OECD GLOBAL FORUM ON INTERNATIONAL INVESTMENT
Conference on Foreign Direct Investment and the Environment
Lessons to be Learned from the Mining Sector

7 - 8 February 2002
OECD Headquarters, 2 rue André Pascal, 75775 CEDEX 16, Paris, France

Voluntary Approaches to Environmental Protection: Lessons from the Mining and Forestry Sectors

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Abstract

This paper provides an overview of voluntary approaches used in the mining and forestry sectors and the experience that has been gained with them. It examines the differences in approach taken by these two sectors and the implications and underlying causes of these differences. In particular, it examines the issues of coverage and ambitiousness, monitoring, sanctions for non-compliance, transparency and credibility of voluntary approaches. Finally, the experience of the mining and forestry sectors is used to extrapolate more general lessons for the potential role that voluntary approaches can play in improving environmental performance in the context of foreign direct investment.

Introduction

As the OECD has recognised, foreign direct investment (FDI) has increased dramatically in recent years. While this has brought economic and social benefits to many regions of the world, some also argue that it threatens environmental quality in host countries, for example by producing pollution havens and generating a 'race to the bottom' in environmental standards. However, a counter-view suggests that large corporations most frequently involved in FDI will promote the establishment of higher environmental standards through technology transfer or via their environmental practices. Preliminary investigations suggest that the truth is more complex than either of these views would suggest, and that different sectors are subject to different pressures and respond in different ways.

What is clear is that FDI is continuing to expand and with it, the reach of large multinational corporations into developing countries. This trend has important environmental implications, and commonly involves large scale investment projects in environmentally and resource sensitive industries such as mining and forestry. The behaviour of corporations involved in FDI has important indirect as well as direct implications, for those corporations commonly act as models

(both positive and negative) for the behaviour of local enterprises. From a public policy perspective, it is vital that companies involved in FDI are encouraged and rewarded for becoming environmental leaders rather than laggards. Yet in an increasingly globalised economy in which the capacities of host countries may well be outstripped by the pace and scale of FDI, the policy options for nurturing such leadership, are limited.

One increasingly popular option is to use voluntary initiatives to supplement, complement or replace direct government regulation, as the main means of curbing the environmental excesses of private enterprise. The reasons for this new-found interest in voluntarism are many[ii], but include the limits of command and control regulation, the need to fill the vacuum left by the retreat of the regulatory state, and as the European Union's Fifth Action Plan points out: "the growing realisation in industry and in the business world that not only is industry a significant part of the (environmental) problem but is must also be part of the solution".[iii]

Initially, industry viewed voluntary initiatives either as a means of achieving (at best) a flexible, cost-effective and more autonomous alternative to direct regulation, or (at worst) simply a means of avoiding the imposition of binding standards altogether. However, such initiatives are increasingly being seen to fulfil a number of other objectives, including risk management (including protecting themselves from potential litigation), and reputation assurance. This last factor has become of critical importance to large, highly visible transnational corporations, who increasingly recognise the need to manage their relationships and maintain their credibility not only with governments but also with a broader range of stakeholders, including communities, NGOs, and workers. While the dynamics of reputation assurance may vary with the industry sector and context, it will be apparent that from an industry perspective, "voluntary" initiatives may owe far more to a calculated response to external (and internal) pressures than they do to any spontaneous wish to become more socially or environmentally responsible.

But although this new found interest in voluntary initiatives has resulted in their proliferation across a range of issues and in a variety of countries, we still know very little about their effectiveness or about how best to design them to achieve optimum efficiency and effectiveness. The empirical literature is very limited, due largely to the recent introduction of this approach and the lack of data collection and reporting requirements in many such initiatives. Indeed, one of the few things upon which almost all analysts of voluntary initiatives seem to agree is that far too little attention has so far been given to evaluating either their economic or environmental benefits.[iv]

Even such evaluation as has taken place has been of doubtful credibility. For example, as Kathryn Harrison has demonstrated, evaluations of some of the early initiatives suggesting that they have been very successful, are highly problematic. From her broader review of voluntary codes, Harrison reasonably concludes that:

> although policy evaluation is never straightforward, it is especially challenging with respect to voluntary programs for several reasons. Since participation is voluntary, claims of benefits beyond "business as usual" can be viewed with less confidence since firms may be selectively signing on only to do what they would have done anyway. In addition, measures of rates of compliance and environmental benefits can be more difficult since voluntary initiatives are seldom backed by legal mechanisms to compel disclosure. Finally, the potential for strategic behavior presents a special problem for voluntary initiatives. To the extent that participation in voluntary programs is motivated by a desire to avoid regulations, firms have

incentives to exaggerate the economic and environmental benefits of voluntary programs.[v]

Against this backdrop of a paucity of reliable empirical evidence, this paper examines the experience of voluntary initiatives in relation to two industry sectors which have been prominent in FDI and whose activities can have profound environmental and resource implications: the mining and forestry industries. As we will see, an industry-specific approach is valuable because the appropriateness of voluntary initiatives, and the design features necessary to maximise their chances of success, are context specific. That is, there is no single approach which is likely to work in all industries or in all circumstances. As we will see, the forestry and mining sectors offer useful contrasts for this exercise, having very different characteristics and lending themselves to very different approaches to voluntarism.

While a number of important distinctions between the types of voluntary agreement embraced by these two sectors will become apparent during the course of the paper, it is useful at this stage to highlight the most crucial differences between them, according to the taxonomy developed by the OECD[vi] (see box 1).

Box 1

Voluntary Approaches: A Taxonomy[vii]

Voluntary approaches are schemes whereby firms make commitments to improve their environmental performance beyond legal requirements. They can be divided into four categories:

- Public voluntary schemes involve commitments devised by a public body (this could be a government agency or an NGO) and in which individual firms are invited to participate. Since participation in voluntary programs is a choice left to the individual company, they can be seen as "optional regulations". Examples are the US program 33/50 or the Eco-Audit and Auditing Scheme (EMAS) implemented by the European Union;
- Negotiated agreements involve commitments of environmental protection developed through bargaining between a public authority and industry. They are frequently signed at the national level between an industry sector and a public authority, although agreements with individual firms are also possible;
- Unilateral commitments are set by the industry acting independently without any involvement of a public authority. The Responsible Care program is a well known example of a unilateral commitment made by the chemical industry in many countries;
- Private agreements reached through direct bargaining between stakeholders. For instance, the Canadian Automotive Workers Union has negotiated cleaner production provisions into collective agreements with the motor industry involving 50,000 workers in 30 plants, as well as suppliers and part manufacturers.

In terms of the above taxonomy it should be noted that certification schemes such as have evolved in the forestry industry can be either public voluntary schemes (if they are designed by governments or by third parties), or they can be unilateral commitments, when designed by business itself.[viii] In contrast, voluntary codes such as have evolved in the mining industry are examples of unilateral commitments, as they do not normally involve either governments or third parties at the design phase.

It should also be noted that some voluntary initiatives are more voluntary than others. As an OECD research paper has pointed out: "although the initiatives are referred to as 'voluntary', some firms are often under strong pressures to adopt them. Such pressures stem from legal and regulatory arrangements, from employees, from the need to protect brand or reputation capital and from civil society."[ix] Certainly the experience with the forest certification, for example, it that this has been a response to NGO and consumer pressure and that government mandates have simply been replaced by commercial mandates. Accordingly, this paper recognises that voluntarism is a question of degree, not an absolute, and embraces within it, initiatives which in significant part, may be a response to external forces.

The remainder of the paper is organised as follows. We first provide a context by (i) elaborating on what we believe to be the centrally important concept of social license as a driver of corporate voluntarism; and (ii) identifying the main differences between the mining and forestry sectors and why different forms of voluntarism have evolved in each sector. We then explore separately, the mining industry experience (comparing this to the similar but empirically more advanced experience of the chemicals industry); and that of the forest products industry. We then seek to draw some broader lessons about the design and appropriateness of voluntary approaches as a policy instrument, and some general conclusions.

A context: the importance of social license

We can get a better understanding of the role of voluntary approaches if we first ask *why* industry is increasingly attracted to the use of such instruments, and what purpose(s) they would serve. The main impetus for the introduction of such approaches (mainly in the form of industry codes of practice) is the need for the industry, or at least reputation sensitive industry, to maintain its environmental credibility. For example, in the case of the mining industry, as one industry commentator has pointed out:

> worldwide, mining is faced with a pattern of low credibility and social opposition, which drives from a general perception that mining is a dirty business. Mining is seen as inherently destructive, in that it destroys the environment, and leaves nothing positive behind when it packs up and goes. The image of abandoned mines, tailings dumps, waste-rock piles, and abandoned communities has significant resonance with the general public.[x]

The problems are usually greatest in developing countries (recipients of much FDI in extractive industries) where mining companies commonly confront a legacy of conflict, struggles over the distribution of the benefits of mining, legislative inconsistencies generated by a variety of different reform processes, and a perceived lack of legitimacy in the laws and regulations on which foreign companies rely.[xi] This last problem may be particularly serious given that there are commonly unresolved problems of legitimacy and transparency related to the entire process of mineral resource development and that a transnational company may be seen as aligned with a government which lacks legitimacy in rural areas. And even where there is the political will to regulate the environmental impact of the mining sector, governments and regulators commonly lack the capacity to do so.

As a result, the mining industry faces an urgent need to gain and maintain legitimacy and social acceptance, and cannot rely merely on the fact it claims to be in compliance with local environmental laws, to achieve this. It is particularly vulnerable to criticisms from a combination of local and international Non Government Organizations. These groups, benefiting from the global revolution in communications and information technology, not only have far greater

knowledge of mining operations than previously, but can disseminate that information rapidly, and in forms (eg digital photography and the internet) that facilitate highly sophisticated media campaigns directed to individual corporations or to the industry at large. The Brent Spar saga, albeit in another resource sector, is a dramatic illustration of the impact which sophisticated NGO media campaigns can have on corporate reputation and profits The environmental and social damage caused by the Ok Tedi mine in Papua New Guinea, at one stage threatened to become a comparable media disaster for its owners, at least at the regional level.

Within the forestry sector, Greenpeace, in collaboration with local environmental groups, succeeded in turning the issue of clear felling within the old growth forests of British Columbia, into another highly volatile and high profile media issue. There, NGO and public pressure prompted British Columbia's largest forest products company, MacMillan Bloedel, to reverse its long term policy and to announce its intention to cease all clear felling in the province. Its chairman, whose previous experience in the asbestos industry left him in no doubt as to the severe consequences of the loss of social license, was adamant that it had no choice but to acquiesce to public demands, irrespective of the short term economic cost.

A corporation that builds its reputation capital and social license (as perhaps McMillan Bloedel intends), can also turn this into a competitive advantage: "Reputation capital represents a communications bridge which predisposes NGOs, communities and other groups to enter into open discussion rather than hostile opposition. Reputation capital carries with it credibility, such that the up-front costs and risk associated with gaining social acceptability are reduced".[xii] Those with reputational capital will be those who benefit from greater access to government and planning approvals, community acceptance and preferred access to prospective areas and projects.

Against this background, how can industry convince society that it is acting responsibly in the way it exploits resources, and that it is doing so in a manner which is compatible with the concept of sustainable development? How can individual companies demonstrate that they are responsible environmental actors who can be trusted to mine or conduct forestry operations in a particular area in a developing country without poisoning the local rivers, irreparably damaging the local environment, and destroying the culture of indigenous peoples? How can companies avoid, for example, more serious accidents involving cyanide such as the Baia Mare disaster in Romania, the Kumtor incident in Krygyzstan and at the Ok Tedi mine in Papua New Guinea? Put more broadly, how can a company and the industry as a whole, protect its "social license to operate"?

An important distinction here is between action which is required to protect the reputation of an individual company, and action which is needed to protect the reputation of an industry as a whole. Of course, there is nothing to prevent individual companies from improving their own environmental performance without adopting a particular code of practice, although they may gain greater credibility (to the extent that such a code is respected by external stakeholders) by doing so. Incentives for such individual action include not only the protection of reputational capital but also competitive advantage and increased profitability, to the extent that they can identify "win-win' solutions which, for example, enable them to save substantial sums of money through more efficient use of resources.

However, it is clear that individual initiatives will not be sufficient to protect the reputation of an industry as a whole, and that unless the industry as a whole, is trusted, then the prospects of individual companies within it may be threatened. This is because a major environmental incident involving an individual company commonly tarnishes the reputation of the entire industry, exposing it to the risk of tougher regulatory requirements, obstacles to development and

community backlash. As one industry spokesman put it: "Businesses can only survive whilst they have society's acceptance for their activities. Once that acceptance is lost, there is only one way to go".[xiii]

What this means in practical terms is that each company in an environmentally sensitive industry must act as its brother's keeper. Thus a mechanism must be found, nationally and internationally, which enables the industry to continuously improve the environmental performance of all companies, large and small. Such a mechanism must be capable of improving the industry's poor public image,[xiv] restoring public faith in the industry's integrity and taking the heat out of demands for stricter government regulation.[xv] One such mechanism is to invoke voluntary initiatives, and in particular industry codes of practice, to achieve these goals. However, the precise mechanism invoked and how it will play out, is likely to vary from sector to sector. For as we will see, this mechanism is particularly apposite to the circumstances of the mining industry but less so for forestry.

