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Working paper

**Drivers and Barriers to Engaging Small and Medium-Sized
Companies in Voluntary Environmental Initiatives**

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Executive summary

Small and medium-sized enterprises (SMEs) form the backbone of Hong Kong's economy and have a significant cumulative impact on the environment. Any policy initiative that aims at a fundamental and sustainable environmental improvement of local business practices will therefore have to take this huge and heterogeneous sector into account.

This report presents the results of a questionnaire survey to identify key barriers and incentives to engaging Hong Kong businesses in environmental change. It confirmed that the local level of corporate environmental performance is still low compared to other developed regions. Three main reasons were frequently cited by the interviewed managers: A lack of government support and encouragement, a strong societal pressure to focus on monetary benefits, and a lack of resources and support within the companies.

A comparison between smaller and larger companies revealed many similarities but also some striking differences with regard to their environmental behaviour. SMEs engage significantly less in voluntary environmental activities than larger companies, especially when it comes to initiatives that do not offer them a direct benefit. Their approach towards environmental management is predominantly reactive, and legislation remains the key driver for engaging them with environmental change. An overwhelming majority of the interviewed SMEs stated that they would only consider engaging in environmental activities if they faced legal obligations to do so. Larger companies are more strongly influenced by their stakeholders. Accordingly, a lack of stakeholder demand was the main barrier that prevented respondents from this category from undertaking voluntary environmental initiatives.

A detailed analysis of the drivers and barriers to engaging in a variety of environmental initiatives revealed that inadequate government policy and support, societal attitudes and corporate culture all contribute significantly to the comparatively poor development of corporate environmental management among Hong Kong companies. As long as most SMEs regard voluntary environmental activities as costly and unnecessary 'extras' that endanger their competitiveness and detract resources from their core business without offering any tangible benefits, fundamental improvements in their environmental performance will be difficult to achieve. Based on these findings, the report concludes with a set of four policy recommendations to improve the environmental performance of SMEs in Hong Kong.

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1. Introduction

In its annual Outlook Report for 2000, the Manila-based Asian Development Bank warned that the Hong Kong Special Administrative Region had to improve its environment “or risk hampering its economic recovery and reputation as an international city” (Murray and Cook, 2002). Hong Kong is indeed struggling with increasingly serious environmental problems including a rapid deterioration of air quality, growing waste disposal problems, widespread noise pollution and degradation of its marine environment (Barron and Steinbrecher, 1999; Hills and Welford, 2004). So far, the local government has mainly focussed its environmental protection efforts on pollution prevention. Attempts at addressing more fundamental and far-reaching issues such as environmental governance and sustainable development have been ambivalent and often lacking in clarity and determination. Previous studies have shown that the conventional command-and-control approach to environmental policy still enjoys wide support among stakeholders, whereas the move towards more consensual styles of environmental governance commands only limited support (Hills, 2005).

Corporate environmental management (CEM) is poorly developed among Hong Kong businesses (Hills and Welford, 2004; Lo *et al.*, 2003). Although several business environmental committees have been formed and environmental initiatives have been launched, business involvement in CEM is predominantly limited to large corporations. Most other businesses appear to base their environmental practices exclusively on achieving compliance with existing regulations and are unwilling to engage in the voluntary environmental activities that are a hallmark of CEM. Accordingly, the current environmental knowledge within Hong Kong companies is chiefly limited to technical measures such as recycling and energy / material saving, and few companies are considering environmental issues from a strategic perspective (Hills and Welford, 2004). At the same time, the business community provides some of the most strident advocates for a cleaner environment and an improved quality of life. Multinational corporations in particular have recognised that these attributes make a significant contribution to preserving Hong Kong’s competitive edge (Hills, 2005).

However, the backbone of Hong Kong’s economy is not formed by these large corporations but by a huge number of small and medium-sized enterprises (SMEs). They provide a substantial source of employment and are an important driver for entrepreneurial creativity and ideas. Of the approximately 300,000 business

establishments in Hong Kong, over 98% employ less than 50 workers and are therefore classified as SMEs¹. In 2005, SMEs accounted for about 60% of total employment excluding the civil service (Trade and Industry Department, 2005).

