NEW GENERATION ENVIRONMENTAL POLICY: ENVIRONMENTAL MANAGEMENT SYSTEMS AND REGULATORY REFORM*

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[This article reviews the 'new generation' of environmental policy instruments that have been introduced in legislation in most Australian jurisdictions during the 1990s. These instruments are representative of a shift in thinking on environmental regulation, away from prescriptive standards towards more process-based approaches which place greater onus on the regulated firm to take responsibility for environmental improvement, preferably by reducing pollution at its source. The most significant example of this development is the use of 'environmental management systems', a policy instrument which is considered in some detail, including both its strengths and weaknesses. Finally, the article addresses the applicability of the new generation instruments in regulating both business 'leaders' and 'laggards', and how such instruments might need to be supplemented by other forms of regulation.]

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I INTRODUCTION

Over the last few years, almost all Australian jurisdictions have enacted new environmental laws aimed at curbing pollution or, more broadly, 'environmental harm'.[1] These pieces of legislation, in many respects, substantially depart from the approach of their predecessors. For the most part, they focus on pollution prevention rather than end of pipe solutions; adopt an integrated rather than a medium-specific approach to curbing environmental harm; recognise, often for the first time, the significance of ecologically sustainable development and the precautionary principle; integrate environmental and planning controls; impose a general environmental duty; increase transparency through public registers; and, in some jurisdictions, delegate greater responsibilities to local government.

They also utilise a much broader range of policy instruments than had previously been the case. It is these instruments, and their importance in bringing about a substantial change in the environmental attitudes and performance of business, that is the subject matter of this article. In particular, the article examines one of the most important, but substantially unheralded, changes to emerge from this new generation of statutory controls: the shift in emphasis from emission, ambient quality or technology-based standards to process-based regulation. This does not imply support for a wholesale rejection or replacement of traditional regulatory approaches. Rather, it suggests an expansion of the regulatory 'tool kit' to encompass a broader range of instruments and/or participants. The article, in particular, examines the different impact that the new regulatory instruments will have on two very different types of regulatee: 'leaders' and 'laggards'.

Central to the shift towards process-based regulation is a recognition of the potential importance of environmental management systems ('EMSs') in bringing about substantially improved levels of environmental performance. Corporations and managers who adopt this approach successfully may not only satisfy the 'due diligence' defence to environmental liability but may also, in many cases, advance the enterprise 'beyond compliance' with its legal obligations. It must be recognised, however, that there are several questions pertaining to the capacity of EMSs to achieve these lofty goals. Accordingly, the second major theme of the article is to explore the role, and potential role of management systems, as a 'new generation' regulatory tool.

The article is in three parts. The first briefly describes the new generation of environmental policy tools contained in the recently reformed legislation of most Australian jurisdictions. The purpose is not to provide a detailed analysis of each instrument but rather to show how they fit, or can be made to fit, within a much more flexible, innovative and effective approach to environmental regulation.

[1] See, eg, *Environmental Protection Act 1994* (Qld); *Environment Protection Act 1993* (SA); *Environmental Management and Pollution Control Act 1994* (Tas); *Environmental Protection Act 1986* (WA); *Protection of the Environment Operations Act 1997* (NSW); *Environment Protection Act 1997* (ACT); and Waste Management and Pollution Control Bill 1998 (NT). Although the main statute in Victoria remains the *Environment Protection Act 1970* (Vic), this statute itself has undergone substantial modifications in recent years: see, eg, *Environment Protection (Amendment) Act 1996* (Vic).

The second part examines in considerably more detail what is coming to be regarded as perhaps the most important policy instrument of all: EMSs. This part not only explains the purpose and role of EMSs, but also explores their strengths and weaknesses and the ways in which they can most successfully be integrated into a proactive regulatory framework which seeks to build continuous improvement and cultural change into corporate environmental performance.

The final part seeks to locate the new generation of policy instruments within the broader framework of environmental policy reform. It critically assesses the value of these instruments in terms of their capacity to influence both leaders and laggards; it argues both the virtues of process-based regulation and the need to complement this form of regulation with outcome-based standards; it emphasises the importance of using a range of instruments rather than relying upon any one instrument in isolation; and it identifies a number of issues whose resolution will be crucial to the attainment of efficient and effective environmental regulation.

II THE NEW RANGE OF ENVIRONMENTAL POLICY INSTRUMENTS

There are some significant differences between the various States and Territories in the precise form and content of their recent reforms to the law relating to environmental harm or pollution. Nevertheless, there is a very substantial degree of commonality as regards the type of new regulatory instruments which have been introduced for the purpose of improving environmental performance.

Perhaps the most striking and unifying feature of the new approaches is the extent to which the old style focus on emissions standards and technology as the principal means to curb pollution by individual enterprises has been supplemented with an emphasis on process-based regulation. To explain this distinction further, it is important to define our terms.

By emissions standards, we refer to standards imposed on point source polluters which specify emissions limits for sources of pollutants. These limits (eg a maximum of 100 parts per million of substance X discharged from a particular pipe) might be imposed as a condition of the licence granted to an individual installation, or might be prescribed in the statute itself or in associated regulations.[2]

Technology-based standards have most commonly been adopted under pollution law in the United States,[3] but are also contained in some Australian statutes and are a feature of some licences. Technology-based conditions are usually a

[2] Some legislation begins by identifying an ambient-based standard, such as the air quality required of an airshed. In newer legislation, protection of the environment policies, State Environment Protection Policies ('SEPPs') or similarly named policies, set out the relevant requirements. These will include National Environmental Protection Measures ('NEPMs'), as these are gradually adopted under the Coalition of Australian Governments' *Intergovernmental Agreement on the Environment* of 25 February 1992. The ambient standard is then interpreted by regulators who, in designing licences, introducing regulations and using other policy tools, will adjust the relevant permitted levels of pollution so as to achieve the overall ambient standard: see generally National Environmental Protection Council, 'How NEPMs Are Developed' (1998) National Environment Protection Council, <http://www. nepc.gov.au>.

[3] See, eg, *National Environment Policy Act of 1969* s 48, 42 USC s 555 (1994); *Clean Air Act* s 21, 42 USC s 85 (1976).

variant on a requirement that 'best available technology' or 'commonly available technology' must be used to curb pollution or environmental harm, sometimes with a qualification that it is only technology that is economically achievable that must be used. In theory, best available technology may be used to determine the appropriate level of an emissions standard, but in practice it often becomes a de facto prescription for specific technological solutions.[4]

Process-based standards specify the procedures to be followed in managing particular hazards, rather than the outcome to be achieved (though they can, of course, be combined with outcome-based standards). There are many variants on such standards, most of which specify practices to be adopted in relation to pollution-causing activities. A common example would be management standards in relation to waste disposal operators, which 'might impose requirements regarding supervision of installations, reporting the whereabouts of waste, transportation of waste and insurance'.[5]

Although the terminology used in different statutes and jurisdictions varies somewhat, it is possible to identify at least five environmental policy tools which are characteristic of recent environmental protection statutes in Australia, yet which were largely lacking in their predecessors. We describe the essential features of each of these instruments below.

Before doing so, it might be helpful to make one further distinction, namely between instruments which are principally addressed to environmental laggards and those which apply only to the leaders. The former group are those whose environmental performance, in significant respects, fails to meet the minimum standards prescribed by law. The latter group are those who, in significant aspects of their operation, aspire to, and can demonstrably achieve, levels of environmental performance which go beyond compliance with existing minimum legal requirements. While not all the instruments described below fit neatly within this classification, as we will see, a substantial number do, while others may usefully be applied to both categories of environmental performer.

A *Compliance Plan*

Beginning with those policy tools which are directed essentially to environmental laggards, the *compliance plan* is perhaps the best example. Exemplified in part 7 of the Waste Management and Pollution Control Bill 1998 (NT), this mechanism provides that, in situations where an existing industry firm cannot comply with new legislative requirements, it may prepare and submit such a plan. A plan can also be required where there is evidence of poor environmental performance or the presence of a high environmental risk.

