information annually. Mandatory reporting would commence in 1995.<sup>10</sup>

Preliminary information about the NPI proposal indicates that it will include modules from a number of sources—hazardous or toxic chemicals from industry, transport and photochemical smog related emissions in major cities, solid wastes, intractable waste and greenhouse gas emissions. The core module concerns hazardous chemical emissions from secondary industry. The justifications for limiting core module reporting to secondary industry are:

- too wide a scope of application would produce an unworkable administrative burden;
- secondary industry is well accustomed to regulation and could both deal with the burden of reporting and experience the benefits of improved tracking of materials better than other sectors of the economy;
- secondary industry is a significant and intensive user of toxic chemicals.

At this stage it is expected that financial and resource constraints will result in the initial NPI core module inventory being restricted to between 50 and 70 chemicals. However, the NPI will be designed so as to allow expansion in the numbers of both chemicals and industries covered. Thus, it is likely that as the inventory is streamlined and more information becomes available on toxic hazards the core module will be adjusted to suit future needs.

The other modules currently contemplated arise as a result of international commitments (for example, targets for reduction of greenhouse gas emissions). The module on photochemical smog from transport will be particularly useful, given that the greatest volume of pollution in Australian cities results from vehicle emissions.<sup>11</sup>

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<sup>10</sup>. CEPA's public discussion paper on the proposed NPI will be followed, it is hoped, by the establishment of a multi-stakeholder committee.

<sup>11</sup>. Australia currently has the highest output of lead per capita of any OECD country. The single great cause is motor vehicle exhaust emissions—accounting for 60 per cent of air pollution, including 90 per cent of lead pollution and 60 per cent of benzene pollution (*see Conservation News*, August 1993, p. 12). Some sobering statistics from the US on motor vehicle emissions include: 85 per cent of the airborne carcinogen, benzene, comes from gasoline; one gallon of gasoline produces 19 pounds of carbon dioxide; 25 per cent of carbon dioxide emissions from burning fossil fuels are contributed by motor vehicles in the US; and 70-80 per cent of air pollution in Los Angeles is contributed by cars (Nadis & Mackenzie 1993).

A national database would have considerable advantages in terms of economies of scale over separate regional reporting systems and the pooling of technical and human resources would result in a more comprehensive and efficient pollution inventory. In any event, some States simply lack the resources necessary to make the initial capital expenditure required for the establishment of a toxic emissions database.

The other advantage of a national program is the uniformity, consistency and discipline that it would provide. States implementing separate CRTK programs would duplicate data collection, chemical risk assessment, technical research, and community and worker education. A national program would provide uniformity and consistency for these complex functions. Consistency is especially valuable in relation to the database. A national inventory provides the opportunity to analyse chemical use at regional, State or national level. Geographic comparisons can be made between areas or States, and between individual facilities nationwide. This enables better assessment of national environmental quality, and the information has greater utility for planning purposes at all levels. The increased efficiency of a national CRTK program would provide better discipline in compliance than an individual State regime with less funding.

A number of key questions concerning the proposed NPI are as yet unresolved. They include: what information on emissions will be required; how should the information be provided to the public, and what mechanisms to enforce obligations will be provided? These issues have been explored at length elsewhere (Cornwall & Gunningham 1994).

In the remainder of this paper, some critical constraints on the effectiveness of CRTK and the proposed NPI, and the role of these mechanisms in a broader regulatory mix are examined.

### **Constraints on the Effectiveness of CRTK: Enforcement**

It is one thing to impose a requirement to disclose information, it is another to enforce it, particularly where the central mechanism on which the legislation is based is self-reporting, without any provision for independent verification by the public (Baram 1988).

In the early years of EPCRA, less than 50 per cent of firms complied with its reporting requirements. Smaller firms in particular, lacking resources and expertise, were particularly reluctant, or even incapable, of fully complying with the information disclosure requirements.

The US EPA itself is inevitably limited in the extent of its direct enforcement action against those who do not comply. First, there is the technical problem of identifying violators—although this may be to some extent overcome by EPA comparing its various databases on regulated facilities that fail to lodge reports, or fail to lodge accurate reports. Second, even where violations are detailed, lack of resources inevitably hampers the extent of EPA enforcement action.