Due to their large share in economic activities, SMEs have a significant cumulative impact on the environment: A frequently cited (though not verified) statistic from the UK estimates that up to 70% of all industrial pollution is attributable to the SME sector (Hillary, 1995). In the European Union, engaging SMEs in environmental improvements is therefore viewed as a vital part of the drive towards sustainable development (Hillary, 2004).

While a wealth of SME surveys and case studies has been conducted in Europe, the issue has so far attracted relatively little research interest in Hong Kong. The present study attempts to close this gap by examining the attitudes of Hong Kong SMEs towards voluntary environmental activities. In a questionnaire-based survey, SMEs as well as larger companies were asked about their key incentives for engaging in environmental change and barriers that prevented them from doing so. It is hoped that the insights of this study will help to identify effective and realistic incentives to encourage Hong Kong firms, particularly SMEs, to start moving beyond simple regulatory compliance with environmental legislation.

¹ The Hong Kong government defines SMEs as manufacturing businesses with less than 100 employees or non-manufacturing businesses with less than 50 employees.

2. Background: Corporate environmental management in small and medium-sized enterprises

The values, norms, processes and institutions through which companies attempt to ensure that they operate in a safe and environmentally sustainable manner are referred to as corporate environmental management (CEM). CEM extends well beyond compliance with environmental legislation. It calls for the incorporation of environmental systems and tools in business strategic planning to ensure that environmental issues become integrated with overall corporate objectives. Adherence to CEM principles can offer businesses a broad range of direct benefits, including cost savings from increased resource use efficiency, marketing advantages and creation of a positive image, improved relations with stakeholders, better supply chain relationships, improved overall quality of management, improved quality systems, encouragement of innovation, and increased employee motivation (Hillary, 2004; Welford, 1994). In his "SME-relevant business case", Willard (2005) includes a comprehensive list of tangible benefits that SMEs may reap if they conduct their business in accordance with sustainability principles.

2.1 Barriers to improving the environmental performance of SMEs

SMEs are often slow to respond to the challenge of improving their environmental performance (Rowe and Hollingsworth, 1996). Time, finances, and a lack of skills and knowledge are commonly identified as constraints to environmental action (Gerstenfeld and Roberts, 2000; Hitchens *et al.*, 2003; Pimenova and van der Vorst, 2004; Willard, 2005). Evidently, large corporations can devote more management time and resources to environmental improvements. They may also be more motivated to improve their environmental performance because the pressures on larger firms are generally more acute, whereas the environmental impact of small firms is often conceived as negligible by managers and customers alike (Hillary, 2004; NetRegs, 2005; Rowe and Hollingsworth, 1996; Tilley, 1999). Consequently, SMEs tend to regard the environment as peripheral to their business practices (Rutherford *et al.*, 2000) and environmental protection as an unnecessary cost burden (Simpson *et al.*, 2004). SME managers who are aware of environmental management principles are often convinced that it is costly and cannot offer them any benefits (Gerstenfeld and Roberts, 2000; Simpson *et al.*, 2004). This is certainly not helped by the fact that even large corporations do not seem able to reach a consensus on the actual value of investing in reputation through corporate social and

environmental responsibility. As Sarbutts (2003) puts it “the key consideration here is the amount of resource that SMEs are willing to devote to investing in an invisible and ill-defined asset”.

Furthermore, the small size of SMEs can limit their potential for cost savings and other direct benefits through environmental management (Drake *et al.*, 2004; Baylis *et al.*, 1998), and their engagement is further hampered by their limited access to relevant information and their lack of expertise to plan and implement environmental initiatives. Most of the tools and techniques for improving environmental performance have been developed by and for larger firms and fail to take the unique characteristics of small businesses into account (Gerstenfeld and Roberts, 2000; Tilley, 1999). This may help to explain the low uptake of Environmental Management Systems (EMS) in small companies. Most SMEs do not see any relevance for such systems in their business. Consequently, the lack of sector specific guidance and materials tailored to different sizes of firms has emerged as a major barrier to adoption of EMS in small companies (Gerstenfeld and Roberts, 2000; Hillary, 2004).

On the other hand, SMEs often fail to take up external advice even if it is readily available and of good quality (Hitchens *et al.*, 2003). This is symptomatic of a major problem that is experienced by regulators, advisory bodies and researchers alike: SMEs are notoriously difficult to reach and influence (Rowe and Hollingsworth, 1996). The establishment of good communication links between governments, business associations and SMEs is likely to be one of the first steps for improving the environmental performance of this very important business sector.