The contents of a compliance plan will include details of a program of improvement aimed at achieving compliance within a specified period. The plan will require the implementation, in stages, of improvements in waste management

[4] Neil Gunningham and Peter Grabosky, *Smart Regulation: Designing Environmental Policy* (1998) 38.

[5] Ross Ramsay and Gerard Rowe, *Environmental Law and Policy in Australia* (1995) 522.

and the prevention, reduction, control, rectification or clean-up of pollution or environmental harm. As such, the program is both process-based (the enterprise must specify convincingly the procedures it will adopt to improve its performance) and outcome-based (at the conclusion of the plan, the enterprise will be in compliance with the legislation). Once such a plan has been approved by the relevant regulatory authority, its legal significance is that of removing any liability for prosecution for non-compliance with the specified legislative provisions. However, failure to comply with the plan will itself be an offence and the immunity from prosecution would be removed in these circumstances.

B *Financial Assurance*

A second instrument which is designed implicitly for laggards, is *financial assurance*. This mechanism has been used for some time as an effective means of ensuring that mining companies honour their obligations to rehabilitate mine sites on the completion of their activities. However, it is only relatively recently that it has become available under general environmental legislation as a tool capable of being used against a much wider range of activities. For example, s 35 of the *Environmental Management and Pollution Control Act 1994* (Tas) provides that a person may be required to lodge a financial assurance in the form of a bond, or a specified pecuniary sum, the discharge or repayment being conditional on that person not committing any contravention of the Act of a specified kind during a specified period or taking specified action within a specified period to achieve compliance with the Act. Most commonly, financial assurances will 'be used where there is a significant risk of environmental harm or where there has been a previous history of contravention'.[6] Those most likely to have this requirement imposed upon them will be poor environmental performers, though there is no reason in principle why the financial assurance could not be more broadly applied.

C *Compulsory Environmental Audit*

Also directed at environmental laggards, in this case arguably exclusively, is the imposition of a *compulsory environmental audit.*[7] Audits can provide systematic, documented, periodic and objective reviews of whether environmental requirements are being met.[8] Compulsory audits may be required in a variety of circumstances, which vary somewhat from jurisdiction to jurisdiction.[9] In broad terms, such audits are most likely to be imposed where the regulatory authority

[6] Gerry Bates, *Environmental Law in Australia* (4th ed, 1995) 409.

[7] On the broader uses of environmental audit as a policy instrument, see Neil Gunningham and James Prest, 'Environmental Audit as a Regulatory Strategy: Prospects and Reform' (1993) 15 *Sydney Law Review* 492.

[8] United States Environmental Protection Agency, *Environmental Auditing Policy Statement*, SI Fed Reg 25000 (9 July 1986).

[9] Gunningham and Prest, above n 7, 501 state that '[s]tatutory audits of industrial facilities can be required in a number of circumstances. First, such an audit can be required as a term or condition of licence amendment or of the issue of a pollution abatement notice, provided in each case that the EPA is satisfied that such an audit is warranted'.

reasonably suspects that a person has contravened the relevant Act, regulations or the conditions of a licence, and 'that the contravention or contraventions have caused, are causing or are likely to cause, harm to the environment'.[10] In a sense, with a compulsory environmental audit, the process is the punishment because it is the enterprise itself that will have to pay for the audit (often a considerable expense) as well as having to disclose the results to the regulator. This last requirement may itself result in the imposition of further controls by the regulator on the enterprise.

D *Voluntary Audit*

Voluntary audits, in contrast, may be used equally by leaders and laggards. As we will see, such audits may form an important component of broader EMSs, or they may be used as a stand-alone instrument. In the latter capacity, the most common form is the compliance audit. A compliance audit is an independent assessment of a particular operation, be it a factory, building, corporation, government department or industrial site. The aim is to discover if the operation is complying with existing (or predicted) statutory requirements, and as a consequence the audit is narrowly focused on potential legal liabilities. Used in this way, it is a tool to ensure that poor or moderate performers can indeed achieve the minimum legal standard, but it does not aspire to take enterprises beyond compliance.

In respect of voluntary audits, government policy, as embodied in the most recent generation of environmental law statutes, is clear. Voluntary audits are undoubtedly a positive tool for improving environmental performance and, as such, should be encouraged. Nothing could be more *discouraging* than the fear that the audit results might be obtained by a government regulator and used against the enterprise, for example, as the basis for a prosecution. Accordingly, the new generation of environmental legislation guarantees the confidentiality of such audits, usually by excluding them from the class of documents available for inspection by the Environment Protection Authority ('EPA') and from the court discovery process. Accordingly, in most jurisdictions, the only circumstances in which the EPA will be able to call for the production of these reports in legal proceedings is when a company or operator chooses to use the report to support a claim of due diligence in the management of its business, or to defend itself in prosecution proceedings.[11]

E *Environmental Improvement Plan*

In the category of instruments that can be applied either to laggards or to leaders, is the *environmental improvement plan* ('EIP'), or *environmental management plan* ('EMP'). An EIP is a public commitment by a company to enhance its environmental performance. EIPs are designed to encourage industry to adopt a more

[10] See, eg, *Protection of the Environment Operations Act 1997* (NSW) s 175. Note that in NSW it is only under the conditions of a licence that an audit may be required. This restriction does not apply in all jurisdictions (see, eg, Waste Management and Pollution Control Bill 1998 (NT) pt 6).

[11] See, eg, *Protection of the Environment Operations Act 1997* (NSW) ss 181–3.

responsible and responsive approach to meeting community expectations of improved environmental performance, and are intended to encourage 'individual firms to identify opportunities for improved environmental performance'.[12] They also enable the EPA to achieve environmental improvements in addition to compliance with licence conditions.

In Victoria, the components that must be included in an EIP, in particular circumstances, are specified in s 31C(6) of the *Environment Protection Act 1970* (Vic). They include compliance with: any relevant State Environment Protection Policy ('SEPP'); industrial waste management policy; regulations and licence conditions; emission and waste production standards for the industry; requirements for monitoring; provision for community participation in performance evaluation under the plan; provision for the upgrading of plants and equipment and for the assessment of new or emerging technology; and provision for contingency or emergency plans.

Similarly, in Queensland, South Australia and Tasmania, EMPs and EIPs are available to regulatory authorities to require action to be taken, which may include ongoing review and monitoring, efforts to bring about compliance and the reduction of environmental harm, or provision for the transition to an environmental standard.[13] The Queensland legislation requires that draft EMPs be made available for public consultation, and approval may be subject to appeal.[14] Contravention of any requirement imposed by an EMP may be a criminal offence. However, in cases where the program is entered into voluntarily, immunity from prosecution may be pending consideration of the draft program.[15]

Both EIPs and EMPs can be invoked to play a variety of roles, and addressed, in particular circumstances, to either laggards or leaders. For example, in Victoria, EIPs were first directed, quite explicitly, against laggards. Thus, the assumption underpinning s 31C of the *Environment Protection Act 1970* (Vic) is that some industries (for example, the carbon black industry) are, by their nature, more likely to have a major impact on the environment and that the EPA should require of these industries a greater degree of responsibility and care. The preferred device to achieve this is the EIP. Under s 31C, the minister, on the recommendation of the EPA, can 'declare' an industry, giving firms within it a substantial incentive to develop and implement such a plan, because should they refuse to do so, or fail to adhere to its provisions, they face a less palatable alternative: namely to be made subject to the mandatory auditing requirements of s 31C(4).[16]

[12] Victoria, *Parliamentary Debates*, Legislative Council, 17 November 1989, 1537 (Barry Pullen, Minister for Housing and Construction).