Differences between the mining and forestry sectors and their implications

As will become apparent, the mining industry and the forestry industry have taken very different approaches to voluntarism, a matter which can be explained, in large part, by the differences between the two sectors.

Perhaps the over-riding distinction is that in the case of forest products, it has been possible for international environmental groups and their allies to sensitise consumers to the environmentally damaging consequences of certain forest practices, and to persuade substantial numbers of them to exercise a purchasing preference for timber harvested from 'sustainably managed' sources. A certification scheme (and subsequently a proliferation of certification schemes) usually but not always, with independent third party audit, has been the mechanism enabling sustainably harvested timber to be distinguished from that which has been unsustainably harvested. The final link facilitating this particular form of market pressure has been the willingness of forest product retailers, especially in Europe, to promote and buy certified timber.

Voluntarism in relation to forestry has been largely a reaction by forest companies to this form of market pressure. That is, forestry certification was neither initiated nor promoted by the industry, but various forest products companies have chosen to embrace it both because of the market advantages it may bring and because they see broader credibility gains (social licence benefits) from doing so.

In the mining industry, the large majority of the factors that facilitated the evolution of third party certification are absent. In principle, it might be possible to distinguish say, iron ore extracted from one source where mining techniques were environmentally sensitive, from iron ore extracted from another where they were not. However, this would be far more complex than it is in the case of timber products, *which remain in their original form, much further down the production chain, than do most extracted minerals*. It is, for example, far easier for a consumer to identify the source of the wood that goes into a chair than for a consumer to identify the source of copper making up components of a computer. That is, timber products (unless reduced to pulp) remain in their final form much further down the production chain and this may be a crucial variable facilitating or inhibiting the certification approach.

Thus while WWF and others have actively sought to expand and apply the forest certification model to other industries (eg the Marine Stewardship Council) the conventional wisdom has been that industries such as mining is are less suited to this approach, because there is little or no

capacity to harness consumer pressure. Rather, NGO campaigns against mining in the past have primarily targeted local communities and regulators. It may also be that the emotional appeal of trees is much stronger than that of minerals, even when extraction of the latter can be demonstrated to cause substantial localised damage (facilitating greater NGO leverage), and that the price elasticities and capacity for value added are substantially greater in relation to forest products (facilitating greater consumer power).

However, in an innovative new initiative, WWF is currently partnering with Placer Dome to evaluate whether mining could be included under a similar certification model to the FSC[xvi]. WWF takes the view that consumers 'constitute more than individuals going into stores for our personal consumption. WWF views the 'market' for certification of the mining industry to include…investors, financiers, insurers, employees, regulators, suppliers, and consumers'.[xvii] While it may be that certification can offer benefits to the mining sector, albeit in different ways to those offered by the FSC to forestry companies, this initiative is still at an early stage. It is not yet clear, whether, to what extent, or in what circumstances, it will achieve its objectives.

At the same time, the mining industry is experiencing increasing public and NGO criticism of its environmental practices and performance, and feels itself particularly vulnerable to that pressure and its consequences (in terms of permission to open new mines, community backlash and tougher legislation) for the reasons described in the previous section. Because individual action by individual companies is unlikely in itself to bring about an overall improvement in industry standards or to curb the activities of free-riders, some form of collective response is necessary. Since the industry does not wish to lose its autonomy and is distrustful of direct government intervention in its affairs, the establishment of a voluntary code, seemed a logical step forward. A model for the introduction of such a code already existed in the form of the chemical industry's Responsible Care program, and to date the main mining industry initiatives have been substantially modelled on Responsible Care. We explore the implications of adopting this model in the next section below.

The Mining Industry

The task of protecting a social license is multidimensional, involves operating at several levels, and engaging in dialogue with a variety of stakeholders in order to gain credibility and legitimacy. One partial but important strategy for gaining social license *at an industry level* is the development and implementation of industry codes of practice and other voluntary approaches which establish industry standards of environmental performance.

Industry groups in a number of countries (most notably Canada and Australia) have to varying degrees contemplated or introduced such codes. The International Council on Mining has an Environmental Charter and an Environment code which is reproduced at Appendix 3 below. This includes product stewardship, environmental stewardship and community responsibility principles. Amongst the obligations specified are to "meet all applicable environmental laws and regulations and, in jurisdictions where these are absent or inadequate, apply cost-benefit management practices to advance environmental protection and to minimize environmental risks." However, as Dee has pointed out, there are no significant incentives to join, and neither is there independent monitoring, or sanctions for non-compliance (nor are the principles written in sufficiently tight language to strongly induce good environmental behaviour). The International Council on Metal and the Environment is also in the process of developing a code at the time of writing.

Also of significance is the Global Mining Initiative, involving a number of major mining companies, which has commissioned a study seeking to analyse the factors which could help the mining sector better contribute to sustainable development, and which aims to reach an understanding with all stakeholders, and the industry's critics, on the role that mining should play in the transition to sustainable development. Its report will be available by 2002.[xviii]

A particularly advanced example of what a mining industry code might involve is the Australian Minerals Industry Code for Environmental Management, which was launched in 1996 and substantially revised in February, 2000 This has been described by the United Nations Environment Program as being "one of the most comprehensive voluntary codes yet devised for the mining industry, and the only code to require the disclosure of environmental performance".[xix]

While the precise motivations of the industry in establishing the code remain a matter of speculation[xx], they certainly included a concern to protect the reputation of the Australian mining sector as a whole, and with it, the reputation of individual companies and their capacity to gain access to markets in a number of developing countries. Signatories to the code commit to:

- integration of environmental, social and economic considerations into decision-making and management, consistent with the objectives of sustainable development;
- openness, transparency and improved accountability through public environmental reporting and engagement with the community;
- compliance with statutory requirements as a minimum;
- a continually-improving standard of environmental performance and, through leadership, the pursuit of environmental excellence throughout the Australian minerals industry.

Obligations under the Code are: progressive implementation; production of an annual public environment report within two years of registration; completion of an annual code implementation survey to assess progress against implementation of code principles; and verification of the survey results, by an accredited auditor, at least once every three years. The code also requires implementation of an environmental management system. As at January 2001 there were 36 signatories to the Code, representing approximately 90% of the industry's mineral production. While this figure, supplied by the AMC, suggests that the code has been widely adopted, it may disguise the extent to which smaller companies have so far declined to participate.[xxi] Further details of the Code are supplied at Appendix 2.

The Australian code and other mining industry initiatives are of too recent origin to be subject of evaluation at this stage. However, we do have much greater empirical experience of other, somewhat similar, codes of practice[xxii] In particular, since the code bears considerable similarities to, and was modelled substantially on, the chemical industry's much more developed Responsible Care program, we can at the very least extrapolate from the experience of Responsible Care to evaluate the minerals industry code in terms of key criteria such as its coverage and ambitousness, monitoring, sanctions for non-compliance, transparency and credibility. The two industry sectors have considerable similarities in that both have a substantial and high profile environmental impact, both have had a very poor public environmental image, and both need to protect their reputation capital in order to maintain access to development opportunities across a diverse range of countries, to ward of more interventionist government regulation, and to maintain credibility with external stakeholders[xxiii].

Responsible Care evolved in the aftermath of the chemical industry disaster at Bhopal, India, in 1984, at a time when the chemical industry internationally faced a serious credibility problem and

feared draconian government regulation and serious public opposition to many of the industry's activities. Responsible Care is a self regulatory program intended to reduce chemical accidents and pollution, to build industry credibility through improved performance and increased communication and to involve the community in decision making. It is built around a series of industry codes of practice and greater levels of public disclosure and participation and administered by chemical industry associations at national level. The relevant associations rely largely on promulgating norms of industrial conduct, peer pressure, technical assistance and transfer, data collection and self-reporting by members to institutionalise responsibility and ensure compliance. Expulsion of a member for non-compliance is extremely rare.

At best, over 15 years since its inception, Responsible Care has achieved only very modest success. In the USA, there is no publicly accessible aggregate data on firm compliance with industry standards, and informal estimates are that some 30% of members have been "recalcitrant' in adopting the Program[xxiv]. One recent evaluation found that: firms that are more greatly influenced by the industry's reputation will more frequently participate in Responsible Care; companies with weaker environmental performance relative to their sectors were more likely to participate in Responsible Care; there is no evidence that Responsible Care has positively influenced the rate of improvement among its members; there is evidence that members of Responsible Care are improving their relative environmental performance more slowly than non-members.

Overall conclusions from this research are that, because Responsible Care has operated without explicit sanctions for malfeasance, "it has fallen victim to enough opportunism that it includes a disproportionate number of poor performers, and its members do not improve faster than non-members. Thus the institutional pressure that Responsible Care exerts on its members appears to have inadequately counteracted opportunism". [xxv]

Another study of 16 firms found that the Responsible Care program dramatically changed the way of thinking of 3 of the firms, and was a useful and important safety health and environment tool in another 3. However, in 10 of the firms, Responsible Care primarily helped relations with external constituencies without significantly changing internal behaviour[xxvi]. Indeed some firms (who see environmental practices as marginal to their strategic and competitive objectives) appear to treat Responsible Care as a tool for external image manipulation rather than for genuine environmental improvement[xxvii].

However, Responsible Care continues to evolve, and as previous analyses point out, substantial modifications, including independent third party audit (already in the process of being introduced in some jurisdictions) and expanded roles for accountability, transparency and consultation, may go a substantial way to improving both its credibility and its capability to deliver positive environmental outcomes[xxviii].

Responsible Care may also have achieved much more than the above analyses give credit for in terms of "soft" effects (which are rarely dealt with because they are difficult to measure)[xxix]. Rees has demonstrated that the chemical industry associations, through Responsible Care, have facilitated the development of trust amongst their members, creating an environment within which people work together, share information, provide mutual aid and establish policy. Tangible manifestations of this include Responsible Care's leadership groups,[xxx] workshops, mutual assistance network and implementation guides. As a result, "by increasing interpersonal trust and reducing uncertainty, the development of community lowers transaction costs and makes collective action easier".[xxxi]

More broadly, Responsible Care has enabled the development of an industrial morality, a set of norms which generate a sense of obligation, emphasising particular values and structuring choice. Such a morality provides:

> ...a form of moral discourse capable of challenging conventional industry practices - "This is the way we always do business around here" - including the economic assumptions underlying many of those taken-for-granted policies and practices. In this way, an industrial morality ...legitimises aspirations other than profit as a good reason for action. It establishes an alternative moral vocabulary, a rhetoric of organisational motive that competes with (and critiques) the native tongue of the business organisation, the language of profits and losses."[xxxii]

Within such a context, there is also considerable scope for peer group pressure to act as an effective driver of corporate change. For example, the leadership groups in particular, fulfil this role, bringing together representatives of a number of companies to share their experiences, their progress, and, by implication, their lack of progress.[xxxiii]

Similarly, there is the potential for Responsible Care to act as a vehicle for corporate shaming[xxxiv] through the spotlight of public exposure of a polluter's moral failings. Certainly the performance indicators and verification mechanisms currently being adopted under Responsible Care, could form the basis for identifying recalcitrants and exposing them to the glare of adverse publicity. There is also some anecdotal evidence that to a modest extent, such shaming already takes place through the leadership groups. In these ways, Responsible Care provides a vehicle for informal social control: regulation from the inside ("moralising social control"),[xxxv] rather than regulation from the outside (based on external constraint).

Overall, the various Responsible Care mechanisms designed to develop mutual trust among competitors, to facilitate mutual aid, information and technology sharing, peer support, pressure, for corporate shaming and dialogue with local communities, the public and governments, create a climate which can motivate and drive corporate executives to do far more in terms of environmental performance than the law could credibly require. However, despite its considerable potential and strengths, there are also many obstacles to the success of Responsible Care. Of these, the largest is that environmental protection and private profit do not necessarily coincide, and are not perceived to coincide, particularly given the emphasis of most corporations on short term profitability.[xxxvi] For both corporations and individual managers, the essential dilemma is that they will be judged essentially on short term performance, and if they cannot demonstrate tangible economic success in the here and now, there may be no longer term to look forward to.[xxxvii]

There may be a number of particular lessons for the mining industry to be learned from the Responsible Care experience. First, to the extent that the code relies on self-reporting as the principal means of monitoring, it will lack credibility with external stakeholders and the public in general. When the industry associations responsible for administering Responsible Care announced yearly compliance figures based on their member companies 'ticking the boxes' and returning questionnaires, these statistics were greeted with great scepticism by external audiences, and as tantamount to students grading their own exam papers. Only very belatedly, and only in a very small number of countries, is Responsible Care turning to external verification and independent audit, as a means of providing credible monitoring and reporting. The leader in this respect is Canada, where an external team comprising two industry and two non-industry representatives (one from the local community) conduct such audits.