2.2 *What makes SMEs engage in environmental initiatives?*

Compliance with existing legislation is a key motivating factor behind SMEs' environmental consciousness (Fryxell and Szeto, 2002; Hillary, 2004; Petts *et al.*, 1999; Pimenova and van der Vorst, 2004; Rowe and Hollingsworth, 1996; Rutherford *et al.*, 2000; Tilley, 1999). Small firms generally prefer strict regulation and legislation to voluntary approaches because they fear that free-riders would gain competitive advantage if policy relied too much on self-regulation (Anglada, 2000; Revell, 2003; Rutherford *et al.*, 2000).

Growing public awareness and a sense of social responsibility are further drivers for environmental action among SMEs (Pimenova and van der Vorst, 2004). Interestingly, case studies of more pro-active companies reveal that a pro-active approach towards environmental initiatives is not closely linked with environmental

compliance. Petts *et al.* (1999) suggest that embarking on environmental initiatives neither stems from pressures of environmental compliance nor is it viewed as ensuring environmental compliance. It rather appears to be driven by the personal commitment of individual managers who take over a leadership role and initiate change.

These forces can be strengthened by consensual governance approaches and active involvement of SMEs in policy development processes. In the Netherlands for example, SMEs have become more actively engaged in environmental measures as a consequence of such efforts backed up by a robust legislative, licensing and inspection system (Revell and Rutherford, 2003; Rutherford *et al.*, 2000).

2.3 Engaging Asian SMEs in environmental change

Asian SMEs have received far less scholarly interest than their European counterparts, even though their economic role is not less important. *Japan*, for example, rates alongside Italy as having the largest number of small firms in OECD nations. Its economy is characterised by the mighty *keiretsu* (subcontracting) structures that emerged after Japan's post-war modernisation and allowed large companies to exert a high level of control over their SME subcontractors. Surprisingly, these supply chain pressures have done little to improve the environmental impact of small companies. If anything, they are actively discouraging the greening of SMEs due to the pressure to cut costs as a result of fierce competition among subcontractors in times of economic recession (Revell, 2003).

Japanese environmental policy puts a strong emphasis on self-regulation of industry by means of voluntary agreements. The co-operative and mutually supportive relations between government and business have enabled Japan to become a world leader in adoption of the environmental management standard ISO 14001 (Welch *et al.*, 2003). Industry is strongly involved in developing environmental policy, but co-operation between state and industry remains restricted to the chambers and associations representing large and influential businesses. Small firms are left out of the loop, and because they are not specifically targeted by national environmental policy, it is relatively easy for their managers to ignore environmental issues. As neither the state nor the market is putting significant pressure on SMEs, the environment is not considered a core priority by these companies. The environmental measures most likely to be carried out by Japanese SMEs relate to waste reduction and energy efficiency. More progressive voluntary measures such as environmental

management systems and life cycle analysis have yet to be embraced (Revell, 2003).

Taiwan also claims to be one of the world leaders in ISO 14001 certification, due to an aggressive promotion strategy. However, like their counterparts in other countries, Taiwanese SMEs are relatively slow in adopting the standard. Although they represent more than 96% of industrial establishments, less than 15% of the firms thus certified are SMEs. The Taiwanese government has been promoting ISO 14001 certification in small firms by allowing for higher levels of financial support for small companies, encouraging large firms to help their suppliers and distributors to adopt an EMS, and working out simplified EMS implementation guidance for SMEs (Chiu and Yang, 2001).

In *India*, small manufacturing industries are seen as being some of the worst polluters. A major problem in encouraging these firms to reduce their environmental impact is the lax enforcement of environmental legislation. Although multinationals and large domestic companies are monitored, poorly funded regulatory bodies find it nearly impossible to do the same for the millions of small and medium-sized units. Bribing poorly paid inspectors appears to be common. There are no adequate incentives for SMEs to invest in pollution control efforts, as installing and operating equipment is more expensive than the cost associated with non-compliance (D'Souza, 2001).