[13] *Environmental Protection Act 1994* (Qld) ss 80–100; *Environment Protection Act 1993* (SA) s 54; *Environmental Management and Pollution Control Act 1994* (Tas) ss 37–9. See generally Bates, above n 6, 408.

[14] *Environmental Protection Act 1994* (Qld) ss 85, 93; *Environmental Management and Pollution Control Act 1993* (Tas) ss 40–1.

[15] *Environmental Protection Act 1994* (Qld) ss 96, 101–8; *Environmental Management and Pollution Control Act 1994* (Tas) s 42.

[16] Any s 31C(4) audit will theoretically involve 'a vigorous review of the firm's premises to check for environmental contamination, to pinpoint areas where wastes and emissions can be further reduced and to highlight any substandard practices or pollution control equipment': See Environment Pro-

Subsequently, EIPs have been employed as one component of a broader policy strategy aimed at providing environmental leaders with a far more flexible, efficient and responsive form of regulation, which encourages and rewards their going beyond compliance with existing legal requirements. Specifically, both the Victorian 'accredited licencing' and the Western Australian 'best practice' licence programs[17] contemplate that enterprises which are willing to commit themselves to adopt an approved EMP, a regular environmental audit program *and* implement an EIP, will be well-positioned to both largely self-regulate and achieve beyond compliance. For these reasons they will be given significant relief from conventional regulatory requirements. That is, implementation of an EIP in these circumstances will be taken as one indication of a willingness and commitment to perform better than existing regulations require. We examine the implications of such arrangements in more detail in Part IV below.

F *Environmental Management Systems*

At the other end of the spectrum from compliance plans, financial assurances and mandatory audits, lie EMSs. An EMS is a management tool intended to assist the organisation to achieve environmental and economic goals by focusing on systemic problems rather than individual deficiencies. That is, it involves the assessment and control of risks and the creation of an in-built system of maintenance and review. Its focus is on the organisational structure, responsibilities, practices, procedures and resources for implementing and maintaining environmental management. The basic elements of such a system include the creation of an environmental policy, setting objectives and targets, implementing a program to achieve these objectives, monitoring and measuring its effectiveness, correcting problems, and reviewing the system to improve it and the overall environmental performance.

At present, the most obvious use of EMSs as a proactive tool to encourage and reward environmental leaders is in the legislation of Victoria and Western Australia. Specifically, the Victorian accredited licence and the Western Australian best practice licence programs are intended for companies committed to 'best practice' environmental management, and are designed such that the responsibility and approach to meeting environmental performance requirements are determined by individual firms, but with government overseeing the effectiveness and independence of this process. In both cases, the quid pro quo for providing regulatory flexibility and relief to best practice companies is the development and implementation of a number of mechanisms, the most fundamental of which is an EMS. The role and implications of EMSs as a regulatory innovation tool are explored more fully below.

tection Authority, *Environmental Audits — Industrial Facilities*, Publication No IB WM 91/08 (1991) 2.

[17] *Environment Protection Act 1970* (Vic) as amended by *Environment Protection (General Amendment) Act 1994* (Vic) s 12; *Environment Protection Regulations 1987* (WA) as amended by *Environmental Protection Amendment Regulations (No 2) 1997* (WA) regs 4–6.

III ENVIRONMENTAL MANAGEMENT SYSTEMS AND REGULATORY INNOVATION

There is considerable evidence that those enterprises that adopt a systems-based approach to business outcomes, such as Total Quality Management ('TQM'), can achieve impressive results. More recently, a similar approach has been adopted to address a range of other issues, including safety and health, again with very positive results. Indeed, in 1997, the Victorian Law Reform Commission Regulatory Efficiency Legislation Report concluded that *most* business compliance problems (in the environment and a wide variety of other areas) could be resolved if adequate management systems were in place.[18]

In terms of the potential role of EMSs in improving environmental performance, the most persuasive early evidence came from the Global Environmental Management Initiative ('GEMI'), which first began to apply TQM to pollution prevention in 1993.[19] A sub-committee of the President's Commission on Environmental Quality developed the relationship further.[20] Having examined the issues in great depth, and through a number of sophisticated case studies, the sub-committee concluded that TQM and Pollution Prevention are complementary concepts, and that TQM offers the potential for companies to realise improved environmental outcomes.[21] It went on to document in considerable detail precisely how TQM tools could be applied to environmental issues.[22]

It is now widely accepted that a management systems approach, when applied to environmental issues, has the capacity to bring about very considerable improvements in performance. Not least are its capabilities, when effectively implemented, to deliver continuous improvement and to embed cultural change on environmental issues within the organisation. A particular attraction of EMSs is their capacity to move corporate thinking on environmental performance from the sort of compartmentalisation that characterised the earlier generation of pollution control instruments (vertical standards addressing discrete areas of activity) to a horizontal standard that cuts across the functions of the organisation, and integrates environmental considerations with other corporate functions and imperatives. In its full potential, 'cost, efficiency, productivity and environmental performance all become part of the same decision-making process'.[23]

[18] Victorian Law Reform Commission ('VLRC'), 'Regulatory Efficiency Legislation' (1997) Regulatory Efficiency Legislation, VLRC <http://home.vicnet.net.au/~lawref/ref/welcome.htm>.

[19] See generally GEMI, *Total Quality Environmental Management* (1992).

[20] Quality Environmental Management Sub-Committee, President's Commission on Environmental Quality, *Total Quality Management: A Framework for Pollution Prevention* (1993).

[21] Ibid 37.

[22] The perceived advantage of an EMS approach, particularly one that is based on the principles of TQM, is threefold. First, it enables companies themselves to devise ways of reducing or preventing pollution. Rather than being constrained by highly prescriptive government regulations, an EMS-based approach encourages management itself to take the initiative and responsibility for deciding *how* to satisfy regulatory requirements. Second, EMSs serve to embed an environmental ethic in the organisation so that systematic environmental management becomes a habit and an inherent part of company culture. Third, there is the commitment to continuous improvement which TQM implies: ibid 38–42.

[23] Alan Knight, 'International Standards for Environmental Management' (1994) 17(3) *United Nations Environment Programme: Industry and Environment* 45, 45.

The startling evidence produced by organisational theorist Charles Perrow's seminal work on major technological disasters suggests that 80–90 per cent relate to a failure of the management or organisational system, and only 10–20 per cent are based on operator error or equipment failure.[24] Both Perrow's analysis, and John Braithwaite's work on coal mine disasters, serve to further emphasise the potential benefits of systems-based approaches.[25]

However, against this must be balanced the evidence that these benefits can only be obtained if the management system is properly implemented — superficial or tokenistic attempts to introduce an EMS may well be totally ineffective and even counterproductive.[26] The dangers of implementation failure must not be underestimated.[27] For example, a lack of understanding of, or more likely, a lack of commitment (in terms of effort or finance) to, the EMS process amongst management will seriously reduce the likelihood of success. There is also the serious possibility that, in some circumstances at least, enterprises lack the will to overcome initial implementation hurdles. These include, for example, costs (such as capital improvement or clean-up costs) associated with bringing an industry laggard into compliance. From this one might reasonably conclude that enterprises should be encouraged to develop an EMS, but that this alone cannot be relied upon to produce improved environmental outcomes, though it may well do so.

In future, the most popular form of EMS will almost certainly be one which complies with the International Standards Organisation's ('ISO') EMS standard, ISO 14001.[28] This standard, introduced in response to the demand for a single, 'off-the-peg' internationally recognised management standard, is likely to prove one of the most significant developments in the field of environmental management (and possibly of regulation) in many years.

In broad terms, ISO 14001 calls for an understanding and identification of significant environmental issues, the setting of targets, monitoring of progress and continual review of how well the system as a whole is working. It involves documentation control, management system auditing, operational control, control of records, management policies, training, statistical techniques, and corrective and preventive action. Companies may seek third party certification of this if they so wish but are not bound to do so. They may simply use the standard for internal purposes. External pressures, rather than the ISO itself, may ultimately determine whether they seek external verification.[29]

[24] See generally Charles Perrow, *Normal Accidents: Living with High Risk Technologies* (1984).