Significantly, the most recent version of the Australian Minerals Industry code requires verification of the survey results, by an accredited auditor, at least every three years. However, it must be noted that since the code requirements are essentially process rather than outcome based this does not imply independent verification that any particular level of environmental performance is being achieved, but rather that the systems that companies claim are in place are indeed so.

Second, if the industry association is unwilling to impose credible sanctions for non-compliance with the code, this too, substantially reduces its credibility. Environmental groups constantly ask for evidence that the relevant industry association is willing to take action to sanction renegade companies for non-compliance. In most countries, there are none, leading its critics to suggest that Responsible Care tolerates free-riders and lacks the political will or the means to pull up the recalcitrants to the standards set out in its codes of practice. It remains to be seen whether the Minerals Council of Australia will adopt a more aggressive approach to sanctions. At present, the position taken is that the code "is not there to judge how companies perform, and has no capacity to apply punitive measures when they fail to measure up"[xxxviii]

Third, transparency will be a critical feature of a code's credibility with the general public. Responsible Care in the USA initially used the slogan "don't trust us, track us" as a means of demonstrating to the public a commitment to openness and to full disclosure. However, in practice, its members have been loath to make such disclosure. Even now, there is no requirement to make compliance audits public in the USA and the Chemical Manufacturers Association leaves it to individual member companies to define what constitutes "full implementation" for their own circumstances[xxxix]. The code development and implementation process are even less open in Europe. Canada and Australia are the main exceptions, in that firms are required to publicly report their discharges beyond the requirements of law, and public involvement is facilitated via a national advisory panel and facility-level committees.

Again, it is too early to judge the Australian Minerals Industry code in terms of transparency. Certainly "signatory values" include "openness, transparency and improved accountability through public environmental reporting." Quite what this will mean in practice only time will tell. The early signs are not encouraging. The mining industry took a leading role in opposing the implementation of a National Pollution Inventory (a watered down version of the US Toxic Release Inventory) and was successful in having removed from the NPI, proposed reporting requirements in relation to issues such as tailings dams, which the mining industry would prefer not to be the subject of public scrutiny. Another response to its anticipated public environmental reporting initiative, has, according to regulators, been to routinely defend and if necessary appeal all prosecutions, even those where (according to regulators) it would in the past have pleaded guilty. Since the industry can massively outspend local regulatory authorities in the courtroom,

this strategy may well be successful in deterring EPA prosecutions and in preserving a clean record, but says nothing about the industry's commitment to improved environmental performance.

Finally, the Responsible Care codes, like ISO 14001, focus on systems rather than outcome based standards. As such, they leave the setting of goals to individual participants, focussing only on the processes that are in place to ensure that goals are achieved. As Harrison points out:

> at its core Responsible Care remains a management system. Whether or not it is effective as such, it cannot be viewed as a substitute for goal oriented public policy. For instance, the manufacturing code of practice commits participants to "be aware of all effluents and emissions to the environment, monitor those for which it is necessary, and implement plans for there control when necessary."…It striking that no specifics are provided about which substances should be monitored, what to report to the community, when control is 'necessary', or how firms should go in 'responding to community concerns'.

The same comment applies equally to the Minerals Industry Code.

The Forestry Industry

Forestry, like mining, is a sector whose activities have high environmental and political sensitivity. But in contrast to mining), environmentalists have been able to persuade consumers and retailers to preferentially purchase products from sustainably managed forests[xl]. They have sought to do so by developing private certification programs which typically define the environmental standards that firms must meet, by pressuring large buyers (such as do-it-yourself stores) to buy only from certified sources, and by sensitising consumers as to the environmental benefits of certified timber. That is, the key strategy of environmental groups has been to harness the incentives of the market to promote the public interest.

Certification has had a relatively short history. It began in the early 1990s as a response to the (perceived) failure of existing government policies and industry self-regulation to arrest the continued degradation of the world's forests. The chief instigators of this approach were environmental organisations, who believed that certification provided concerned consumers with a direct say in forest sustainability issues and the power to impose an economic penalty on unsustainably produced timber by boycotting it in the marketplace. As such, certification was viewed as an effective way of circumventing reluctant government forestry agencies, which were though to be too closely aligned to their industry "clients".

The most dramatic evidence of the power of private certification organisations in conjunction with direct NGO pressure to bring direct pressure to bear and to threaten the social licence was, according to Hoeberg:

> the June 1998 decision of industry giant MacMillan Bloedel to abandon its long-standing practice of clear-cutting in coastal British Columbia. In announcing the decision, company president Tom Stephens clearly credited the certification movement as an important motivation: "It reflects what our customers are telling us about the need for certified products, but equally important it reflects changing social values and new knowledge about forest ecology." By Spring 1999, two other BC companies had followed MacBlo's (sic) lead.[xli]

At the forefront of certification initiatives has been the World Wide Fund, which, together with a number of other organisations, established the Forest Stewardship Council, the first, and still the most well known, certification scheme.[xlii] As a precursor to certification, the Forest Stewardship Council developed a set of sustainable forestry management principles and criteria. It then sought to implement these through the accreditation of "approved" independent certifiers. However, this was only the first step, and certification badly needed recognition from major supply chains if it was to become effective in influencing markets.

A key breakthrough in this regard came in the United Kingdom with the formation of the 95+ Buyers Group. This group of forest product retailers and wholesalers represented nearly 25% of the entire timber trade in the United Kingdom. In an agreement with the Forest Stewardship Council, they agreed to commit themselves to the buying and selling of Forestry Stewardship Council-endorsed forest products. This was arguably the single event that led to a more mainstream acceptance of certification, or at least recognition that it was a genuine force to be contended with.

Three important and related developments have subsequently transformed the certification landscape.[xliii] First, as industry and government witnessed the gradual acceptance of sustainable forestry management timber by a significant proportion of European, and to a lesser extent, North American forest product retailers, they increasingly adopted a "if you can't beat them, join them" attitude. This led to the formation of numerous rival industry-based, or at least quasi-government, certification schemes. For example, the American Forest and Paper Association established its Sustainable Forestry Initiative, a self-regulatory approach to sustainable forestry management, and the Canadian Standards Association, in close cooperation with the domestic Canadian forest and paper industry, developed standards for a national certification scheme based on the International Standards Organisation's ISO 14001 environmental management system. Consequently, there is now a proliferation of certification schemes internationally, with industry, government and environmental schemes jockeying for prominence. Arguably, some of these schemes have been conceived to weaken the hold of the Forest Stewardship Council or to confuse the market place with the introduction of multiple rival schemes.

Second, the increasing commitments of retailers and others to purchase sustainably managed and certified timber (for example, the largest hardware chain in the United States, Home Depot, recently joined a Forest Stewardship Council buyers group) has focussed attention on one of the most obvious shortcomings of existing certification schemes: an acute lack of certified timber product. To date, only a very small minority of the global forests have been certified, under any of the schemes, the vast majority being in Sweden, where industry cooperated with the Forest Stewardship Council early on in the process. This shortage has led to a scramble by rival schemes to bring on stream as quickly as possible sustainable forestry management certified forest. In Canada, for example, more than 20 million hectares of forest is due to be certified in the very near future under the Canadian Standards Association scheme Overall, as at 31 December 2000, the amount of certified forests under the FSC scheme was 20,746,552 hectares. To give an indication of the growth rate, in September 2000 a little over 17 million hectares of forest had been certified. However, FSC certified timber is still a minority, representing only approximately 10% of roundwood sold, even in the UK, where consumers have been particularly environmentally sensitive.

Third, the rapid expansion of the number of certification schemes, of the number of retailers willing to participate in them, and of the projected supply of certified timber, has led to widespread and mainstream acceptance of the role of certification. Even some of the most

previously vocal critics, have shifted their position substantially in this regard. With the gathering momentum of certification, as Simula notes, "we have already passed the point of no return".

It should be noted however, that despite the increasing growth of certified forest across the world the balance is still heavily towards forest in developed countries. For example, under FSC the combined total of just two developed countries, Sweden (9,867,087 hectares) and the United States (2,859,231 hectares), accounts for approximately 61% of total FSC certified forest. The largest developing country participants are Poland (2,742,786 hectares), Bolivia (884,980 hectares), South Africa (828,128 hectares) and Brazil (665,558)[xliv]. This points to another feature of the FSC scheme: although it is widespread, significant contributions (for example, greater than half a million hectares) are made by only a limited number of countries (the above six plus the United Kingdom with 958,320 hectares).

The PEFC is roughly on par with the FSC in terms of the total area of certified forest. However, it is arguably even more concentrated in its geographical dispersion than the FSC. In fact, the subsidiary Finish Forest Certification System (which carries the PEFC logo) dominates the PEFC in comparative terms. As of late 2000, “ten of Finland's 13 Forestry Centre areas have received a forest certificate under the FFCS (Finnish Forest Certification System) system. These forest certificates issued by independent certification bodies cover over 19 million hectares of forest.” Other major contributors to the PEFC scheme are Sweden and Norway.[xlv]
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Credibility is also closely related to the extent of external certification. Although a majority of certification schemes have employed the use of independent third party certifiers, some have advocated a form of self-assessment. Increasingly, however, independent third party certification has become the norm. Even the industry-based Sustainable Forestry Initiative, which was specifically designed to avoid external verification, has recently announced that it will accommodate independent third party certification. The exceptions to this trend are the schemes arising in some developing countries with a high degree of government involvement, where the independence of certifiers remains uncertain. The major international certification schemes are further described in Appendix 1.

Beyond this, the success of the programs are hard to evaluate. Meidinger’s recent conclusion is that: “each of the programs has some potential for improving the environmental performance of forest enterprises, but that only the FSC program offers much hope of strengthening the protection of human rights and the participation of communities in forest management”[xlvi].

Main Features of Certification Programs

- the programs were all created by groups of self-selected standard setters with relatively low levels of government and public involvement;
- the standard setting organisations rely on decision-making based on formal constitutions and procedural rules, and organizational control based on contracts and auditing mechanisms;
- programs seek to aggrandize the organizational capacities of the regulated entities, by attempting to commit elements of firms’ management systems to program goals and by monitoring the workings of the management systems
- they rely heavily on the production, analysis and monitoring of information and share an implicit commitment to the proposition that improved information will lead both to organizational learning and improved control of organizational impacts on the environment;

It should also be noted that different schemes have very different 'ownership' arrangements and support bases. For example, some schemes are driven largely by environmental organisations, although the largest of these, the Forest Stewardship Council, includes some retailers and industry among its membership. Other schemes originate from national governments, while still others have non-government and industry organisations driving their implementation. Finally, some schemes engage a combination of these parties in a joint effort.
Source E Meidinger: "'Private' Environmental Regulation, Human Rights, and Community, Buffalo Environmental Law Journal, 132, 1999.

Whether any of the schemes have any influence over the biggest lawbreaking international forestry companies, is a moot point. It was pointed out earlier that there is already a shortage of certified timber and there remain many significant markets, most notably in Japan and other parts of Asia, which do not require certification. According to a (initially suppressed, and now much revised) World Wildlife Fund report, the worst forest products companies are from Asia, not from North America.[xlvii] The same report suggests that corruption in some developing countries is allowing Asian logging firms to "bribe their way into clear cutting protected forests, national parks, and conservation zones".[xlviii] Even an optimistic assessment must concede that beyond progressive European (and to a lesser extent, North American) markets, the current capacity of certification to foster sustainable forest management practices by public shaming and consumer preferences is limited, leaving the worst forest operations with the option of directing their products to less discriminating markets and consumers in Asia.

In essence then, the limitations of certification as it currently operates are that its impact is "largely limited to forests whose timber enters international trade and, especially, to forests whose wood is destined for environmentally sensitive markets in Western Europe and North America."[xlix] Even in these regions, though, demand for FSC products is by no means uniform, with the 'do it yourself' stores, which represent a minority of the total market, well ahead of other sectors[l]. Moreover, it is arguable that most of the companies that have obtained certification, were already well advanced in their forest management practices, and that while certification may have assisted these companies in maintaining or expanding their markets, it has not reduced the gap between the 'good' and the 'bad' companies, and acted as a significant brake on the destructive activities of the worst companies which are not exporting to environmentally sensitive markets.