Available data in *Hong Kong* suggests that the level of environmental awareness among SMEs is higher than in India, but still relatively low compared to other developed regions. Environmental management systems, for example, are less widespread than in other East Asian countries such as Japan, Taiwan or Korea (Chan and Li, 2001; Fryxell and Szeto, 2002). The major difficulty for ISO 14001 EMS implementation among Hong Kong SMEs is a lack of top management support (Chan and Li, 2001). Environmental problems are generally not regarded as important business issues and most managers think that adoption of the standard cannot offer them tangible benefits. Lack of resources, lack of technical know-how and industry-specific information, lack of staff involvement, and poor co-ordination of government, industry and businesses represent additional difficulties (Chan and Li, 2001; Environmental Protection Department, 2001; Hills and Welford, 2004; Lo *et al.*, 2003; Shen and Tam, 2002). Due to the export-oriented nature of many of Hong Kong's industry sectors, local businesses are particularly susceptible to supply chain pressure arising predominantly from European and Japanese customers. Such pressures are increasingly experienced by large companies, for example in the

electrical and electronics industry, but so far they are only filtering down to the SME sector to a limited degree (Environmental Protection Department, 2001). However, medium-sized companies that participated in a local EMS pilot program valued it as a means to strengthen customer loyalty and enhance company image (Hui *et al.*, 2001). Business associations and the Hong Kong government are offering an increasing amount of specific guidance for the SME sector, but there is apparently still a long way to go in engaging local SMEs in environmental change.

3. Research objectives and methodology

3.1 Research objectives

The present survey forms the first part of a research project that attempts to identify effective and realistic incentives to encourage Hong Kong firms, particularly SMEs, to move beyond regulatory compliance with existing environmental legislation.

Previous work has indicated that, in contrast with companies in other parts of the developed world, many businesses in Hong Kong are reluctant to engage in voluntary environmental activities (Chan and Li, 2001; Hills and Welford, 2004; Lo *et al.*, 2003). As most of this research focussed on large corporations, a limited amount of data is available regarding the environmental performance of SMEs in Hong Kong. But SMEs are not just corporations with fewer employees. Their internal structures and business strategies are inherently different from those of larger companies and they are likely to require different incentives for engaging in environmental initiatives. This study therefore aims to compare the uptake of environmental initiatives in small and large companies in Hong Kong.

The following questions are addressed:

- What types of compliance-plus environmental initiatives do Hong Kong companies engage in?
- Which drivers have led them to adopt these initiatives?
- Which barriers prevent them from engaging in these initiatives?
- Which incentives are likely to persuade them to engage in these initiatives in the future, if they do not do so at present?

Furthermore, the results of this study form a basis for later stages of the research project that will evaluate possible incentives from the perspective of various stakeholder groups (government, NGOs, business associations, academics etc.).

3.2 *Research methodology*

A questionnaire survey among companies from a variety of industries in Hong Kong was conducted in 2004 / 2005. Companies were selected from three different sources:

- A general cross-section of the local SME community was obtained by randomly drawing a sample of 150 companies with less than 500 employees from the Dun and Bradstreet Major Corporations in Hong Kong (2004 edition) database.
- In addition, a publicly available database of the Hong Kong SAR Environmental Protection Department was used to contact 242 companies (SMEs as well as larger corporations) that had acquired ISO 14001 certification. Certified companies were assumed to possess a higher degree of environmental awareness than the average cross-section of companies.
- A third group of company representatives were contacted directly via organisations and events focussing on environmental issues and geared towards the SME sector, such as the HSBC's Living Business Seminars and the Business Environment Council. These companies, too, were expected to have a pre-existing interest in environmental issues.

A questionnaire (see appendix I) was devised to assess the implementation of various voluntary environmental initiatives in the interviewed companies, such as environmental management systems, environmental, social or sustainability reporting, published policy statements on environmental matters, etc. Respondents were also required to choose the three most important drivers / barriers that had led them to adopt / not adopt each of these initiatives from a given list. Furthermore, they were asked to identify possible incentives that might lead them to consider implementing these initiatives in the future. Finally, participants had to provide general information regarding industry sector, number of employees in Hong Kong and location of the company's headquarters.

Face-to-face interviews and self-administered written questionnaires were applied to gain the highest possible number of participants. Whenever written questionnaires were sent by mail, follow-up phone calls were made and e-mail or fax reminders sent a few weeks after sending the initial questionnaire.