[25] John Braithwaite, *To Punish or Persuade: Enforcement of Coal Mine Safety* (1989).

[26] Nicholas Burke, 'Gaining Organisational Commitments to OH&S by Integrating Safety onto Your Business Plans' (Paper presented at the Proactive Occupational Health and Safety Management Conference, Sydney, 9–10 March 1994) 3.

[27] Richard Chang, *TQM Fever* (1995).

[28] Technical Committee 207 of the International Organisation for Standardisation, *ISO 14001 — Environmental Management Systems* (1995) 2. See also Tom Tibor and Ira Feldman, *ISO 14000: A Guide to the New Environmental Management Standards* (1996); ISO, 'ISO 9000 and ISO 14000' (1998) Welcome to ISO Online, ISO <http://www.iso.ch/9000e/9k14ke.htm>.

[29] See generally Tibor and Feldman, above n 28.

ISO 14001 evolved as a consequence of two events: the Rio Earth Summit in 1992,[30] which brought increasing pressure for new mechanisms to address environmental degradation; and the Uruguay round of the General Agreement on Tariffs and Trade ('GATT') negotiations, commencing in 1986, which focused attention on the need to reduce or eliminate non-tariff barriers to trade. Self-evidently, these two goals are not necessarily complementary.[31] Two central questions have therefore arisen: first, is it possible to create uniform environmental standards that do not erect trade barriers; and second, if trade distortions are inevitable, are these in fact justifiable? ISO 14001 purports to provide an answer at least to the first of these questions, offering a common global standard that both facilitates trade growth *and* environmental protection.

One major difficulty has been that if the EMS standard is set too high, it provides a form of hidden tariff barrier against developing nations whose enterprises may have most difficulty meeting it, as will small and medium sized enterprises ('SMEs'). The attempted resolution to this problem has been to opt for consensus-based compatibility through downward harmonisation. While the lowering of the standard (so that it emphasises continuous improvement but not specific environmental outcomes) makes it more acceptable to developing countries, this comes at the price of diminished credibility and robustness.

There is a further and fundamental conflict being played out in the evolution and drafting of ISO 14001 between different European and United States' philosophies as to what the standard should entail. American concerns that a performance-based standard, coupled with public disclosure, could have adverse implications in terms of both enforcement of regulations and private sector litigation, resulted in strenuous and successful lobbying on their part to respectively prevent and minimise such requirements. Consequently, all commitments to actual performance concern only the company's stated policy and self-set objectives. The net result is that certification under ISO 14001 confirms that the enterprise has engaged in a series of *processes,* as set out in the standard, but does not guarantee good environmental outcomes (only that an enterprise is achieving its own goals).

A number of other limitations of ISO 14001 can be identified by comparing and contrasting it with the European Union's eco-management and audit scheme ('EMAS')[32] and the British standard BS 7750.[33] ISO 14001 is considerably

[30] 1992 Global Forum, Rio de Janeiro, Brazil, 1–4 June 1992. The Rio Earth Summit was part of the United Nations Conference on Environment and Development.

[31] While trade law has developed to control the movement of products, environmental law has been concerned to control processes and production methods. For example, GATT rules prohibit differential treatment of imported products in terms of standards, regulations or tariffs if they are physically identical, while environmental laws may discriminate against imports of like products on the basis of the methods used to make them. There is therefore a conflict and under GATT, the latter approach, subject to some exceptions, is a contravention.

[32] See generally Brian Rothery, *ISO 14000 and ISO 9000* (1995) 61. Firms which agree to participate in this scheme must carry out an initial environmental review of the site's activities and, in the light of its findings, implement an 'internal environmental protection system' aimed at achieving a high level of environmental protection. This must include, in writing, an environmental policy, environmental objectives and targets, an environmental program and an EMS which includes an audit every one to three years depending on the environmental impact of the site's operations. Firms which

vaguer than EMAS or BS 7750 (and therefore lacks 'bite') in respect of a number of important issues including environmental policies, programs and its specification for audits. For example, EMAS lists the issues which must be addressed by companies' environmental policies and programs, and environmental audits,[34] whereas ISO 14001 does not go into detail on these matters. Similarly, Annex II of the *EMAS Regulation* specifies in detail how audits should be carried out while the guidance offered under ISO 14001 is minimal.[35]

A further requirement under EMAS, but absent from ISO 14001 and BS 7750, is for participating firms to provide a regular environmental statement detailing their activities, the major environmental issues these activities raise, a summary of pollution emissions and waste generation, and an evaluation of overall environmental performance. It will also generally include specific performance data, for example, emissions reductions and improvement targets.[36] This statement is intended to inform both the authorities and the public of the firm's activities, and must be verified by a third party. Taken together, the verifier's seal of approval and the validated environmental statement provide the public with two important indicators of, and insights into, the performance of registered companies.

Similarly, BS 7750 includes an obligation to evaluate environmental impacts, and more specifically, the inclusion of an 'environmental effects' register which details both the direct and indirect environmental impacts of activities, products and services.[37] Such a register could have the considerable virtue of encouraging the identification of areas requiring improvement. However, the Americans, fearing adverse legal implications, blocked any such provision under ISO 14001, save for a very limited reference to a 'procedure to identify the environmental aspects of its activities, products and services that it can control and over which it can be expected to have an influence'.[38] The further significance of this omission is to deny an opportunity for public scrutiny and assessment of a company's environmental performance, since the ISO procedure and results need not be made public.[39]

participate in the scheme earn the right to use an eco-audit logo on their environmental statements, on the company's brochures, reports and information documentation, and for the company's advertisements, provided they contain no reference to specific products or services.

33 British Standards Institution, *Specifications for Environmental Management Systems, BS 7750* (1994). BS 7750, the British environmental management standard, is recognised as having equivalent requirements to EMAS, and so BS 7750 registration serves to meet EMAS registration requirements.

34 *Eco-Management and Audit Scheme Regulation* (1995) Annex 1C.

35 This difference becomes much less significant if companies undertake to comply with the specifications laid down in ISO 14010 on environmental auditing, ISO 14011 on auditing procedures, and ISO 14012 on qualification criteria for auditors.

36 As at November 1995 these were still open issues under EMAS as to exactly what has to be included in the environmental statement.

37 See generally Naomi Roht-Arriaza, 'Shifting the Point of Regulation: The International Organisation for Standardisation and Global Lawmaking on Trade and the Environment' (1995) 22 *Ecology Law Quarterly* 479, 506–7.

38 International Organisation for Standardisation, *ISO 14001 EMS Specifications Document* (Draft as at 2 February 1998) 7.

39 Roht-Arriaza, above n 37, 507.

A final problem relates to environmental audits, in particular the question as to whether such audits should be conducted by independent third party auditors or can appropriately be done 'in-house'. Predictably, the European view was in favour of independent verification and public disclosure of environmental audit statements. Under EMAS, the audit itself may be carried out either by the company's own staff or by outside auditors, but in either case independent accredited environmental verifiers must accredit the procedures adopted and certify that the statements are made available to the public. Once again, American misgivings won the day, leaving ISO 14001 severely lacking both in independent verification and in its public disclosure requirements.

On the other side of the balance sheet, there is considerable attraction in a scheme that will deliver a single internationally recognised standard. Moreover, this has been achieved while recognising that 'one size does not fit all' and that, as a result, it is preferable simply to identify core elements that any system should include, without assuming there is any single best approach.[40] As such, ISO 14001 provides a management system specification, but falls short of being prescriptive. Certainly the fact that the final standard is very general and abstract means that it lacks 'bite'. However, this might be seen as a necessary trade-off in a delicate balancing act which successfully avoids imposing an inappropriate straightjacket on a wide diversity of organisations operating in a myriad of different circumstances.