However, in the future, as certification gains further momentum in the marketplace, the premium price that the market is arguably ready to pay for certified forest products[li] may act as an incentive for more companies (including bad performers) to adopt sustainable forestry practices and to achieve certification[lii]. There may also be a broader range of attractions to forest products companies in gaining certification, identified by the WWF as follows:

- benefits of quality, productivity and the right to operate, including assurance of a long term supply of timber because forests do not become exhausted and lose their productive capacity;
- benefits from better markets share, sales and prices;
- benefits to company reputation with consumers, employees and local countries; and
- reduction of risk resulting in companies enjoying lower costs of capital and insurance[liii].

Certainly, there is a general consensus that certification has already gained a critical mass in many developed economy markets, and to the extent that a premium exists, or the broader benefits identified above, companies choosing to sell in these markets ignore certification at their economic peril. However, there is little sign of Asian markets (in particular Japan) responding in

a similar fashion, and short-termism and environmentally destructive practices remain, at least for the moment, the order of the day. And even in developed markets, it remains to be seen to what extent serious distortions under certification can be avoided[liv]. For example, there remains particular concern regarding the disturbing practice of converting natural forest to plantation forest and then subsequently receiving certification.

CONTRASTING FSC CERTIFICATION AND RESPONSIBLE CARE

Design Features	**Forest Stewardship Council Certification**	**Responsible Care**
Participatory Approach to Program Design and Implementation	■	●
Transparency of Design and Operation	●	■
Specified Performance Goals	■	●
Rewards or Consequences Based on Performance	●	▲
Encourage Flexibility and Innovation	▲	■
Prescribed Monitoring and Reporting Requirements	■	●
Provision for Verification of Performance	■	●
Encourage Continual Improvement	▲	■

■ Essential component of the program

● In place

▲ Minor component or not included in the program

Source: Tommorrow, November/December 1998

Generic Industry codes

The same lack of reach and penetration to influence corporations who see a continuing commercial advantage in what is commonly described as ‘environmental rape and pillage’ is equally the case with regard to the broader social or environmental charters, which seek to encourage higher standards of corporate environmental performance across industry as a whole. These codes have been influential in shaping the environmental behaviour of at least some

leading and reputation sensitive North American and European corporations. For example, approximately 2000 companies have signed the International Chamber of Commerce's business charter for sustainable development and over 120 of these have become active participants in the World Business Council for Sustainable Development.

The Coalition of Environmentally Responsible Economies (CERES), which brings together a number of major US environment groups and various socially responsible investors and public pension funds, has also played a leading role, particularly through the design and promulgation of the CERES principles. These ten principles cover the protection of the biosphere, sustainable use of resources, disposal of wastes, energy conservation, risk reduction, safe products and services and environmental restoration, and issues of public information, management commitment, and audits and reports. There is considerable emphasis on monitoring, implementation and reporting on progress.

Also of future significance may be the recently revised set of OECD Guidelines for Multinational Enterprises. These are non-binding recommendations to enterprises, whose aim is to help MNEs operate in harmony with government policies and societal expectations, by providing guidance on appropriate business conduct across the full range of MNE activities. The recent review has both extended the areas of coverage to include matters such as human rights and consumer protection, and extended existing coverage in areas such as environment. However, the environmental issues that have been built in are still relatively modest. Even so, the OECD Guidelines may be regarded as a supplement to more detailed codes of conduct and may ultimately come to "serve as an independent benchmark of the state-of-the art thereby helping to harmonise objectives among government, business, labour and other stakeholders."[lv]. Their non-mandatory nature remains a matter of continuing concern to NGOs.[lvi]

The Guidelines also have significance because, exceptionally, they have been endorsed by all 30 OECD member governments as well as three non-members and are regarded as part of a package of international investment instruments that seek to clarify the rights and responsibilities of both governments and enterprises. Each of the adhering countries has agreed to promote the Guidelines among enterprises operating "in or from its territory" and must set up "national contact points" charged with carrying out this function. The National Contact Point(NCP) -- often a government office -- is responsible for encouraging observance of the Guidelines in its national context and for ensuring that the Guidelines are well known and understood by the national business community and by other interested parties. When issues arise concerning implementation of the Guidelines in relation to specific instances of business conduct, the NCP is expected to help resolve them. Generally, issues are dealt with by the NCP in whose country the issue has arisen.

Broader Lessons regarding Voluntary Initiatives

What are the broader lessons we have so far learned about the design and appropriateness of voluntary instruments as a policy mechanism?[lvii] This issue can be dealt with under two headings, addressing two discrete questions. First, what internal characteristics are most likely to make voluntary initiatives effective? Second, how can voluntary initiatives be linked with other policy instruments or external pressures in order to increase their effectiveness?

Internal design features

Our limited experience with voluntary initiatives suggests the importance of structuring them in ways which maximise their chance of success. Here, a number of features can be identified as of particular importance[lviii].

Environmental targets

Not all voluntary initiatives involve clearly defined targets, indeed most do not. The case for more generalised agreements is often that concrete targets are impossible to achieve in the early stages and that it is better for participants to feel their way, rather than resisting (and perhaps refusing to enter) an agreement which might commit them to non-attainable targets, or ones which, in retrospect, it is uneconomic to achieve. Far better, in these circumstances, to at least begin with good faith obligations of a general nature and process based obligations (for example in terms of developing and implementing an environmental management system). However, in the case of mature agreements, and those capable of lending themselves to specific quantifiable targets, the adoption of such targets is highly desirable. Without them, there is the risk that the initiative may become vacuous, degenerate into “greenwash”, and lose credibility

Accountability and Transparency

Those who are held accountable under an agreement know they must explain and justify any questionable actions. This tends to both discipline and constrain decision-making. But how can accountability best be achieved? One of the principal mechanisms by which accountability can be fostered is transparency. Arguably the first step towards transparency is the public announcement of the principles and practices that participants accept as a basis for evaluating and criticising their performance. When first promulgated these norms are often stated in very general terms, but can later be refined into detailed codes of management practice. The important point here is how a participant, by clarifying the standards it sets for itself, including performance indicators and implementation timetables, also provides more precisely defined measures for evaluating and criticising its performance. With increasing transparency, in short, accountability is more readily maintained[lix].

The next critical step towards achieving transparency is the development of an information system for collecting data on the progress of implementing the agreement. The process usually divides into two parts: (i) reporting and data collection and (ii) collation and analysis of data. Reporting requirements usually adopt some form of self-reporting. An obvious problem this raises is why would an enterprise report information fully or accurately if it reflects poorly on its performance. And what about enterprises that are unwilling or unable to respond fully to often cumbersome reporting requirements? This brings us to verification and monitoring.

Monitoring and Verification

The third and final step in achieving transparency - monitoring performance - also seems to be the most demanding and controversial. What makes it so are several thorny questions: How will the monitoring be structured? How will it be financed? Who will do the monitoring? This prompts a more general question. In view of all the effort, resources, and controversy surrounding the creation and maintenance of a monitoring system, what might motivate an industry participant to take such a step? At least part of the answer is that claims made by a company may lack credibility. And from this credibility gap follows the need for some kind of independent confirmation of the industry's claims, by checking their accuracy, by monitoring the actual

performance of partner companies, and so on. In other words, the environmental improvement targets set under the voluntary initiative may require the incorporation of a workable set of performance indicators. Again, these may take the form of quantifiable or qualitative measurements. In either case, it is arguably that they should be determined in advance of the scheme's operation, preferably in conjunction with the target setting process.

But monitoring alone will not necessarily overcome the credibility gap, if the industry participant is still measuring its own performance. In many circumstances, but certainly not all[lx], independent verification will also be necessary. This is often painful. Opponents of verification highlight the risk independent audits pose to business autonomy, the confidentiality of trade secrets, as well as the danger that verification results could make them increasingly vulnerable to regulators, environmentalists, and litigation. Yet, despite these and other concerns, the development of an independent verification capability is often of fundamental importance to the long term viability of a voluntary initiative. Only then, for example, are community groups, NGOs, or even government agencies, likely to be convinced of the value of the arrangement. Suppliers and other commercial third parties will also want reassurance which can be provided, at least in part, by subjecting the measuring/monitoring/auditing arrangements to outside scrutiny. Certainly the verification process could be conducted in-house (for example by an "arms-length" audit team) but the closer the verifier is to the industry partner, the lower the credibility of their findings. Thus third party audits provide far greater reassurance to outsiders than internal audits[lxi].

Environmental initiatives which include independent verification have a greater chance of success for two reasons. First, it builds in credibility and community/consumer confidence that the environmental claims are actually being delivered. This is important if industry intends to obtain a financial benefit from its environmental activities, even if this is not their primary motivation. For example, the consumers of environmentally preferred products require reassurance of the product's bona fides. Independent verification is far more likely to provide this than in-house verification. Second, knowing that the results of the environmental improvement activities will be periodically subject to external assessment provides an ongoing incentive for companies to deliver on their commitments (which brings us back to accountability).

Voluntary Initiatives and Environmental Management Systems

There is a striking similarity between the substantial majority of the factors identified above, as key features of successful voluntary approaches, and the central ingredients of environmental management systems. Such systems follow a defined sequence of steps which provide a structure for planning, implementation, reviewing and revising a system to address those parts of an enterprise's operations that can have an impact on the environment. In the case of ISO 14001, the further aim is to provide an international standard and a common (global) approach to environmental management and the measurement of environmental performance.

To meet the ISO 14001 standard, an enterprise must have a coherent framework for setting and reviewing environmental objectives, for assigning responsibility to achieve these objectives, and for regularly measuring progress towards them. It must also have appropriate management structures, employee training, and a system for responding to and correcting problems as they occur or are discovered. This implies documentation control, management system auditing, operational control, control of records, management policies, statistical techniques and corrective and preventive action.

However, while identifying environmental targets, performance monitoring, measuring and verification are all central to ISO 14001, third party audits and transparency (also identified above

as key features of environmental partnerships) are not. These omissions have resulted in substantial criticism of the standard by NGOs and may well be addressed in the currently contemplated revisions of the standard. However there is nothing in ISO 14001 that precludes greater transparency and third party verification and these elements can readily be incorporated by those who wish to do so. External pressures (eg public opinion, or pressure from trading partners) rather than ISO itself, will determine whether enterprises opt for such transparency of verification. If the experience of the quality standard ISO 9000 is repeated, then supply-chain pressure (as large companies, and multi-nationals in particular, require their suppliers to enter into contractual agreements committing themselves to and become certified to the standard) may prove the most important determinant of companies seeking external certification, while NGO and community pressure may lead to greater transparency.

Finally, the most fundamental weakness of ISO 14001 as a stand alone basis for a code of practice is that, as indicated above, it is a process standard not an outcome standard. This is not an argument against ISO 14001 per se, but rather an argument for coupling ISO with agreed performance standards for the reasons set out in the section on environmental targets above. As Adams put it: "continuous measurable improvement in actual environmental outcomes is increasingly recognised as necessary to gain the trust of stakeholders…these efforts will be more successful the more the stakeholders ar engaged in the process of setting, monitoring and continually improving the performance objectives. External verification is a crucial factor in making these voluntary efforts more credible and reliable"[lxii].

Do voluntary initiatives need to be combined with other policy instruments and external pressures?

Voluntary initiatives, such as the sorts of codes of practice contemplated by the mining industry, *to the extent that they are viable*, have the considerable advantages of providing greater flexibility to enterprises in their response, greater ownership of solutions which they are directly involved in creating, less resistance, greater legitimacy, greater speed of decision making, sensitivity to market circumstances and lower costs. However, from a public policy perspective, such initiatives should only be preferred to the extent that they are demonstrably capable of delivering the identified environmental outcomes and achieving compliance on the part of target groups[lxiii].

As with other instruments, voluntary initiatives work better in some circumstances than in others, and not all industries lend themselves to such initiatives through industry associations. A review of the literature relating to voluntary initiatives[lxiv] and industry self-regulation[lxv]. suggests that necessary (but as we will see, certainly not sufficient) conditions for the success of such initiatives are either: (1) a strong natural coincidence between the public and private interest in establishing such agreements or; (2) the existence of one or more external pressures sufficient to create such a coincidence of interest.

Circumstances where there is a natural and substantial coincidence between the private interests of individual enterprises and the public interest are often referred to as "win-win". While such "win-win" opportunities do exist in some industry sectors and for some companies[lxvi], they are often insufficient to prompt voluntary action, and are frequently overwhelmed by circumstances where no such self-interest exists. For example, in relation to forestry, while limited win win options may exist, the fundamental fact is that clear felling remains by far the most economic option, and it is highly unlikely that sufficient self-interest exists to replace it with less environmentally damaging forest practices.

The second situation which is conducive to voluntary initiatives and self-regulation is where there are sufficient external pressures on enterprises or industry associations as to give them an incentive to make such initiatives work. Those pressures might come from a variety of sources, and include the threat (actual or implied) of direct government intervention, broader concerns to maintain credibility and legitimacy (and through this, commercial advantage), and the market itself. The likelihood of self-regulation and voluntary initiatives functioning successfully will necessarily vary with the strength of these pressures. In the case of FDI involving the mining and forestry sectors, at least in developing countries, market and legitimacy concerns will be far more important than the possibility of direct regulation.