4. Results

4.1 Response rates

As with other SME surveys (Hitchens *et al.*, 2003; Pimenova and van der Vorst, 2004; Rowe and Hollingsworth, 1996), response rates in this study were low. 5% of the SMEs selected from the Dun and Bradstreet database returned their questionnaires, often only after repeated follow-up calls. The response rate from the ISO 14001 certified companies (Environmental Protection Department database) was 12%. Not surprisingly, a significantly better response was achieved when company representatives were approached directly via suitable events or organisations (e.g. the Living Business Seminars). As the total numbers of participants were usually not known, no response rates could be estimated for this group of respondents. In total, 55 responses were employed for further data analysis.

When analysing the results, it is worth bearing in mind that this study mostly focussed on companies with a certain interest in environmental matters and does thus not present an overview of the average business community in Hong Kong. This approach is reasonable, as drivers leading to the adoption of environmental initiatives can only be analysed if a sufficient number of respondents is actually engaging in these activities. These more environmentally aware companies are likely to form such a small proportion of the overall SME population in Hong Kong that they would have been very hard to pick up in a purely random sampling approach.

4.2 Characterisation of respondents

Table 1 gives an overview of company size and ISO 14001 certification of the responding companies. As the Hong Kong SAR government's SME definition (see introduction) appeared too narrow and the differing definitions for manufacturing and non-manufacturing sectors not useful for this exploratory study, we employed a broader and simpler definition by classifying all companies with less than 200 employees in Hong Kong as SMEs. This also includes the Hong Kong branches of multinational corporations, as long as their local staff does not exceed 200 employees. Accordingly, the present survey comprises 32 SMEs and 23 larger companies.

Table 1: Overview of survey respondents by ISO 14001 certification and company size (number of employees).

company size	certified	percentage	non-certified	percentage	total
1-49	8	42%	11	58%	19
50-199	9	69%	4	31%	13
all SMEs	17	53%	15	47%	32
200-499	8	89%	1	11%	9
over 500	10	77%	3	23%	13
n.a.	1	100%	-	-	1
all large comp.	19	83%	4	17%	23
total	36	65%	19	35%	55

65% of all respondents were certified according to the ISO 14001 standard. As expected, ISO certification was more widespread among larger firms than SMEs. The unusually high proportion of ISO-certified companies is easily explained by the sampling method used.

The present survey aims to provide an exploratory overview of Hong Kong's SME sector by covering a broad range of industries. The representation of different industry sectors is shown in Table 2. SMEs were mainly concentrated in manufacturing and trading, electrical and electronics industry and in construction-related industries. Overall, the proportions of service and manufacturing industries were roughly similar among SMEs and larger companies.

Table 2: Overview of survey respondents by industry sector.

Sector	SMEs	Non-SMEs	total
Cleaning and Pest control	1	1	2
Construction / Construction materials	8	8	16
Consultancy Services	3	1	4
Electrical / Electronics	6	4	10
Environmental services	1	1	2
Hotel services	-	2	2
Insurance / Financial services	1	-	1
Legal	1	-	1
Manufacturing	5	1	6
Property Management	-	3	3
Sales and Trading	4	-	4
Transportation	1	1	2
other	1	1	2
total	32	23	55

60% of the surveyed companies (66% of the SMEs) were headquartered in Hong Kong. 2% had their headquarters in the PRC and 15% in other East Asian countries

(mainly Japan). Another 13% were run from Europe, 5% from North America, 2% from other parts of the world, and 4% did not comment on the location of their headquarters.

4.3 Perception of environmental performance of Hong Kong businesses

Survey participants were asked whether they felt that Hong Kong companies lagged behind their counterparts in other parts of the developed world in terms of environmental performance. 37 respondents (67%) judged that this was the case, 8 (15%) did not perceive a significant difference, and 10 (18%) did not provide a conclusive answer. A wide array of possible reasons for this apparent under-performance was suggested. An overview of the most frequent responses is given in table 3.

Table 3: Reasons for the perceived under-performance of Hong Kong companies with respect to environmental issues compared to their counterparts in other countries.