A *Environmental Management Systems as a 'Beyond Compliance' Regulatory Tool*

The central issue here is whether and to what extent ISO 14001 can be used as a complement to environmental regulation and as a tool to take companies beyond compliance with existing regulatory requirements. In principle, ISO 14001 has considerable promise in this regard, given its emphasis on continuous improvement and on bringing about cultural change within an organisation. If this promise is realised, then it might achieve results far above those which regulations currently seek to achieve, both in terms of environmental outcomes *and* flexibility and cost-effectiveness for business. However, ISO 14001, as it stands, is weighed down by the structural weaknesses identified above, and unless these can be overcome, then it is extremely doubtful that it will make this broader contribution as a new generation regulatory tool.

In light of this conclusion, there are a number of pertinent questions confronting policy makers. How can regulations be designed so as to be appropriate for those who choose to adopt a systems-based approach under ISO 14001? How can regulators maximise the advantages of ISO 14001, while compensating for its weaknesses? Finally, how best can regulators harness the internal resources of industrial organisations for the benefit of environmental improvement?

[40] Christopher Bell, 'ISO 14001: Application of International Environmental Management Systems Standards in the United States' (1995) 25 *Environmental Law Reporter* 10678, 10679.

A major problem for regulators in enforcing the adoption of an EMS approach is providing the necessary inspectoral resources. Checking whether an enterprise has genuinely and successfully implemented an EMS not only requires greater and different skills on the part of the inspectors, but is also extremely demanding of inspectors' time. These demands may be particularly intense during the period when the new system is being introduced, where the dangers of implementation failure are greatest. Even after the system is in place, it will require ongoing modifications to accommodate new hazards, with the result that the inspectorate has to address a moving rather than a static target.

Accordingly, if EMSs are to be administratively viable, ways must be found to ease the burden on regulatory resources. Solutions to this problem are fundamentally important, for without them, the entire systems-based regulatory approach may founder. There are a number of potential ways of addressing this problem. They fall into two broad categories: first, various strategies which encourage effective self-regulation on the part of enterprises that commit themselves to an EMS; and second, various forms of third party oversight. The former transfers a substantial part of the regulatory burden onto employers themselves, the latter onto third parties which can act as surrogate regulators.

1 *Essentials for Effective Self-Regulation*[41]

The adoption of a genuine and substantial EMS implies that a firm is prepared to seriously self-regulate its environmental performance. This is indeed the basis on which industry argues for regulatory flexibility and a reduction of direct government intervention in its affairs.

The key issue is how to ensure that enterprises which have adopted an EMS do indeed deliver bona fide environmental improvements, through the establishment of mechanisms that are self-monitoring, self-correcting and self-improving. It is crucial that they do not, intentionally or otherwise, produce the trappings of self-regulation without delivering the promised outcomes in terms of a shift in culture, a commitment to continuous improvement, and as a result, tangible environmental improvements.

As indicated above, a serious danger of relying on ISO 14001 alone, is that it emphasises processes but not outcomes. ISO 14001 is intended to establish management tools and systems that organisations then use for their own purposes and the result may well be, in many cases, an overall improvement in environmental performance. It may also serve as a tool for better risk management. However, nothing in ISO 14001 either measures or ensures either of these results.[42] Consequently, companies with widely differing levels of environmental

[41] Neil Gunningham and Joseph Rees, 'Industry Self-Regulation: An Institutional Perspective' (1997) 19 *Law & Policy* 363; and see generally the special issue on self-regulation: (1997) 19 *Law & Policy* 363–560.

[42] Even the commitment to continuous improvement must not be taken too seriously, since 'ISO 14001 does not establish substantive performance obligations for organisations. ISO 14001 certification is not a performance certification, nor is ISO 14001 a performance guarantee': Christopher Bell, 'The ISO 14001 Environmental Management Systems Standard: One American's View' in Christopher Sheldon (ed), *ISO 14001 and Beyond: Environmental Management Systems in the Real World* (1997) 61, 83. Unsurprisingly, some countries wanted to see contin-

performance, even within the same industry sector, may all establish an EMS that complies with ISO 14001. That is, the ISO 14001 certification criteria can be satisfied simply by demonstrating that the necessary system elements are in place, without having to demonstrate actual improvements in environmental outcomes.

If regulators are to sanction a more flexible regulatory approach for those adopting an EMS, particularly if this entails a form of self-regulation, then they must at the same time insist that a fundamental term of the licence or operating agreement is a commitment to performance *outcomes* as well as to process. That is, to ensure that EMSs do indeed deliver the results of which they are capable, it is essential that governments require participating firms to commit themselves to a number of 'bottom lines'. In particular, each participating enterprise would be required to implement an EMS with prescribed minimum components. While the details of an EMS would be unique to each individual firm, the minimum criteria which the system must satisfy would not.

2 *The Role of Third Party Oversight*

Although self-regulation based on the model described above might achieve a great deal, much will also depend on the effectiveness of oversight mechanisms. Even the most credible self-regulatory mechanism may succumb to the temptations of short-term self-interest in the absence of outside forces capable of 'blowing the whistle' and keeping it on track.[43]

The most obvious form of third party oversight is an audit conducted by an independent professional[44] capable of providing an objective review of whether environmental requirements are being met and whether systems are being adhered to.[45] In essence, such audits entail 'the structured process of collecting independent information on the efficiency, effectiveness and reliability of the total ... management system'.[46]

For the purposes of accreditation, completion of a systems audit and compliance audit could generally be required, the precise scope of the audit being agreed to in consultation with the enterprise concerned. After the EMS is in place, periodic verification audits could be required to establish

> whether the ... management system is doing what it claimed to do in its extent and quality, and whether this is adequate as operated ... Validation audits ... fo-

ual improvement in environmental performance as the key focus, rather than continual improvement of the management system. They have been unsuccessful, although it may be that the deliberate ambiguity left in the wording of ISO 14001 will, in the longer term, enable countries such as Australia (and the countries of the European Union) to take a different view.

43 See generally Neil Gunningham, 'Environment, Self-Regulation, and the Chemical Industry: Assessing Responsible Care' (1995) 17 *Law & Policy* 57.

44 An innovative alternative that has been trialed in Alberta, Canada, is a peer evaluation system whereby each participating company agrees to receive the services of a certified independent auditor from a participating company in the same industry group. Whether such a system would work at least as well as one utilising auditors from outside the industry itself, whether it would result in collusion, or the converse (auditors from rival firms exploiting opportunities to disadvantage their rivals) it is too soon to say. This is indeed one area where further empirical evidence is needed and where much may depend on the characteristics of the individual industry.

45 See generally Gunningham and Prest, above n 7.

46 Health and Safety Executive, UK, *Successful Health and Safety Management* (1992).

> cus on such matters as whether the right kinds of subsystems and components are being adopted, whether the correct types of monitoring are being done and whether appropriate subsystems are in place.[47]

Since the costs of the audit would be required to be borne by the enterprise concerned, the system has very few costs for regulators. Though the regulated enterprise might wish to conduct such periodic audits for its own purposes, the additional cost to itself may be acceptable. However, there is a serious difficulty in the strategy of utilising third party auditors as surrogate regulators, namely the tension between the regulator's interests and those of the regulated enterprise.