Probably the circumstances most conducive to voluntarism are those where an industry, or at least industry leaders, perceive the future prosperity and perhaps even the very survival of the industry, as dependent upon some form of self-control. The mining and forest products industries both fit within this category.

In the case of forestry, we have seen that market pressures are particularly potent in persuading the industry that voluntary approaches (via accreditation) are both desirable and necessary to the industry's long term prosperity and survival. For example, in Canada, the development of a Sustainable Forestry Management system through the Canadian Standards Association, and the comparable USA initiative, were motivated by the threat of a European consumer boycott of Canadian forestry products. The closer the industry participant is to the final consumer goods, the greater the market pressures are likely to be.

However, even where the industry is not directly connected with the consumer and is not purchasing directly from it, public pressure may still be crucially important provided the public concern is deeply felt. This is the situation in the case of the mining industry, where we have argued that the fear of losing the "social license to operate" is particularly strong.

Moving beyond the specifics of these two industries, the effectiveness of external pressures brought to bear by consumers or the broader public, will necessarily "vary depending on the type of product, the type of market (eg the number of players, their size, import/domestic considerations, stability), the extent of public concern or "outrage", and whether there is some natural affinity between consumer and industry interests".[lxvii] Of course, where a combination of various external forces can be brought to bear, then the chances of successful self-regulation are likely to be higher than otherwise. Success is most likely where there are: a small number of firms in each sector; domination of each sector by large firms; sectoral associations able to negotiate on behalf of their members; and a sympathetic business culture. Beyond this, there are a range of further problems common to many attempts to develop collective voluntary initiatives which will be further examined below.

Dealing with Free-riders

As indicated above, the existence of external pressures, (or a substantial coincidence between public and private interests in collective action), are necessary but not sufficient conditions for the success of voluntary initiatives and self-regulation. A range of other factors will also be crucial to the ultimate success of such initiatives.

Of these, perhaps the most crucial is the ability to stop free riding. Free riding is a form of collective action problem identified by Mancur Olson and others. The essential problem is that although each individual enterprise may benefit from collective action if other enterprises also participate, (as when all agree to participate in a voluntary initiative which will enhance the

reputation and competitive position of the entire industry), each will benefit even if it does not participate, provided that others do.[lxviii] It is rational therefore, for individual enterprises to "free ride"; to defect or engage only in token compliance, in effect seeking to benefit from the collective scheme without paying, or by imposing costs on others without compensation.

For present purposes, there are two main versions of the free rider problem. In the first, all parties agree to the terms and conditions of self-regulation, but some merely feign compliance. For example, a self-regulatory program addressed to environmental protection such as the Australian Minerals Council's code of practice, confronts the problem that some participants will be tempted to take advantage of the willingness of other firms to spend on cleaning up the environment, while refraining from doing so themselves as a matter of rational, economic self-interest.

A second version of free riding occurs where a part of the relevant industry simply refuses to sign on to the self-regulatory scheme. For example, 80% of the industry may agree to comply with a code of practice, but 20% may simply refuse to sign on and still get the benefits of collective action by their competitors. If so, a failure to address the misconduct of the latter (which since they are outside of the code, is beyond the scope of the self regulatory scheme) will almost certainly result in the failure of the code. This is because those who sign the code cannot afford to be put at a competitive disadvantage as against those who do not. Significantly, Esmeralda, the Australian mining company responsible for the disastrous Baia Mare cyanide disaster in Romania, was not a signatory to the relevant industry code and cannot be sanctioned under it. However, for reasons indicated below, this second problem, while fundamental to the mining industry code, is not significant in relation to accreditation schemes such as in forestry.

In the first version, where all, or almost all, firms agree to participate then in at least some circumstances, free riding may be capable of being contained through mechanisms such as peer group pressure, shaming, or more formal sanctions. A crucial consideration will be the number of players involved. As Olson and others have pointed out, the greater the number of players, the greater the temptations and opportunities to cheat, and the greater the difficulties in identifying and controlling those who do. There is also greater difficulty in reaching and maintaining consensus with a large number of players (Purchase 1996:16).

Even where there are reasonably few players, success in curbing free riding is by no means assured. Rather, it will be influenced by a number of other factors. For example, it has been argued that the ability to control free riding increases as:

- enterprises are aware of each others' behaviour and can detect non-compliance;
- they have a history of effective cooperative action (eg an existing association);
- non-compliant behaviour can be punished; and
- consumers, customers or other clients value compliant behaviour and can identify compliant firms (with the result that free riders can be controlled by markets, particularly where these are driven by consumer demand).[lxix]

While it would be premature to judge the success of the Australian Minerals Industry code of practice in terms of its success in avoiding free riding, the experience with the closely related Responsible Care initiative, is not encouraging. Recent studies cited above suggest that free-riding is rampant. The problem may be less severe under third party accreditation schemes, where at least in principle, the independence of the third party auditors or accreditors should facilitate the identification of non-compliers who can be punished through withdrawal of accreditation.

In the second situation above, where a significant number of players refuse to join the self-regulatory program, and cannot be induced to do so by threats or incentives provided by other players, then self-regulation *in relation to programs such as the mining industry code and Responsible Care,* can only work if government intervenes directly curb the activities of non participants. While this may be viable in the circumstances of many developed countries, it is rarely a credible option in the circumstances of FDI and developing countries (see further next section below).

However, this is not a significant problem in relation to certification schemes such as the Forest Stewardship Council, because certification labels allow a clear differentiation between participants and non-participants. Indeed, while the social license to operate requires that the sector as a whole aspires to certain minimum standards, capturing a (supposed) price premium is only possible as long as there are other outsiders.

Collective action problems such as free riding are most likely to be overcome where the common interests of the group members is particularly strong (for example, where there is a "community of fate" whereby the fortunes of any one company are tied to the fortunes of the industry as a whole, as described above).

Given the serious problems of free riding, a prerequisite for successful collective voluntary initiatives will be effective monitoring and enforcement. Without it, free rider problems in relation to self-regulatory codes such as the mining industry, may be insurmountable, for reasons described above. We have seen that the range of enforcement mechanisms that might potentially be invoked is quite broad. At the lower levels it could include education, incentives (eg under Responsible Care, the sharing of information) and peer pressure (eg Responsible Care leadership committees). At the higher levels, sanctions might include removal of benefits (eg the right to use the industry logo), a requirement of public disclosure of breaches (making the perpetrator vulnerable to adverse publicity), or the taking of remedial measures (product recall, reparation of environmental damage). Breach of terms of a self-regulatory program might also be construed as breach of contract, making a defecting enterprise liable in damages to the relevant self regulatory body.

The ultimate sanction is often expulsion from the association, compliance being made a condition of membership. The impact of this will vary from case to case. Where an enterprise cannot effectively trade without industry membership it may be potent indeed, though in these circumstances serious concerns may be raised about restrictive trade practices and contravention of any relevant anti-trust laws. Where expulsion will have little direct impact, associations will be reluctant to invoke it for fear of revealing their ultimate lack of regulatory clout. It is at this point that most collective voluntary initiatives are vulnerable to failure. Lacking ultimate capacity to invoke sanctions at the tip of an "enforcement pyramid" (Ayres & Braithwaite 1992) the credibility of sanctions at lower levels also weakened. This is a major reason why "pure" voluntarism is rarely successful, and why there is a compelling need, even with many of the best of self-regulatory programs, to complement self-regulation with some form of government or third party involvement. We explore this issue further in the next section below.

The Role Of The State and Third Parties

How can public policy best be designed, in order to take advantage of the strengths and virtues of collective voluntary approaches and industry self-regulation[lxx], while compensating for its weaknesses as a stand alone mechanism? This implies an underpinning of state intervention sufficient to ensure that it does operate in the public interest, that it is effective in achieving its

purported social and economic goals and has credibility in the eyes of the public or its intended audience. As we have indicated, precisely what form of state intervention will provide the most appropriate underpinning, and indeed the extent to which such an underpinning is necessary, is likely to vary with the particular circumstances of the case. In this respect too, the circumstances of mining and forestry are quite distinct. Unfortunately, there are no magic bullets or universally appropriate prescriptions. However, it is at least possible to identify some of the most commonly important variables, and to illustrate by example, how co-regulation might operate to optimal effect in particular circumstances.

In the case of codes of practice along the model of the mining industry or Responsible Care, , collective voluntary initiatives should ideally operate in the shadow of rules and sanctions provided by the general law, for it is these which are the most obvious and visible (but not the only) means of giving regulatees the incentive to comply with the self-regulatory program. Certainly, there is considerable evidence from a variety of jurisdictions, that it is largely fear of government regulation that drives the large majority of self regulatory initiatives, and it seems unlikely that they will perform well, in the absence of continuing government oversight and the threat of direct intervention[lxxi]. However, in the context of FDI in developing countries, the law is rarely a credible and effective policy tool, and environmental regulators are usually vastly under-resourced and sometimes vulnerable to capture and possibly corruption. Accordingly we must look elsewhere for means to bolster the effectiveness of voluntary initiatives.

Ideally, this might involve other forms of regulation. As Zarsky has pointed out: “without obviating the need for local regulation, there is a great need for an *overarching global framework* to define – and raise – the environmental responsibilities of foreign investors. Only by setting common responsibilities for all transnational investors will policymakers escape the competitive race for FDI which keeps environmental commitments ‘stuck in the mud’”.[lxxii] However, it is also recognised that there has been little political will by governments for global and/or regional social regulation of investment, and for the moment one must look elsewhere for external controls on corporate behaviour[lxxiii].

Conceivably, individual countries might choose to go it alone, and impose “long arm” legislation whose reach extended internationally to companies registered in that country. For example, Australia already has such statutes relating to sex tourism and bribery, and as Bill Dee points out: “the addition of environmental legislation applying to Australian mining companies operating abroad would not be unprecedented”. A private members bill (the “Corporate Code of Conduct Bill”) is currently before the Australian parliament seeking to impose standards of conduct on Australian corporations undertaking business activities and employing more than 100 people in a foreign country. However, such legislation is unlikely to be implemented, not least because of the fear that any country doing so would be creating incentives for powerful corporations to relocate elsewhere, taking much of their capital with them[lxxiv].

Sometimes, there may also be a possibility of harnessing third parties to act as surrogate regulators; monitoring or policing the code as a complement or alternative to government involvement. Indeed, it is arguable that self-regulation is rarely effective without such involvement. Thus Webb, summarising the experience of the 1996 Canadian Symposium of Voluntary Codes, concludes:

> Meaningful involvement by consumer and other public interest groups is often what sets apart the successful codes from those which have received less support from government and the general public. At a time when citizens are better informed , more demanding and more sceptical of so-called "elites" (government, industry, the

> academic and scientific communities etc) it is difficult to imagine a situation where a voluntary arrangement could succeed without meaningful community, consumer and/or other third party involvement.[lxxv]

The most obvious third parties with an interest in playing this role are sectoral interest groups such as consumers, trade unions or NGOs generally. This contribution may be through their direct involvement in administration of the code itself (in which case it has greater credibility as a genuinely self regulatory scheme) or in their capacity as potential victims of code malpractice, to boycott firms that breach the self-regulatory program.In the case of the mining industry, public pressure, fuelled by NGOs, and fear of losing the “social license to operate” are driving forces which provide incentives to the industry to develop and implement voluntary codes..

Sometimes the role of third parties and government intervention can be combined. For example, in Indonesia, the government has had considerable success with its PROPER-PROKASIH program which assigns companies a ranking according to their performance and the information is then made publicly available. Firms are assigned to a colour category so that poor performers are easily recognised and stigmatised by the public and by environmental NGOs. According to the World Bank, many facilities have reduced their emissions despite the lack of an effective general enforcement program, because of the powerful “shaming” impact of the PROPER program. Indeed, in this instance PROPER has done more to exploit the sensitivity of companies about losing their social licence than voluntarism.

The circumstances of forestry certification require a somewhat different analysis. Here, as we have indicated, the main driver is market pressure/demand which enables certification to provide an economic incentive for improved environmental performance. The need for state involvement is accordingly much less because the main impetus comes from requirements in export markets which are independent to a great extent from local conditions. Put differently, since the potential success of forest certification rests on the role of NGOs in developing independent third party accreditation schemes in conjunction with consumer pressure and the role of buyers groups, the relative incapacity of developing countries to provide credible regulation, is far less important than in the case of the mining codes.

Finally, the importance of utilising a broader regulatory mix cannot be over-emphasised. Often, the best solution is to design complementary combinations using a number of different instruments, thus: self-regulation; government regulation; and third party oversight may be capable of being combined in complementary combinations that work better than any one or even two of these instruments acting together.