Related questions:

- *Do you feel that Hong Kong companies lag behind their counterparts (i.e. companies in the same sector of similar size) in other parts of the world (e.g. European Union, North America) with respect to environmental management? Why?*
- *There is evidence to suggest that Hong Kong companies often lag behind competitor countries on environmental issues. Why do you think this is the case?*

Reason	count (n = 55)	percent (n = 55)
Lack of government incentives / support / encouragement	26	47%
Legislation on environmental issues lags behind other countries	6	11%
No clear and determined government policy on environmental issues	4	7%
Law enforcement could be stronger	3	5%
Non-performance has no legal impact	3	5%
Low degree of env. awareness in society / lack of public education	17	31%
Profit-oriented culture, focussing on short-term monetary benefits	9	16%
Env. management not seen as important in Hong Kong businesses	7	13%
Education on environmental issues started late in Hong Kong	5	9%
Volatile economic climate lowers priority for environmental issues	4	7%
Not enough pressure from green groups and / or academics	3	5%
Too costly / limited resources / lack of capital	10	18%
Lack of support from senior management	4	7%
Lack of knowledge	3	5%
Belief that improvement of environmental performance is always costly	3	5%

Many respondents pointed to the responsibility of the government. In fact, the most frequently cited reason for Hong Kong companies lagging behind in terms of environmental management was a lack of incentives, support and encouragement from the government (mentioned by 26 respondents / 47% in total). Other recurring statements relating to the government's role included shortfalls in environmental legislation, lack of a clear and determined environmental policy, weak law enforcement and the absence of legal impacts for non-performing companies. Society and local culture were also perceived as having a significant impact. The second most frequently cited reason for the lack of engagement in compliance-plus activities among Hong Kong companies was a low degree of environmental awareness in society, or a lack of public environmental education (17 mentions / 31%). Nine respondents mentioned the profit-oriented local culture with a focus on short-term monetary benefits, and seven stated that environmental management is generally not perceived as important among Hong Kong businesses. It was also argued that discussion and education on environmental issues had started relatively late in Hong Kong, that the volatile economic climate of the previous years had lowered the priority for environmental issues and that pressure from green groups and academics was very limited. Far fewer respondents thought that the main reasons for the comparatively poor environmental performance of Hong Kong companies had to do with company structures and resources. High costs of environmental initiatives, limited resources or a lack of capital were cited ten times (18%). Four respondents mentioned a lack of support from senior management, three a lack of knowledge, and another three the widespread belief that it always costs money to improve environmental performance as possible reasons for a low degree of environmental performance among Hong Kong companies.

One participant commented that even though regulation in Hong Kong lagged behind, this was not the case for the actual performance of local companies. Others stressed that certain industries, such as the construction industry, had already improved, and that the environmental awareness of workers was generally increasing. However, as one respondent stated "we only engage in environmental management because our supply chain overseas requested it."

4.4 Environmental practices of Hong Kong businesses

Companies were asked to indicate whether they engaged in 10 different voluntary activities, including employment of designated environmental staff, adoption of an environmental management system, publication of a policy statement on environmental matters, supply chain management, verification / accreditation with regard to environmental performance, initiatives relating to extended producer responsibility, engagement with stakeholders, participation in voluntary initiatives in collaboration with government and / or industry, support of local environmental initiatives, and environmental, social or sustainability reporting.