From the regulator's point of view, third party audits work best if the auditor's report is made accessible to the regulatory agency and does not remain confidential as between auditor and enterprise (which after all, is footing the bill!). However, such a requirement is likely to be unattractive to the enterprise itself, which may understandably fear that it is providing the regulatory agency with considerable information (and ammunition) which would otherwise not be available. There is thus a tension between the regulator's need to be reassured that it will be alerted to unsatisfactory audit results (enabling it to take corrective action) and an enterprise's reticence to adopt a systems-based approach if required to make full disclosure of the audit report. The most satisfactory compromise might be one whereby only an overview or summary of the audit is ordinarily supplied to the regulator by the auditor, indicating the conclusions, but not the details, of the audit. Thus, the latter, including any specific identified breaches of the legislation, would remain confidential to the regulated enterprise. The fact that an audit itself is to be treated as a privileged document should be clearly indicated, either in enforcement guidelines or in the legislation itself.[48]

While this solution may serve to alleviate the fears of regulated enterprises, it does far less to assure the regulator that the audit system is working satisfactorily, that the auditors are operating in the public interest, and that they have not been captured by the client enterprise. To overcome these problems, and to ensure the integrity of the audit process, the regulator should have a right to 'spot check' (and verify) a random sample of full audits. Even in this latter circumstance, the information gained from the audit report could not sensibly be used as a basis for enforcement action, for if it were, it would provide a substantial and unnecessary disincentive to adopting an EMS approach.

3 *Tripartism, Transparency and Stakeholder Involvement*

If regulatory flexibility utilising ISO 14001 is to gain public acceptability then this approach must have transparency. Moreover, since the community is a major stakeholder in environmental issues, there needs to be a three-way partnership, involving industry, regulators *and* the public.

[47] I Glendon, 'Risk Management for the 1990s: Safety Auditing' (1995) 11 *Journal of Occupational Health & Safety — Australia and New Zealand* 569, 570.

[48] The one circumstance in which privilege should not be granted is where the duty-holder seeks to invoke the audit in defence to a prosecution, in which case the prosecution should have a right to produce other evidence from the audit which counters this.

With information, non-government organisations ('NGOs') can have a major impact on large corporations, which must increasingly protect their environmental credentials and credibility. The larger and more sophisticated NGOs increasingly use the internet as a means to communicate information about corporate environmental performance globally. Communities that are empowered through information and participation can act as a countervailing force, compensating in part for the inadequacy of regulatory resources, by scrutinising both industry and agency performance and bringing pressure to bear, and 'shaming' industry where performance is inadequate (it is important to emphasise that this latter function would supplement, not replace, the 'watchdog' role of regulatory agencies).[49] Yet without information, NGOs have great difficulty fulfilling this potential.

Unfortunately, ISO 14001 does not measure up well in terms of either transparency or community dialogue. American fears about the legal implications of disclosure, their feelings of discomfort about forms of dialogue which are becoming increasingly common in Europe, and the more antagonistic culture between industry and other stakeholder groups in the United States, have resulted in much information under ISO 14001 being treated as confidential. As a result, the standard does little to encourage community dialogue.[50]

For ISO 14001 to be used credibly as a basis for granting regulatory flexibility, it will be essential to provide supplementary mechanisms to facilitate or encourage dialogue with the community. Significantly, other self-regulatory initiatives such as Responsible Care, and the International Chamber of Commerce's Business Charter on Sustainable Development, all treat dialogue with outside stakeholders as an essential component. Responsible Care, for example, includes a National Community Advisory Panel made up of independent third parties which critiques draft codes and has an input into all major policy decisions under the Code. The community's 'right to know' code of practice under Responsible Care has also encouraged considerable interaction between plants and local communities.[51]

4 *The Inspectorate's Role*

Notwithstanding the important roles of self-regulation and third party oversight, there will remain a basic function which the inspectorate itself must perform. As we have indicated, there will be temptations on those who self-regulate to cut corners and minimise costs in the short term. Some enterprises, rather than genuinely implementing an EMS in order to improve their environmental performance, may be tempted to simply devise cosmetic 'paper systems' to keep the regulators off their backs or to gain other perceived advantages. How can enterprises be prevented or deterred from abusing EMSs in this way, and how will regulators or courts be able to distinguish between paper systems and the genuine article?

[49] It may be argued that inadequate regulatory resources are not a given, but rather, a result of the political decision-making process. With this, the authors would generally concur, but note that is not an issue addressed in this article.

[50] See generally J Nash and J Ehrenfeld, 'Code Green' (1996) 4 *Environment* 42.

[51] See generally Gunningham, 'Assessing Responsible Care', above n 43.

As regards this latter problem, many prosecutors in the United States have doubted 'both the utility of compliance plans and their own ability to distinguish serious efforts at compliance from merely cosmetic plans',[52] at least in the context of a sentence hearing. The problems are readily apparent. For example, in the United States, agreement to introduce corporate compliance plans (including a commitment to a systems-based approach) can lead to a sentence reduction in respect of environmental crime.[53] Here, the experience is that these plans are easily manipulated, with 'a virtual cottage industry of law firms cranking out compliance plans for their corporate clients (often with the mechanical uniformity of a cookie cutter)'.[54] This leads one to doubt that the adoption of such plans would have much of a beneficial impact on corporate behaviour, at least until clear minimum criteria are prescribed.

At this stage, we do not have the experience to know how seriously this approach might be abused. But given the obvious temptations and the experiences within related areas, it seems likely that agency strategies to counter this problem will be essential to the successful operation of EMSs. This is particularly the case since third party oversight, while important, has its own limitations.[55]

When should the regulator intervene to ensure that the EMS is being complied with, and that an enterprise, through intention, inefficiency or incapacity, is failing to discharge its legislative obligations? As a practical matter (given the resources problems described earlier), it is essential that such agency intervention is within its budgetary and administrative capability. Arguably, the regulatory design should involve a tiered regulatory response. First, it is designed to encourage enterprises to regulate themselves (as indicated above, one of the prerequisites will be that the EMS is self-referential and self-correcting). Second comes third party oversight, both at the stage of accrediting the system when it is introduced, and through subsequent periodic audits. Thus, the third party audit fulfils a substantial role as surrogate regulator. However, there is also need for a third tier, involving an underpinning of government regulation which 'kicks in' as a *backup mechanism* in circumstances where there is reason to believe that tiers one and two have not delivered the required outcomes in terms of system-effectiveness and improvements in environmental performance.

5 *Environmental Management Systems and Regulation*

One may determine that although ISO 14001 (and indeed EMSs more generally) may ultimately make an important positive contribution to environmental protection, its relationship with regulation is a tenuous one. The limitations of ISO 14001 as it stands are so serious that it would be a grave mistake to replace conventional regulation with ISO certification, or even to relax regulatory requirements for ISO certified enterprises. However, this is not the end of the

[52] J Coffee, 'Environmental Crime and Punishment' (1994) 32 *New York Law Journal* 2, 10.

[53] For further discussion of sentencing guidelines see Neil Gunningham and Richard Johnstone, *Redesigning Occupational Health and Safety Regulation* (forthcoming 1999).

[54] Coffee, above n 52, 5.

[55] Neil Gunningham, 'Environmental Auditing: Who Audits the Auditors?' (1993) 10 *Environmental and Planning Law Journal* 22, 23.

story. There is considerable potential for designing more flexible, cost-effective regulation for 'best practice' environmental performers, and for those who aspire to best practice, with an EMS as the centrepiece. Such a management system need not be ISO 14001, though it commonly will be. What is absolutely crucial to any such regulatory redesign is that the EMS should be used to complement rather than to replace other regulatory tools. That is, while it is possible to envisage a scaled back role for command and control regulation, particularly in relation to environmental leaders, it will still be necessary to maintain a variety of oversight and regulatory fall back mechanisms to ensure that the system actually delivers the benefits of which it is capable in principle.

IV CONCLUSION: THE ROAD TO REGULATORY REFORM

This article has argued the need for regulatory strategies to address the environmental performance of both leaders and laggards. In the past, environmental regulation focussed far more on the former group than upon the latter. As we have seen, the new generation of environment policy instruments introduced by the regulatory reforms of the mid and late 1990s substantially redress this imbalance. However, this is not to suggest that all is now necessarily well with environmental regulation, or that the reform process should now be regarded as being at an end. On the contrary, while the regulatory reforms of the 1990s are to be applauded as a very substantial step forward, the journey to 'best practice' environmental regulation and towards achieving efficient and effective environmental policy is far from complete.