For example, in the case of the chemical industry's Responsible Care program, even though the industry as a whole has a self interest in improving its environmental performance, collective action problems and the temptation to free ride mean that self-regulation and its related codes of practice alone, will be insufficient to achieve that goal. However, a tripartite approach, involving co-regulation and a range of third party oversight mechanisms, may arguably be a viable option (Gunningham 1995). This might involve; creating greater transparency (through a community right-to-know about chemical emissions), which in turn enables the community to act as a more effective countervailing force; greater accountability (through the introduction of independent third party audits which identify whether code participants are living up to their commitments under the code, and which involve methodologies for checking and verifying that responsibilities are being met); and through an underpinning of government regulation which, in the case of companies which are part of the scheme, need only "kick in" to the extent that the code itself is failing or when individual companies seek to defect from their obligations under it and free ride.

Conclusion

To summarise, voluntary initiatives are unlikely to make a substantial contribution to improved corporate environmental performance as a 'stand alone' policy instrument. The evidence suggests that sole reliance on voluntary initiatives has generally proved insufficient to achieve an acceptable level of industry-wide compliance. For example, a KPMG Ethics survey of 1000 corporations found that 58% of those who said they had a code did not have anyone designated to be responsible for ethics within the company. Again, a Canadian survey concluded that industrial sectors relying solely on self monitoring or voluntary compliance had a compliance rate of 60% versus the 94% average compliance rating for industries subject to federal regulations combined with a consistent inspection program[lxxvi]

It is when such agreements are used in conjunction with state or third party oversight, or as a form of co-regulation, that their prospects are somewhat more promising. Yet ironically, as Harrison has pointed out:

> The growing popularity of voluntary initiatives…threatens, in some cases, the fundamental function of the state in setting public policy objectives in the first place, even if it means to achieve them is left to industry. As it now stands, as business is being given increasing flexibility, even to set its own objectives and grade its own performance in the case of many environmental management systems, the role of both government and other non-government actors is being curtailed by the move to voluntarism. Given that the business community is the last place many would look for altruism, that represents a significant leap of faith".[lxxvii]

The problems of the retreat of the state are exacerbated in the case of FDI in developing countries, where the capacity of the state to curb corporate environmental excesses was never strong and is now being rapidly outpaced by the growth of FDI and the severity of environmental problems such countries face. In these circumstances, voluntary initiatives would seem to be a far less than ideal policy approach. But then on the other hand, there are very few credible alternatives. Certainly we should not hold our breath waiting for effective environmental regulation in developing countries or for the establishment of a global regulatory regime. For as a WWF report has pointed out: "poorly structured concessions effectively subsidise forest product companies and weaken forestry departments. Corruption and influence at the national level mean that environmental regulations are flouted. International government attempts to protect forests have been largely unsuccessful, and even though an international convention on forestry may yet be signed, environmental experts have little hope that it will reverse the large scale environmental problems of forests"[lxxviii].

In these circumstances, however imperfect, voluntary initiatives must be strengthened by coupling them with external pressures and oversight. This can take a number of different forms. Third party accreditation and certification in the forest products industry is one such form, although its impact may ultimately be diluted (arguably deliberately) by the proliferation of different schemes which may serve to confuse the consumer and debase the credibility of the entire certification approach.

In the case of the mining industry, the capacity for corporate shaming, the importance of reputation capital and protecting the social license to operate (because what a company does in any location and with any stakeholder, will contribute to the company's reputation worldwide) may be the points of vulnerability which give the necessary incentive to large mining companies

to take a code of practice seriously and in the longer term, to pressure their peers to take it equally seriously. In this exercise, governments can help, if not by direct regulation, then by initiatives which provide environmental information and rankings and which facilitate corporate shaming such as the PROPER scheme in Indonesia.

Even here, those (often smaller) companies which do not have a corporate brand or reputation to protect, and those who operate from countries which do not take environmental responsibilities seriously and are insensitive to the particular means by which corporations maximise their profits, will pose intractable problems. The recent practices of some Asian forest products corporations is a graphic case in point. We are still far from having a viable solution to the environmental excesses of some components of corporate capital in a globalised economy.

Appendix 1 – Major international certification schemes.

(source P Kanowski, D Sinclair, B Freeman and S Bass "Critical elements for the assessment of forest management certification schemes: Establishing comparability and equivalence amongst schemes", Department of Agriculture, Fisheries and Forestry – Australia, 2000)

Forest Stewardship Council

The Forest Stewardship Council is the most prominent certification scheme internationally, in terms of its market penetration and level of consumer awareness and, until recently, area of forest coverage (see Pan European Forest Certification below). It originated in the early 1990s in the United Kingdom where the World Wide Fund for Nature obtained the support of number of timber traders to purchase preferentially sustainably managed forest products that had been certified. By late 1999, approximately 17 million hectares of forest had been certified worldwide under the Forestry Stewardship Council scheme. The vast majority of this occurred in Sweden, Poland and the United States.

ISO Environmental Management Systems — 14001

ISO 14001 is an environmental management system developed by the International Organization for Standardization in 1996. ISO 14001 (and its European equivalent, the Environmental Management and Audit Standard) provides a framework for organisations to identify, evaluate and manage their environmental risks, enabling them to take a systematic and integrated approach to environmental management. Under ISO 14001, organisations introduce policies, objectives, programs, measurement and assessment methodologies to achieve continuous environmental improvement. ISO 14001 has become an important policy tool for organisation management, and increasingly, is being viewed as a basic requirement of commercial relationships, particularly international trade. ISO 14001 is not, however, a forestry certification scheme.

It differs from forestry certification schemes in two critical ways. First, it cannot be used as a product standard or logo (in other words it is conferred on organisations, not their products). Second, it is inherently generic (meaning that it applies to all sectors, not just forestry). It has, however, been used as the basic foundation of many forestry certification schemes. A number of companies have used ISO 14001 certification as a learning/capacity development exercise prior to Forest Stewardship Council or CSA certification. It is interesting to note that ISO 14001 has required a major shift in the operations the International Standards Organisation. In the past it has attracted criticism on the basis that its structure favoured industry interests. With the development of ISO 14001, however, it has had to accommodate a much broader range of stakeholder interests and issues.

Canadian Standards Association

The Canadian Standards Association certification scheme began in 1994 with the support of the Canadian forest product industry and government forest agencies. The principles and criteria used are based essentially on ISO 14001. They do, however, incorporate additional performance standards relevant to environmental, economic and social issues. The scheme has a number of innovations over the conventional ISO 14001 approach, including compulsory third party certification, measurable improvements, local public input, and economic and social objectives. The scheme is, however, confined to forest certification and does not include chain-of-custody certification associated with individual products. The area of forest certified under the CSA scheme is still comparatively small, but large areas are anticipated in the near future.

Sustainable Forestry Initiative (AF&PA)

This scheme was established by the American Forest and Paper Association in 1994, and is essentially a comprehensive set of industry-based guidelines, principles and performance measurements for the sustainable management of forests. Sustainability in this context is expressed in terms of both economic sustainability and the preservation of non-economic values such as species habitat, biological diversity, soil, water and air quality, and visual aesthetics. The scheme is an attempt to 'self-regulate' sustainable forestry management, in particular, to harness commercial relationships between enterprises. For example, pulp and paper companies are encouraged to exercise discrimination when purchasing timber from loggers to ensure that sustainable forestry management is supported along the supply chain. More recently, a voluntary verification process was added to the SFI program whereby member companies can apply a rigorous and consistent verification approach to document their conformance to the SFI Standard. The SFI program has 24 million hectares enrolled, including 133 member companies.

Another important US-based certification scheme is the *Green Tag Forestry Program*. This program was developed by the National Forestry Association in cooperation with the National Woodland Owners Association and in consultation with individual members of the Society of Consulting Foresters. The certification criteria are based on the procedures of the Forest Stewardship Council. Certification involves an on-site evaluation of the management plan by a 'Green Tag participating forester' or a team of resource specialists. The management of the forest must be consistent with performance criteria in 10 categories of forest stewardship. Certification provides the right to label products from the certified forest(s) with the Green Tag label. Like SFI, the Green Tag Forestry Program provides for both industrial and non-industrial forest owners.

United Kingdom Woodland Assurance Scheme

The United Kingdom Forestry Commission established the UK Woodland Assurance Scheme in 1999, specifically for small, non-industrial woodland owners. The scheme was developed with broad participation of all sectors including industry, forest owners, non-governmental organisations, government and standards experts (it has the support of the Timber Growers Association, the World Wide Fund for Nature and the Forestry Stewardship Council). It is a voluntary scheme that uses independent assessment of sustainable forest management practices. Individual or group certification is allowed. An interesting feature of the United Kingdom Woodland Assurance Scheme is that it is designed to be compatible with both governmental national forestry standards *and* the Forestry Stewardship Council's national standard for the United Kingdom.

Pan European Forest Certification

The Pan European Forest Certification scheme aims to accredit national-based certification schemes in Europe. It is based on the Pan European inter-governmental Helsinki C&I for sustainable forest management, and provides for a common label that will be recognised throughout Europe. In effect, it is form of mutual recognition. A large part of the impetus for Pan European Forest Certification formulation was the concern by smaller European growers that the Forest Stewardship Council certification scheme did not satisfactorily reflect their history and needs. These owners have established a scheme more closely based on the considerable layers of national legislation pertaining to forests and on the intentions of the Helsinki Process. Some essential features of Pan European Forest Certification are that is voluntary, requires independent third part audits, has limited involvement by environmental organisations and is largely consistent with the ISO 14001 model in that it de-emphasises performance standards.

The scheme was launched in 1999, and currently recognises three national schemes (Finland, Sweden and Norway), representing a total of 18 million hectares of independently certified forest. Further initiatives are expected as a number of industry associations across Europe have signed onto the scheme. The area of forest certified under the Pan European Forest Certification scheme is already equal to the area certified by the Forest Stewardship Council, and will continue growing — to approximately 27 million hectares by the end of 2000.

While interested in the scope for mutual recognition beyond its work across Europe, the Pan European Forest Certification scheme has not yet considered mechanisms or procedures for engaging in mutual recognition with non-Pan European Forest Certification schemes.

Finnish Forest Certification

The Finish Forest Certification scheme was initiated by the Finnish Central Union of Agricultural Producers and Forest Owners, the Finnish Forest Industries Federation, World Wide Fund for Nature (Finland) (which has since withdrawn) and the Finnish Association for Nature Conservation in 1996. It is based on the Environmental Management and Audit Standard, and is recognised by the Pan European Forestry Certification scheme. It uses a combination of process and performance standards, has a particular emphasis on non-industrial forestry, and is consistent with national Finnish ecological and socio-economic priorities. The scheme allows for individual and group certification of aligned areas. It is anticipated that 12 million hectares of forest will be certified.

Brazil

CERFLOR is the name given to the Brazilian national forestry certification standard. ABNT (the Brazilian national standards organisation) and the Brazilian Society for Silviculture are developing this standard. The ABNT has established a technical committee comprising technical experts, industry representatives, environmental NGOs and academics to develop these standards. Their first focus has been the large scale, industrial plantation forests.

The technical committee has developed draft standards through a participatory process governed by ABNT and based largely on ISO procedures. The proposed scheme emphasises voluntarism, self-regulation and independence, with the ultimate objective of positively differentiating Brazilian products from others in the global marketplace. It appears that the draft standards and proposed scheme are considered broadly acceptable. CERFLOR has not yet certified any Brazilian forests.

Indonesia

The Indonesian Ecolabelling Institute (LEI) was established with support from the World Bank to establish a national certification scheme in Indonesia. In September 1999, the LEI and the FSC launched a joint certification program, which involves LEI, FSC-accredited certifiers and Indonesian certifiers. This joint program is an interim arrangement during which all Indonesian wood products certified under the program will carry both LEI and FSC labels. This program will assist Indonesia to establish LEI certification and a reputation in the international wood product markets. It should also accelerate the establishment of Indonesian forest certifying companies.

The standards for this program were developed based on national policy, ITTO guidelines, FSC principles, ISO standards and public consultation. This work has produced a set of national criteria and indicators for both national and plantation forests. Indonesia has made considerable

progress in developing an institutional structure to support this program, including capacity for establishing chain-of-custody. The initiative incorporates auditing and certification by independent third party certifiers. The National Standardisation Institute will accredit certifiers. Certifiers will be locally trained and paid by LEI rather than the applicant.

The interim arrangement is expected to last for two years. Following this arrangement, LEI will cease providing certification services and concentrate on becoming an accreditation body for certifiers.

Malaysia

Following a pilot study of certification schemes, the Malaysian Timber Council established the National Timber Certification Council (NTCC) to develop and oversee a domestically based certification scheme. The NTCC is an independent Council including representatives from all sectors, though the strong government backing clearly establishes strong governmental influence. The NTCC is working towards gaining active support from the national consumer advocacy organisation and WWF-Malaysia.