In part to redress the limitations of direct government regulation, the US legislation allows citizen suits against a facility for failure to comply with reporting obligations. "Citizen enforcement" actions may be brought to enforce EPCRA against past or current violators. Attorney's fees and other litigation costs may be recovered. In order to have standing, plaintiffs must prove they have suffered or will suffer at least

some injury that may be redressed by judicial action. However, while citizens can seek an order compelling a facility to disclose Right to Know information, they cannot obtain penalties for noncompliance. Moreover, a citizen suit is barred where the EPA has commenced and is diligently prosecuting an administrative or civil action to enforce a requirement of the Act. Even so, citizen enforcement may result in increased compliance and in the imposition of substantial civil penalties, or injunctive relief.<sup>12</sup>

The problems of enforcement are likely to be far greater in Australia. In particular, the resources proposed for the NPI as a whole, are extremely modest, leaving little likelihood of a government regulator maintaining any significant enforcement profile. Moreover, there are very few significant sources of independent information available in Australia about who is using toxic substances and in what amounts. Accordingly, it is difficult to know how government regulators would even begin the task of identifying defaulters.

There is of course the possibility that third parties (primarily citizen groups) might bring their own actions to enforce compliance with the NPI. Yet over and beyond the financial and other resource constraints on NGOs playing such a role, there are also the obstacles presented by the Australian legal system. Citizen groups have difficulty establishing rights of standing to bring an action at common law, making it essential that any legislation creating the NPI also expressly provides that third parties may bring their own action to enforce compliance.<sup>13</sup> This would at least enable public interest groups to act as a countervailing force, in part compensating for the deficiencies of State regulatory agencies.

A final possibility is to harness the self-interest of competitors in ensuring that individual companies not only file returns but also file accurate returns. Whistleblowing by competitors can be a highly effective way for under-resourced regulatory agencies to facilitate compliance. However, in this case its effectiveness may be constrained by the difficulties competitors face in obtaining sufficient initial information on which to assess their likely emissions of their rivals.

### **Right to Know and the Regulatory Mix**

It has been argued that CRTK can make a considerable contribution to environmental protection. Nevertheless, a strategy which relies heavily on community pressure and involvement to achieve emission and/or toxic use reduction, is likely to be uneven in its impact. For example, its success is likely to be far greater where there are concentrated toxic "hot spots" adjacent to cohesive communities, than where pollutants are more widely dispersed and where there is an absence of potential whistleblowers.

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<sup>12</sup>. There are cases where out of court settlements have led to a commitment to reducing pollution, the industry financing for local community committees and to Good Neighbourhood Agreements between industry, community groups and unions pledging improved environmental performance and community monitoring of activities. *See Adams & Ruchel 1992* for a discussion of such Agreements.

<sup>13</sup>. *See*, for example, the standing provisions under most NSW environmental legislation, which provide that "any person" may bring proceedings: e.g., s. 123 of the *Environmental Planning and Assessment Act 1979* (NSW); s. 153 of the *Heritage Act 1977* (NSW); s. 176A of the *National Parks and Wildlife Act 1974* (NSW); s. 27 of the *Wilderness Act 1987* (NSW) and s. 57 of the *Environmentally Hazardous Chemicals Act 1985* (NSW).

Thus like any other single strategy, CRTK has its limitations and is best seen as one important component of an overall regulatory mix. Its strength lies not only in its capacity to empower public interest groups, but also in its capacity to contribute to and integrate with other strategies of environmental protection.

The main role of CRTK in an overall regulatory mix is probably the contribution it makes in the context of a tripartite strategy involving direct "command and control" government regulation, industry self-regulation, and public interest group participation. The details of a tripartite strategy have been explored elsewhere (Ayres & Braithwaite 1992). Here it is noted that neither direct "command and control" nor industry self-regulation, have been unblemished success stories, and that effective oversight of those mechanisms might be provided by a number of sources, the most potent of which are likely to be environmental audit and public interest groups. CRTK will fundamentally strengthen the capability of public interest groups to fulfil that role, while the information companies compile as part of a National Pollution Inventory will, in particular, provide a very valuable resource for third party environmental auditors.