A *Environmental Laggards*

We turn first to the question of how best to deal with environmental laggards. Notwithstanding decades of environmental regulation, only partial success has been achieved in bringing this group up to the level of compliance with existing regulation. SMEs in particular, remain an intractable problem for environmental policy makers, both in Australia and elsewhere. SMEs represent a sizeable group, whose aggregate environmental impact may, in some respects, be greater than that of large business. In recent years, this environmental impact has been compounded by a substantial increase in the number of small enterprises, and by a trend towards out-sourcing and subcontracting.[56]

Given current regulatory resource constraints, the effective regulation of SMEs remains a substantial and outstanding policy challenge for environmental agencies in all jurisdictions, not least because this group has a number of unique characteristics which may inhibit the application of conventional regulatory measures. These include:

[56] Michael Quinlan, 'The Development of Occupational Health and Safety Control Systems in a Changing Environment' (Paper presented at the Workshop on Integrated Control/Systems Control for the European Foundation for the Improvement of Living and Working Conditions, Dublin, 1996).

- a lack of resources — the costs of complying with regulation may, in many cases, be higher for SMEs than for larger firms. Even where there is a demonstrated financial return from such investments, SMEs may lack the initial capital to exploit such opportunities;
- a lack of expertise — this includes the necessary technological sophistication to comply with existing standards. SMEs generally have greater difficulty understanding the issues involved in regulation, and may also be unaware of their current regulatory obligations; and
- a lack of exposure — with a much lower public profile than larger firms, SMEs are far less susceptible to measures which attempt to harness community pressure, for example, through public shaming. They are also far less likely to be visited by an inspector, which, apart from reducing the efficacy of enforcement, may also result in SMEs missing out on useful advice provided by the inspectorate.

The task confronting policy makers is to find ways in which to overcome the considerable barriers to regulating the environmental performance of SMEs, without regressing into an over-reliance on the fairly blunt and confrontational nature of conventional mandatory standards. In particular, the challenge is to find policy mechanisms which can effectively harness the goodwill of SMEs, and which are pertinent to their commercial circumstances and do not impose an excessive administrative burden.

Compliance plans, as described in Part I above, may be one constructive way of achieving this. Mandatory environmental audits and EIPs, while much more interventionist and directive, may be other alternatives. However, in practice, the lack of adequate regulatory resources means that the latter two instruments are unlikely to be invoked against SMEs except in rare and extreme circumstances. As indicated below, such instruments may be more potent, and more practicably applied, to larger laggards, a group which is highly visible, readily targeted, and vulnerable to pressure from regulators.

The next steps in developing an effective and efficient strategy for dealing with SMEs are as yet unclear. Two approaches that might be valuable include: (i) a critical empirical evaluation of instruments currently used for regulating the environmental performance of SMEs (at present we have little knowledge of how effective these instruments are in practice); and (ii) learning from and building upon the success of recent international experiments in small business regulation.[57] In particular, future developments may relate to: (i) creating SME environmental networks; (ii) facilitating effective risk management; (iii) fostering environmental partnerships with larger firms; (iv) encouraging the adoption of cleaner production and product stewardship; and (v) engaging the financial sector in the environmental performance of SMEs.[58]

[57] Neil Gunningham, Richard Johnstone and Peter Rozen, *Enforcement Measures for Occupational Health and Safety in New South Wales: Issues and Options*, Report for Workcover Authority, NSW (1996) 60.

[58] Neil Gunningham and Darren Sinclair, *Barriers and Motivators to the Adoption of Cleaner Production Practices*, Report for Environment Australia (1997) 103.

As regards larger laggards, the threat of compulsory audits may serve as a deterrent to below compliance performance, while the actual imposition of such an audit will both provide the independent and specialised information necessary to identify their major environmental failings, and the leverage for regulators to insist, through their formal administrative powers and the threat of criminal action, on improved performance up to the legal standard.

EIPs can also play an important role in enhancing the environmental performance of larger laggards. Most importantly, EIPs provide the opportunity to harness local communities as environmental 'watchdogs', so as to enable the regulator to target poor environmental performers and to compensate for the inadequacy of its attempts to enforce environmental laws and licence terms by traditional means. However, as noted by the Victorian Minister for Planning and Environment, 'the vigilance of the community in ensuring that industry meets current expectations of sound and responsible management of discharges and wastes'[59] is required if this scheme is to be effective, as is a responsible approach by industry. In the absence of these elements, the regulator will be left to enforce a range of EIPs, and, given regulatory resource constraints, this in itself may cause even greater problems than enforcement of more traditional regulatory instruments.

B *Environmental Leaders*

Turning to the question of how best to facilitate, encourage and reward environmental leaders who go beyond compliance with existing regulation, the key challenges are: (i) to avoid approaches which constrain such enterprises and inhibit them from going beyond compliance; (ii) to create incentives and strategies which successfully nudge those at the margin to adopt pro-active strategies when otherwise they might not be inclined to do so; and (iii) to ensure that enterprises are not tempted to adopt a symbolic approach towards these beyond compliance strategies, paying lip-service to them in order to gain the rewards and incentives offered by regulators, while failing to substantially improve their environmental performance.

In terms of the first question, we argue that, at least in the case of better performers (and in some but not all circumstances in the case of laggards),[60] it is preferable to move away from a total reliance on prescriptive approaches and technology-based standards (which can in isolation inhibit the development of novel solutions) towards the inclusion of process-based approaches. Such

[59] Victoria, *Parliamentary Debates*, Legislative Assembly, 12 October 1989, 1487 (Tom Roper, Minister for Planning and Environment).

[60] Because laggards are often environmentally unsophisticated, and in the case of SMEs commonly lacking in technical knowledge of how to comply, they often find it better to be told in clear terms what is expected of them rather than having to devise their own solutions. However, this is not to detract from the value of *some* process-based initiatives, such as compliance plans, EIPs and audits. For example, a company may be given a particular outcome-based goal, and a code of practice as one concrete means of achieving it, while being left with other options if it chooses to take advantage of them. Even if a particular technology is prescribed, a compliance plan or an EIP may commit the company to a time frame within which to implement it, and an audit may reveal the extent to which the company is currently in compliance.

approaches provide far greater flexibility in how environmental objectives are met, and whose central virtue is in overcoming limitations in management decision-making processes.

Specifically, there is considerable evidence that most people (and organisations) suffer from, not only a limited capacity to consider simultaneously a large number of alternative solutions to a problem, but also a limited capacity to fully consider more than one.[61] Process-based regulation encourages firms to think through solutions to environmental problems in a new way, and to systematically devise novel solutions. It focuses the attention of enterprises on important issues of environmental decision-making which otherwise might be ignored, and importantly, aims to integrate this with other core management issues. Because this process is undertaken by those who are closest to the problem, and are best placed to identify appropriate solutions, it is likely to produce solutions which are both more efficient and effective than those imposed by external regulators.

This leads to a much broader point. All but one of the new generation policy instruments described in the first part of this article (ie the strategies we have argued are necessary to improve environmental performance in terms of the second challenge posed above) are process-based tools.[62] That is, environmental audits, EIPs and EMSs are all tools which either encourage or require enterprises to undertake particular procedures in order to achieve a desired result (as indeed are compliance plans but these are directed exclusively towards laggards). For example, in the case of environmental audits, the enterprise commits itself to undergo a systematic process of review whose purpose is or includes identifying whether and to what extent, the enterprise is in compliance, or indeed going beyond compliance, with its existing legal obligations. With EIPs, components include a process of community consultation both in creating and implementing such plans, plans for upgrading of plant and equipment, a commitment to assess (but not necessarily to implement) new or emerging technology, and provision of contingency or emergency plans. They also include a process of regular review. Finally, in the case of EMSs, the process component is again paramount. Thus, in the case of ISO 14001, except for committing to continuous improvement and compliance with applicable legislation and regulations, the standard does not establish absolute requirements for environmental performance but only a series of procedures (such as the identification of issues, setting of targets, monitoring of progress) in which the enterprise must engage.