The NTCC has developed draft certification standards for sustainable forest management based on national policy and ITTO guidelines. The development of these draft standards also incorporated consideration of ISO procedures and standards and discussions with FSC in regard to compatibility with FSC principles and criteria. The proposed scheme includes assessment by an independent auditor. The Council has undertaken pilot testing of these standards within national forests on Peninsular Malaysia through agreement with the international testing firm SGS. These pilot tests have included pilot certifications and timber export shipments carried out in association with the Keurhout Foundation in the Netherlands.

Appendix 2 Australian Minerals Industry Code for Environmental Management

Commitments made by Signatories of the Code.

- Application of the Code wherever the signatory operates (this includes overseas);
- Progressive implementation of Code principles;
- Production of an annual public environmental report within two years of registration;
- Completion of an annual code implementation survey to assess progress against implementation of Code principles; and
- Verification of the survey results, by an accredited auditor, at least once every three years.

The Seven Principles of the Code.

- Accepting environmental responsibility of all our actions.
- Strengthening our relationships with community.
- Integrating environmental management in the way we work.
- Minimising the environmental impacts of our activities.
- Encouraging responsible production and use of our products.
- Continually improving our environmental performance.
- Communicating our environmental performance.

Values Signatories to the Code Commit to.

- Integrate environmental, social, and economic considerations into their decision-making and management, consistent with the objectives of sustainable development.
- Maintain openness and transparency, and improve their accountability through public environmental reporting and engagement with the community.
- Comply with all statutory requirements, as a minimum.
- Continually improve their standard of environmental performance and, through leadership, pursue environmental excellence throughout the Australian minerals industry.

Appendix 3 New Directions Group, Criteria and Principles for the Use of Voluntary or Non-Regulatory Initiatives (VNRIs)

(source www.env.gov.bc.ca/epd/epdpa/ipp/frppioj.html)

The recently published " Criteria and Principles for the Use of Voluntary or Non-Regulatory Initiatives (VNRIs) to Achieve Environmental Policy Objectives," was developed by the New Directions Group under contract to Environment Canada. This document provides guidance to governments, industry, NGOs, and others involved in the development and review of VNRIs . This appendix summarizes the framework of criteria and principles contained in this document.

Criteria for the Utilization of VNRIs to Achieve Environmental Policy Objectives

1. VNRIs should be positioned within a supportive public policy framework that includes appropriate legislative and regulatory tools.
2. Interested and affected parties should agree that a VNRI is an appropriate, credible and effective method of achieving the desired environmental protection objective. There should be a reasonable expectation of sufficient participation in the VNRI over the long term to ensure its success in meeting its environmental protection objectives. All participants in the design and implementation of the VNRI must have clearly defined roles and responsibilities. Mechanisms should exist to provide all those involved in the development, implementation and monitoring of a VNRI with the capacity to fulfill their respective roles and responsibilities.

Principles Governing the Design of VNRIs

Credible and effective VNRIs:

1. Are developed and implemented in a participatory manner that enables the interested and affected parties to contribute equitably;
2. Are transparent in their design and operation;
3. Are performance-based with specified goals, measurable objectives and milestones;
4. Clearly specify the rewards for good performance and the consequences of not meeting performance objectives;
5. Encourage flexibility and innovation in meeting specified goals and objectives;
6. Have prescribed monitoring and reporting requirements, including timetables;
7. Include mechanisms for verifying the performance of all participants; and
8. Encourage continual improvement of both participants and the programs themselves.

Appendix 4 – International Council on Mines and the Environment (ICEM) Environmental Charter

In all their activities, ICME members will be guided by the principles set out below.

Product Stewardship Principles

- Develop or promote metal products, systems and technologies that minimize the risk of accidental or harmful discharges into the environment.
- Advance the understanding of the properties of metals and their effects on human health and the environment.
- Inform employees, customers and other relevant parties concerning metal-related health or environmental hazards and recommend improved risk management measures.
- Conduct or support research and promote the application of new technologies to further the safe use of metals.
- Encourage product design and uses that promote the recyclability and the recycling of metal products.
- Work with government agencies, downstream users and others in the development of sound, scientifically based legislation, regulations and product standards that protect and benefit employees, the community and the environment.

Environmental Stewardship Principles

- Meet all applicable environmental laws and regulations and, in jurisdictions where these are absent or inadequate, apply cost-effective management practices to advance environmental protection and to minimize environmental risks.
- Make environmental management a high corporate priority and the integration of environmental policies, programs and practices an essential element of management.
- Provide adequate resources, staff and requisite training so that employees at all levels are able to fulfill their environmental responsibilities.
- Review and take account of the environmental effects of each activity, whether exploration, mining or processing, and plan and conduct the design, development, operation, and closure of any facility in a manner that optimizes the economic use of resources while reducing adverse environmental effects.
- Employ risk management strategies in design, operation and decommissioning, including the handling and disposal of waste.
- Conduct regular environmental reviews or assessments and act on the results.
- Develop, maintain and test emergency procedures in conjunction with the provider of emergency services, relevant authorities and local communities.
- Work with governments and other relevant parties in developing scientifically sound, economic and equitable environmental standards and procedures, based on reliable and predictable criteria.
- Acknowledge that certain areas may have particular ecological or cultural values alongside development potential and, in such instances, consider these values along with the economic, social and other benefits resulting from development.
- Support research to expand scientific knowledge and develop improved technologies to protect the environment, promote the international transfer of technologies that mitigate adverse environmental effects, and use technologies and practices which take due account of local cultures and customs and economic and environmental needs.

Community Responsibility Principles

- Respect the cultures, customs and values of individuals and groups whose livelihoods may be affected by exploration, mining and processing.
- Recognize local communities as stakeholders and engage with them in an effective process of consultation and communication.
- Contribute to and participate in the social, economic and institutional development of the communities where operations are located and mitigate adverse effects in these communities to the greatest practical extent.
- Respect the authority of national and regional governments and integrate activities with their development objectives.

In support of the above Environmental Charter, in communicating ICME policies and principles and in promoting better understanding, ICME will seek to:

- provide a free flow of information on international environmental and developmental issues affecting the industry;
- listen and respond to the public about metals and the environment;
- develop and implement programs that communicate the benefits of a balanced consideration of environmental, economic and social factors;
- present products, processes or services as being environmentally sound only when supported by well-founded contemporary data; and
- ensure information provided is candid, accurate and based on sound technical, economic and scientific data.

Table 1 – The progress and policy framework of certification in developed countries[lxxix]

Country	Policy framework
Australia	Limited progress. Possible development of industry based standards based on National Forest Policy, Montreal Principles and ISO14001.
Canada	Large areas coming on stream. Industry based standards developed to be compatible with Montreal Principles and ISO 14001 standards. Also seeking to develop regional standards consistent with FSC principles. Some FSC activity.
Finland	Early adopter with significant certified areas. Industry based standards finalised in line with Helsinki Principles and recognised by PEFC. Broadly compatible with FSC and may be integrated with ISO14001. Some application of FSC.
Germany	Mainly an importer. Domestic industry standards based on German forestry legislation and standards. FSC seeking market influence.
The Netherlands	Major importer. Local standards consistent with the Helsinki Principles. Limited FSC areas. Government (through the Kerhout Foundation) has developed minimum requirements for certificates entering Dutch market with reference to ISO standards.
New Zealand	Focus on plantation timber. Industry standards expected to be WTO compatible. Some FSC certification.
Sweden	Most advanced in terms of area certified. FSC is the major scheme, but PEFC is increasing its share. Industry scheme is based on national legislation, Helsinki Principles and ISO14001 standards
UK	Mainly an importer. Domestic standards developed by consensus to be compatible with both UK National Standard and FSC UK National Standard.
USA	Dominant scheme is SFI: principles by AFPA following some member consultation, compatible with ISO14001. Significant area certified by FSC. Non-industrial operators use Green Tag, based loosely on procedures of FSC. State-based best management principles as minimum.

[i] We are grateful to members of the OECD Environment Directorate for their insightful comments on earlier drafts and in particular to Peter Borkey and Kathryn Gordon for their detailed comments, many of which are incorporated in this document.. However, the views and conclusions are entirely the authors' responsibility and are not endorsed by the Environment Directorate.

[ii] For a detailed analysis, see J Moffet and F Bregha "An overview of issues with respect to voluntary environmental agreements" CAVA Working Paper, No 98/11/3.

[iii] European Commission Communication from the Commission to the Council and the European Parliament on Environmental Agreements, COM (96) 561 (Brussels: European Commission, 1996).

[iv] T Davies and J Mazurek *Industry Incentives for Environmental Improvement: Evaluation of US Federal Initiatives*, Washington DC, Global Environment Management Initiative, 1997; National Research Council, Fostering Industry-Initiated Environmental Protection Efforts (Washington: National Academy Press, 1997; D Beardsley, Incentives for Environmental Improvement: An Assessment of Selected Innovative Programs in the States and Europe (Washington, DC, Global Environmental Management Initiative, 1996); European Environment Agency Environmental Agreements; K Harrison "Voluntarism and Environmental Governance" in Governing the Environment, E Parson (ed) ch5, forthcoming. OECD, Voluntary Approaches to Environmental Policy: An Assessment, OECD, Paris, 2000.

[v] K Harrison "Voluntarism and Environmental Governance" in Governing the Environment, E Parson (ed) ch5.forthcoming. It should be noted that Harrison's criticism also holds for other instrument. Firms will always tend to overestimate the costs of environmental regulations in order to lower the regulatory requirements that are made to them.

[vi] Voluntary Approaches to Environmental Policy: An Assessment, OECD, Paris, 2000, pp 15-18.

[vii] *:* Voluntary Approaches to Environmental Policy: An Assessment, OECD, Paris, 2000, pp 15-18.

[viii] The Forest Stewardship Council is an example of third party design, while the Pan European Forest Council is an example of business taking the initiative. There are no examples of government taking this role. Indeed, forestry certification was largely an NGO strategic response to what was perceived to be widespread government and regulatory failure in this area.

[ix] Private Initiatives for Corporate Responsibility: An Analysis, OECD, Paris, 2000.

[x] The Mining Journal, June 11 1999, Focus and Comment: "Earning a Social Licence", p441.

[xi] See S Joyee, I Thomson "earning a Social license to Operate: Social Acceptability and Resource Development in Latin America' Cited in The Mining Journal, 11 June 1999.

[xii] Ibid

[xiii] C E Holmes, *Address to Hazardous Waste Conference* (1992), Australian Chemical Industry Association, ACIC, Melbourne, p 3.

[xiv] This was acknowledged by ACIC former Chief Executive, Frank Phillips, who said that the plan was developed in response to the industry's poor public image (see R Smithers, "Chemical Firms Adopt Code to Clean Up the Industry" (1989) *The Age* 27 September, p 5).

[xv] As former Canadian Chemical Producers Association President Jean Belanger put it: "if we could figure out a way of becoming proactive, then we could lessen demands for that degree of regulation" (see R

Mullin, "Canadian Deadline Approaches: Contemplating continuous improvement" (17 June 1992) *Chemical Week* 128).

[xvi] "Mining Certification Evaluation Project" WWF-Placer Dome Asia Pacific Discussion Paper. WWF Australia Resource Conservation Program, Mineral Resources Unit, jan 2001.

[xvii] Personal communication, Michael Rae, WWF Australia.

[xviii] See Mining, Minerals and Sustainable Development, www.iied.org/mmsd/ See also the UN sponsored guidelines on mining and environment http:..www.natural –resources.org/environment

[xix] I Gould "The Code – Driving Change" *Groundwork* No 4, Vol 7, September 2000

[xx] The Australian Minerals Council has stated that the Code was developed "to demonstrate its commitment to continual improvement in environmental management, and to be open and transparent in its dealings with the community". Code for Environmental Management: "Backgrounder", Australian Minerals Council, June 2000.

[xxi] The above figures were provided on request by the Australian Minerals Council which did not supply the number of non-participants.

[xxii] The evidence suggests that such codes are rarely effective in achieving compliance (ie obedience by the target population/s with regulation/s) - at least if used as a "stand alone" strategy without sanctions. This is because self-regulatory standards are often weak, enforcement is commonly ineffective and punishment is secret and mild. Moreover, self-regulation commonly lacks many of the virtues of typically conventional state regulation, "in terms of visibility, credibility, accountability, compulsory application to all, greater likelihood of rigorous standards being developed, cost spreading, and availability of a range of sanctions. K. Webb & A. Morrison "The Legal Aspects of Voluntary Codes" (1996), a draft paper presented to the *Voluntary Codes Symposium*, Office of Consumer Affairs, Industry Canada and Regulatory Affairs, Treasury Board, Ottawa.For a recent and comprehensive survey see M Priest "The Privatization of Regulation: Five Models of Self-Regulation" *Ottawa Law Review* 29:2.