## Conclusion

It has been argued that not only business and government, but the community too, must be directly involved in decision-making about the environment. The role of public interest groups as representatives of the community is particularly crucial when (as is frequently the case) firms are reluctant to implement environmental improvements voluntarily, and regulatory agencies are under-resourced and relatively ineffective. Yet public interest groups are frequently hampered by a lack of information, without which their effective participation in tripartite initiatives is likely to be seriously prejudiced.

Thus an information-based strategy such as "Community Right to Know", has a fundamental role to play, because community groups and non-governmental organisations, if empowered by sufficient information, can act as an effective countervailing force to the private interests of private enterprise.

It has been noted that in the USA, corporate decision-making with respect to toxic substances appears to have been substantially influenced by the Emergency Planning and Community Right to Know Act (EPCRA) 1986. In particular, the EPCRA has generated considerable public scrutiny and criticism of manufacturers' operations (Abrams & Ward 1990; Finto 1990), fuelled community debate about the location and development of industrial facilities close to residential areas and created a substantial public backlash against the least regulated emissions of industry such as, in the USA, air emissions.<sup>14</sup> As we have seen, this backlash has prompted a number of major chemical manufacturers to reassess their own operations and to modify their

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<sup>14</sup>. The total level of pollution reported in 1987 under s. 313 of EPCRA exceeded 20 billion pounds (Bureau of National Affairs (BNA) *Environment Reporter*, 26 April 1989; Yost & Schultz 1990). Substantial evidence exists that the extent of under reporting of environmental pollution is widespread (*PR Newswire*, 11 December 1991; "Tons of toxic chemicals above", *Christian Science Monitor*, 11 November 1989, p. 19; BNA, *Environmental Reporter*, 22 July 1988, p. 3399; 30 December 1988, p. 1782; Poje & Horowitz 1990).

environmental control strategies even in the absence of government legislation requiring them to do so.<sup>15</sup>

However, it is important not to dwell only on the pressures imposed by CRTK, for CRTK has also created substantial opportunities for business. Specifically, when facilities are forced to scrutinise their processes and calculate their discharges, they often become aware of the advantages of cleaner production and waste minimisation methods, and thereby save large sums of money as a result (Romm 1992; *Business Horizons*, March/April 1992, p. 35). Similarly, the mere gathering of information has often prompted mutual technical assistance within the company, the transfer of good practices from division to division, and increased contact with customers and suppliers (*Harvard Business Review*, July/August 1991, p. 42).

Equally important, although CRTK may not actually require improved community relations, many companies have nevertheless developed substantial outreach efforts. The results are often rewarding to both sides, leading to a reduction of confrontation and hostility and the building of mutual trust and respect.<sup>16</sup>

In summary, the benefits of community right to know, not only to the public and community groups, but also to business, may be very substantial. Former US EPA Administrator William Reilly is almost certainly correct in asserting that CRTK is "one of the most effective instruments available" for reducing toxic air emissions (Reilly 1990). Within Australia, a National Pollution Inventory, appropriately designed, enforced and resourced, would provide an essential basis for achieving similar benefits here.

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<sup>15</sup>. The compilation of the national toxic release inventories between 1987 and 1990 greatly assisted environment groups to campaign for a thorough overhaul of the Clean Air Act in 1990. However, it must be noted that there were numerous additional pressures leading to the changes (Latin 1991); Millar 1991; BNA, *Environment Reporter*, 24 March 1989, p. 2512; 31 March 1989, pp. 2543-4; 12 April 1989, p. 192; BNA, *International Environment Reporter*, 21 November 1990, pp. 490-1.

<sup>16</sup>. See further C. Holmes, Shell Australia, paper for Hazardous Substances Conference, Melbourne 1992, at p. 7, who notes that CRTK may avoid some (but not all) of the very substantial management effort which currently goes into dealing with crisis and public opposition.

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