[61] These limitations have been referred to as 'bounded rationality' and 'bounded imagination' respectively: C Heimer, 'Legislating Responsibility' (Working Paper No 9713, American Bar Foundation, 1997) 25, 27; Wendy Espeland, *The Struggle for Water: Politics, Rationality and Identity in the American Southwest* (1998) 54.

[62] Theodore Panayotou, 'Economic Instruments for Environmental Management and Sustainable Development' (Unpublished paper, Harvard Institute for International Development, Harvard University, 1994).

C *The Limitations of Process-Based Regulation*

The question arises whether a process-based approach, *in isolation*, is likely to be sufficient to bring about the sorts of environmental improvements that are desired. In particular, is there a danger that regulatees will be tempted simply to go through the motions, to pay lip-service to the process, and as a result, not to achieve the environmental outcomes which are the ultimate goal of effective environmental policy (ie the third challenge outlined above)? In the case of some of the instruments we have described, this is not a major problem because they are, in effect, both process- *and* outcome-based. Environmental compliance plans require that the regulatee must ultimately come into compliance with existing regulation. Environmental audits, similarly, have as their benchmark, the achievement of compliance, and in the case of mandatory audits, the revelation that the enterprise has not met this performance standard is grounds for taking further action against it. EIPs are in part pure process (no-one prescribes exactly how community consultation should take place, or what the outcome must be, or what an emergency plan must contain) but in other respects are outcome-based (for example, an undertaking to comply with any relevant SEPP or regulation, to meet the emission standards for the industry, and to upgrade equipment to meet objectives under the plan).

The most serious problems which may arise with process-based regulation, relate to the most important tool of all: EMSs. In the case of the dominant EMS model, ISO 14001, the standard is exclusively about process. As Joe Cascio, Chair of the United States Technical Advisory Group to ISO Technical Committee 207, puts it: 'ISO 14000 isn't about compliance. It's about management. It will make no statement regarding what is desirable for the environment. Neither will it lay out environmental goals, performance levels or technology specifications'.[63]

We argued in Part II that the best means of overcoming this problem was by combining process with outcome standards. We also argued that the best means of overcoming the other major shortcomings of ISO 14001 (ie lack of transparency, lack of independent third party audit, the risk of mere 'paper systems') was to use EMSs not in isolation, but in conjunction with a broader range of policy tools which compensate for the weaknesses of ISO 14001 as a 'stand-alone' policy tool.

This is precisely the approach under at least some of the 'next generation' approaches to EMS adopted in Australia. Take in particular, Victoria's accredited licensing scheme and Western Australia's best practice licensing scheme.[64] The essential requirements for obtaining such a licence under the former are an EMS, periodic audit (including the participation of an independent auditor) and an EIP (ie a combination of process-based regulation, third party oversight and community involvement in conjunction with goals specified in the EIP).

[63] Joe Cascio, cited in Geoff House, 'Raising a Green Standard' (1995) 244 *Industry Week* 70, 73.

[64] *Environment Protection Act 1970* (Vic) as amended by *Environment Protection (General Amendment) Act 1994* (Vic) s 12; *Environment Protection Regulations 1987* (WA) as amended by *Environmental Protection Amendment Regulations (No 2) 1997* (WA) regs 4–6.

In Western Australia, components of the best practice licence include: an environmental policy; clearly defined environmental performance objectives; an environmental management manual; an environmental audit plan; an EIP; an environmental responsibility chart; and a system of control and verification of environmental actions.[65] That is, the best practice licence insists upon some crucial requirements that are lacking in ISO 14001: performance outcomes, auditing, benchmarking against industry best practice, community participation, and report sign off by a company chief executive (with penalty for false statements). The considerable virtue of an EIP, borrowed from the Victorian model, is direct community involvement in respect of company commitments which is not hard to check. The right of the EPA to see the results of an independent audit (or a summary) is also of critical importance.

However, notwithstanding the considerable potential of many of the new generation of environmental policy tools (and in particular, the role of EMSs under accredited and best practice licences) there remains a serious risk of implementation failure. That is, as empirical social scientists are all too well aware, there is commonly a substantial gap between the capabilities of a particular regulatory policy in theory and its performance in practice. The new generation of regulatory instruments hold out considerable promise of facilitating a shift in industry culture, from reactive compliance to voluntary pro-active improvement of environmental performance. However, no independent assessment has yet been conducted to check their overall effectiveness and efficiency.

An illustration of the problems that may arise in practice is provided by the early history of the Victorian accredited licensing scheme. Although hailed by industry as a major breakthrough and as a very welcome shift in government policy, initially very few enterprises volunteered to be a part of the scheme. After 12 months, there was only one participant, and even now, some five years on, there are only some 11 participants.[66] This raises the question of whether sufficient positive incentives have been provided to induce a significant number of enterprises to adopt the 'new generation' policy tools, particularly those who would not, in the absence of such incentives, embrace this approach (for example, those who would not otherwise put in place an EMS). It would seem that, under the Victorian accredited licensing scheme, a licence fee reduction, the offer of a bubble licence, exemption from monitoring and site visits by EPA inspectors, have proved insufficient inducement, at least in the short term, to attract strong support for the scheme (or at least insufficient to overcome perceived disincentives). Without careful attention to the design of incentives, the take up of more flexible types of regulation may be disappointing.

Of equal importance, little attempt has been made to connect these innovations to broader developments in regulatory reform internationally, including, in

[65] *Environment Protection Regulations 1987* (WA) as amended by *Environmental Protection Amendment Regulations (No 2) 1997* (WA) reg 4(1)(a)–(e). The best practice licensing system became operative in June 1998. At the time of writing, no enterprise had yet been granted such a licence.

[66] D Uren, 'Regulators Strive for Irregular Solutions', *The Weekend Australian* (Sydney), 18–19 July 1998, 50.

particular, the various programs undertaken in the United States and parts of Western Europe. For example, in the United States, under the 'Reinventing Environmental Regulation' initiative, important lessons have been learned through the experience and evaluation of Project XL, the Environmental Leadership Program, the Common Sense Initiative and a range of other programs and pilot studies introduced by the EPA.[67] Within Europe, very promising results have been achieved through voluntary agreements brokered by governments against the background of less palatable alternatives (for example, on the model of the Dutch Environmental Covenants) in conjunction with increased transparency, environmental reporting, and the building of public trust.[68]

Finally, there is considerable evidence internationally that the single most important factor in persuading firms to adopt a systems-based approach is fear of legislation. Within Australia, most jurisdictions (because of very limited resources and, in some cases, for philosophical reasons) lack a strong commitment to enforcement against wilful polluters coupled with sufficiently serious penalties to deter non-compliance.[69] In the absence of credible deterrence, there is insufficient incentive for all except the very best companies to seek to go beyond compliance.

We may conclude that, notwithstanding the considerable promise of the new generation of environmental policy tools, the road to regulatory reform is long and tortuous, and that the journey is far from over.

[67] Rena Steinzor, 'Reinventing Environmental Regulation: The Dangerous Journey from Command to Self-Control' (1998) 22 *Harvard Environmental Law Review* 103, 105.

[68] See generally H van Zijst, 'A Change in the Culture' (1993) 5 *The Environmental Forum* 12; Rob Gerits and Jules Hinssen, 'Environmental Covenant for the Oil and Gas Producing Industry: A Valuable Policy Instrument?' (1994) 24 *Environmental Policy and Law* 323.

[69] Michael Briody and Tim Prenzler, 'The Enforcement of Environmental Protection Laws in Queensland: A Case of Regulatory Capture?' (1998) 15 *Environmental and Planning Law Journal* 54.