[xxiii] However, there are also some significant differences. For example, the chemical manufacturers associations are in a stronger position than most such bodies to exert pressure for environmental improvement, in part because the industry's characteristics facilitate the development of "social capital": the development of "the features of social organisation, such as networks, norms and trust, that facilitate coordination and cooperation for mutual benefit". As Rees (1997, op cit) has demonstrated, the industry is an incestuous one in which companies constantly deal with each other. Strategic alliances, product swapping and technology transfers are the norm rather than the exception.

[xxiv] See in particular Fung A Karkkainen B and Sabel C (1998) "After Backyard Environmentalism: Towards a New Model of Information-Based Environmental Regulation" paper prepared for conference on Information Based Environmental Regulation, Columbia University, at 36.

[xxv] A King and M Lenox "Industry Self-Regulation Without Sanctions: The Chemical Industry's Responsible Care Program" Academy of Management Journal, forthcoming

[xxvi] S Metzenbaum "Information Driven" Environmental Forum, March/April 2000, 26-36 at 29, referring to research by Nash and Ehrenfeld.

[xxvii]); C Coglianese and J Nash Management Based Environmental Policy, ch 1 Forthcoming, 2001.

[xxviii] N Gunningham and J Rees “Industry Self-Regulation: an Institutional Perspective” *Law and Policy* Vol 19 No 4, Oct 1997; and N Gunningham and P Grabosky *Smart Regulation: Designing Environmental Policy* , Ch 4 OUP. UK, 1998

[xxix] The following paragraphs are taken from Gunningham and Grabosky *Smart Regulation: Designing Environmental Policy*, Oxford University Press, UK, Ch 4.

[xxx] These groups usually meet quarterly with peers to review progress and to provide and receive assistance. They are reputedly a highly effective way of creating peer pressure, and of enlisting corporate leaders to the cause of Responsible Care.

[xxxi] J Rees, "The Development of Communication Regulation in the Chemical Industry" (1997) *Law and Policy* .Vol 19, (4).

[xxxii] See further N Gunningham & J Rees, (1997) *op cit*

[xxxiii] See Posner (T Posner, *The Engineer* (1992), 5 March, p.20), citing how such a process takes place during meetings of company chief executives.

[xxxiv] There is a criminological literature that argues persuasively the importance of a moral dimension to corporate (and individual) behaviour, and documents the considerable extent to which corporations can be “shamed” into doing the right thing (see J Braithwaite, *Crime, Shame and Reintegration* (1989), Cambridge University Press, New York).

[xxxv] J Braithwaite, *Crime, Shame and Reintegration* (1989), Cambridge University Press, New York, pp 9-11.

[xxxvi] Because corporations are judged by markets, investors and others principally on short term performance, they have difficulty justifying investment in environmentally benign technologies which may make good economic sense in the long term, but rarely have an immediate or medium term pay-off. Most areas of reform, including stopping harmful emissions to land, water and air, replacing harmful chemicals with more expensive ones, and cleaning up contaminated land, are vulnerable to these short-term market pressures.

[xxxvii] R Jackall, (*Moral mazes: The world of corporate managers* (1988), OUP, New York) found that short term issues overwhelm long term considerations. In Jackall's view "Managers think in the short term because they are evaluated both by their supervisors and peers on their short term results". As one manager put it: "Our horizon is today's lunch" (Jackall 1988:84). Jackall also found that staff mobility, both within and between corporations (often the result of CEO-inspired re-organisations), meant that those who currently occupy a managerial post might feel no urgency about the environmental consequences of their decisions. This was because the threat of immediate governmental retribution, via the EPA, was most unlikely, and the delays in processing environmental actions through the courts meant that by the time a case was heard, the present incumbents would have moved on, leaving others to deal with the legacy of those decisions. (J E Rogers Jr, "Adopting and Implementing a Corporate Environmental Charter" (1992) 35(2) *Business Horizons* 29-33 at 31.

[xxxviii] Gould op cit, 22.

[xxxix] K Harrison op cit, 33.

[xl] In principle, it might be possible to distinguish say, iron ore extracted from one source where mining techniques were environmentally sensitive, from iron ore extracted from another where they were not. However, this would be far more complex than it is in the case of timber products, which remain in their original form, much further down the production chain, than do most extracted minerals. It may also be that

the emotional appeal of trees is much stronger than that of minerals, even when extraction of the latter can be demonstrated to cause substantial localised damage.

[xli] Hoberg, G, *The Coming Revolution in Regulating Our Forests,* Policy Options, December 1999.

[xlii] Commonwealth of Australia, *Proceedings of International Conference on certification and labelling of products from sustainably managed forests*, Brisbane, Australia, 26-31 May 1996.

[xliii] See, for example, Simula, M, *Certification of Forest Management and Labelling of Forest Products: Discussion notes on main issues* [draft], World Bank, Forest Policy Implementation Review & Strategy Development, June, 1999.

[xliv] The use of indigenous certification schemes in developing countries, including Brazil (CERFLOR), Indonesia (the Indonesian Labelling Institute) and Malaysia (the National Timber Certification Council), are still in the development stages and therefore have limited certified forests.

[xlv] The largest certification scheme, in terms of area certified, is the American Forest and Paper Association's Sustainable Forestry Initiative. As of late 2000, this scheme covered 29 million hectares of forest (engaging over 150 companies), however it should be noted that only some of this is third party certified. It is anticipated that by 2001 20 million hectares will be certified. The other major North American certification is the Canadian Standard Association's Sustainable Forest Management initiative. The area of forest certified under this is still comparatively small, but large areas are anticipated to come on stream in the near future

[xlvi] E Meidinger

[xlvii] See "Report on Forests Suppressed" P Brown, Guardian Weekly, June 1-7, 2000, London, UK.

[xlviii] Toronto Globe and Mail, August 10, 2000.

[xlviii] See "Report on Forests Suppressed" P Brown, Guardian Weekly, June 1-7, 2000, London, UK.

[xlix] S Roberts, K Thornber and N Robins "Domino Effect" Tommorow, Sept/Oct, 2000, 35.

[l] In the UK, the 1995+ Buyers Group represents about 15% of the total UK market for roundwood products.

[li] See Mattoo and Singh "Eco-labelling and policy considerations" Kyklos, Vol 47, 53-65.

[lii] The existence of such a premium has not been conclusively demonstrated, although some of the stakeholders themselves, including the WWF, assert that it does. See for example, http://www.panda.org/forests4life/pubs.cfm "Investing in tomorrow's forests", which states that the FSC has provided some producers with a price premium.

[liii]See "Investing in Tomorrow's Forests, Ch 5, WWF, http://www.panda.org/forests4life/pubs.cfm

[liv] For example inappropriate criteria for sustainable use of forests may be imposed om developing countries in particular – the complex interrelationship between certain African villages and their forest have been shown not to conform "Western" notions of sustainabilty, and yet have led to positive environmental outcomes. The external imposition of certification standards could, in this instance, result in less sustainable outcomes.

[lv] D Johnstone Foreign Direct Investment and the Environment: Challenges and Opportunities" OECD Proceedings Foreign Direct Investment and the Environment, 1999, 18

[lvi] The NGO statement made at the adoption of the revised guidelines says: "Governments have accepted the argument put forcefully by business during the review that the Guidelines should not be "mandatory in fact or effect". The undersigned NGOs believe that this concession is fundamentally out of step with the experience and expectations of many communities around the world. ..As a result, NGOs will continue to call for a binding international instrument to regulate the conduct of multinational corporations." (Page 23) (OECD 2000).

[lvii] For a recent OECD analysis on related issues see Private Initiatives for Corporate Responsibility: An Analysis, OECD, Paris, 2000

[lviii] See generally, Gunningham and Rees, 1997, , Moffit and Bregha, Lyon and Maxwell and references therein.

[lix] This account is a modified and truncated version of Gunninham and Rees (1997) op cit.

[lx] Some types of corporate misconduct are not amenable to external verification. Other tools need to be deployed (eg whistleblowing facilities are considered to be important to some types of environmental misconduct).

[lxi] However, even external audits may not be as independent as they purport to be. See Gunningham N "Who Audits the Auditors" Environment and Planning Law Journal, 1995.

[lxii] J Adams "Foreign Direct Investment and the Environment: The Role of Voluntary Corporate Environmental Management" in OECD Proceedings, Foreign Direct Investment and the Environment, 1999.116

[lxiii] An OECD study shows that voluntary initiatives are often directly shaped by the policy environments from which they emerge. They tend to enhance the effectiveness of public enforcement and enforcement strategy has shifted toward greater attention to and use of private compliance processes. See Voluntary Initiatives for Corporate Responsibility: Progress to Date (provisional title) OECD, Paris, 2001.

[lxiv] See for example, J Moffet and F Bregha "An Overview of Issues with Respect to Voluntary Environmental Agreements" CAVA Working Paper no 98/11/3, Jan 1999 http://www.ensmp.fr/FR/CERNA/CERNA/Progeurpeens/CAVA/index.html;

[lxv] See Gunningham and Rees, 1997, op cit and references cited therein.

[lxvi] Reihhardt F *Down to Earth: Applying Business Principles to Environmental Management*, Harvard Business School Press, 2000.

[lxvii] For example, the threat of consumer boycott against Canadian forestry products is heightened by the fact that European consumers and forestry producers hold some interests in common (Office of Consumer Affairs 1996).

[lxviii] The logic underlying Olson's theory of collective action is identical to that of an n-person prisoners' dilemma (see Hardin 1971:472-479). Note, however, that in a continuing series of two player games, the best strategy is "tit-for-tat": ie to co-operate in the first game, and to do whatever the other player did last time, from then on (see Schotz (1984) and Ayres & Braithwaite (1993)). Responsible Care, in its present form (relying solely on moral succession without sanctions) lacks the characteristics of a continuing series game.

[lxix] Cohen points to the case of the Canadian Care Labelling program, which has few free riders, in part because of active lobbying by consumer groups. He also suggests that the GAP Inc's Sourcing Principles

and Guidelines, and the Canadian Eco-Labelling program, are examples of codes that employ the market's power to curb free riders (1996).

[lxx] Voluntarism and self regulation are asserted to have a variety of benefits. Because standard setting and identification of breaches are the responsibility of practitioners, with detailed knowledge of the industry, this will arguably lead to more practicable standards, more effectively policed. There is also the potential for utilising peer pressure and for successfully internalising responsibility for compliance. Moreover, because self-regulation contemplates ethical standards of conduct which extend beyond the letter of the law, it may significantly raise standards of behaviour and lead to a greater integration of environmental issues into the management process See generally, Gunningham and Rees op cit, T Lyon and J Maxwell, "Voluntary Approaches to Environmental Regulation: A Survey" in Environmental Economics, Past, Present and Future Eds M Franzine, A Nicita, Ashgate Publishing, 1999; J Moffet and F Bregha "An overview of issues with respect to voluntary environmental agreements" CAVA Working Paper, No 98/11/3.

[lxxi] See for example, T Davies and J Mazurek *Industry Incentives for Environmental Improvement: Evaluation of US Federal Initiatives*, Washington DC, Global Environment Management Initiative, 1997; National Research Council, Fostering Industry-Initiated Environmental Protection Efforts (Washington: National Academy Press, 1997; K Harrison "Voluntarism and Environmental Governance" in Governing the Environment, E Parson (ed) ch5, forthcoming. Note also the evidence suggesting that domestice legislation is by far the most important influence on environmental management practices. See Corporate Responsibility: Results of a Fact Finding Mission on Private Initiatives OECD, DAFFE?IME (2000) 15, at p 17.

[lxxii] L Zarsky "Havens, Halos and Spagetti: Untangling the Evidence about Foreign Direct Investment and the Environment" OECD Proceedings, Foreign Direct Investment and the Environment, 1999, 49

[lxxiii] In this regard extraterritorial liability on environmental issues in home country courts might be an alternative way.

[lxxiv] However, such fears may be exaggerated, given that environmental costs are usually quite low, and other factors such as the fiscal regime are more likely to trigger relocation.

[lxxv] Office of Consumer Affairs 1996:6

[lxxvi] Environment Canada Pacific Region, Report on Peformance of Voluntary Measures: http://csf.colorado.edu/ecolecon/may98/0062.html

[lxxvii] K Harrison "Voluntarism and Environmental Governance" in Governing the Environment EA Parson (ed) forthcoming.

[lxxviii] "Investing in tomorrow's forests" WWF: http://www.panda.org/forests4life/pubs.cfm at p24.

[lxxix] P Kanowski, D Sinclair and B Freeman "International Approaches to Forest Management Certification and Labelling of Forest Products: A Review", Department of Agriculture, Fisheries and Forestry – Australia, October 1999.