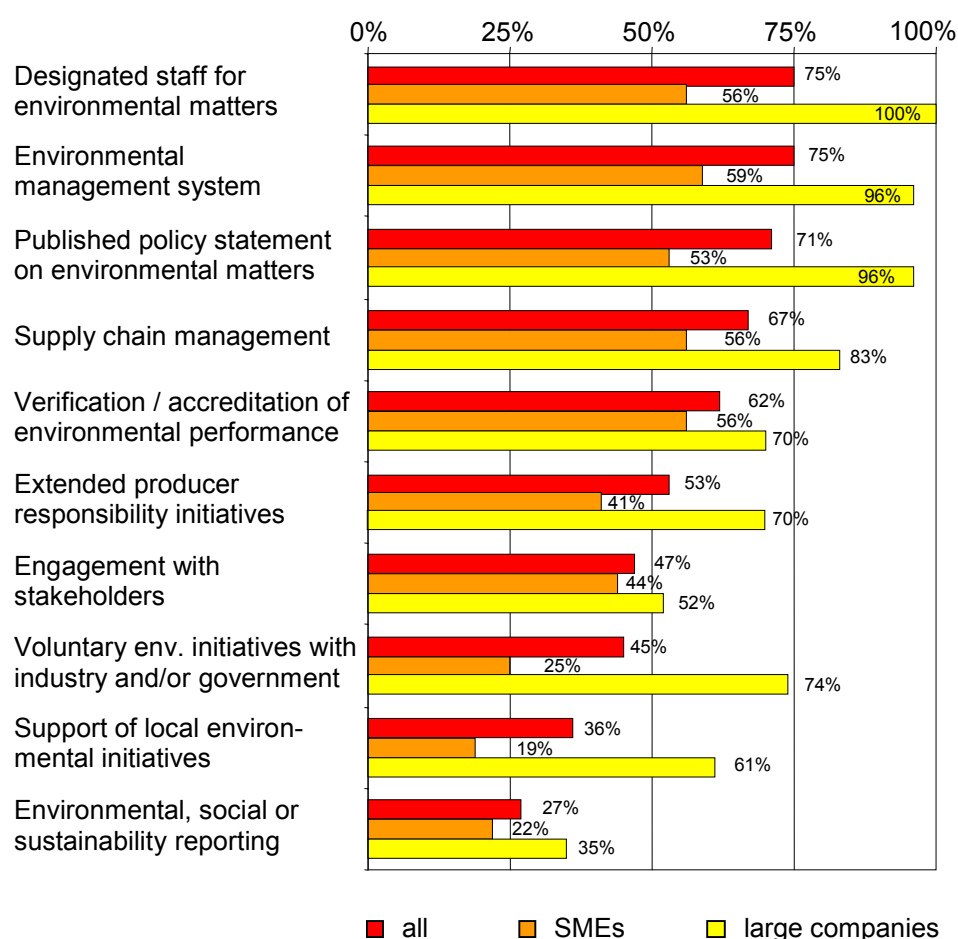


Figure 1: Company engagement in ten selected environmental initiatives. Companies with less than 200 employees are classified as SMEs.

Figure 1 presents an overview of the voluntary environmental initiatives implemented by Hong Kong companies. As expected, large companies were more likely to engage in such initiatives than SMEs with their typically limited resources. No significant differences were observed between businesses that were run from Hong Kong and businesses that were headquartered in other countries.

Three quarters of all respondents and close to 60% of the SMEs had an *environmental management system* in place and employed *designated staff* to deal with environmental issues. 71% of the respondents (53% of SMEs) had also published a *policy statement on environmental matters*. As a result of our focus on companies with a pre-existing interest in environmental matters, these shares are higher than those reported by other authors (Pimenova and van der Vorst, 2004; Rowe and Hollingsworth, 1996). When deciding on an EMS, ISO 14001 appears to be the most widespread standard. In our study, only one company had chosen an EMS other than ISO 14001.

Two thirds of the surveyed companies engaged in *environmental supply chain management* (ECSM). ECSM refers to the integration of environmental management into all supply chain management activities from sourcing materials, manufacturing, distribution and sales. Again, this practice was more widespread among larger companies (83%) than among SMEs (56%). *Verification or accreditation* relating to environmental performance, mostly in connection with ISO 14001 requirements, was performed in 62% of companies (SMEs: 56%). Roughly half the respondents (53%) stated that they pursued initiatives relating to *extended producer responsibility* and *engaged with stakeholders*. With regard to stakeholders' engagement, there was little difference between small and large companies, but it remains doubtful whether all SMEs that answered this question positively really interact with their stakeholders in a structured process such as stakeholder dialogue.

Less than half of the surveyed companies participated in *voluntary environmental initiatives in collaboration with industry and the government*. It was in this category that we found the largest difference between small and large companies. Three quarters of the companies with over 200 employees stated that they participated in such initiatives, but only one quarter of the SMEs. This discrepancy likely reflects the fact that so far little effort has been made by the Hong Kong government to develop specific initiatives targeted at small businesses. Sponsoring also remains a domain for larger businesses. Only 19% of the SMEs *supported local environmental initiatives* through sponsoring or other means, compared to 61% of the larger companies.

Even if internal policies are in place and environmental audits are conducted, many Hong Kong companies remain reluctant to disclose environmental information. Reporting was the least widespread of all activities covered by the survey: Only 22% of the SMEs and 35% of the large companies had published an *environmental, social or sustainability report*. This figure may even be exaggerated, since half of the SMEs were apparently referring to reports issued by their parent companies.

4.5 Major drivers for adopting voluntary environmental initiatives

For each type of environmental initiative covered in the survey, respondents were asked to choose, from a given list, their three most relevant drivers for engaging in this activity. Figure 2 provides an overview of the relative importance of various drivers for environmental change in small and large companies.

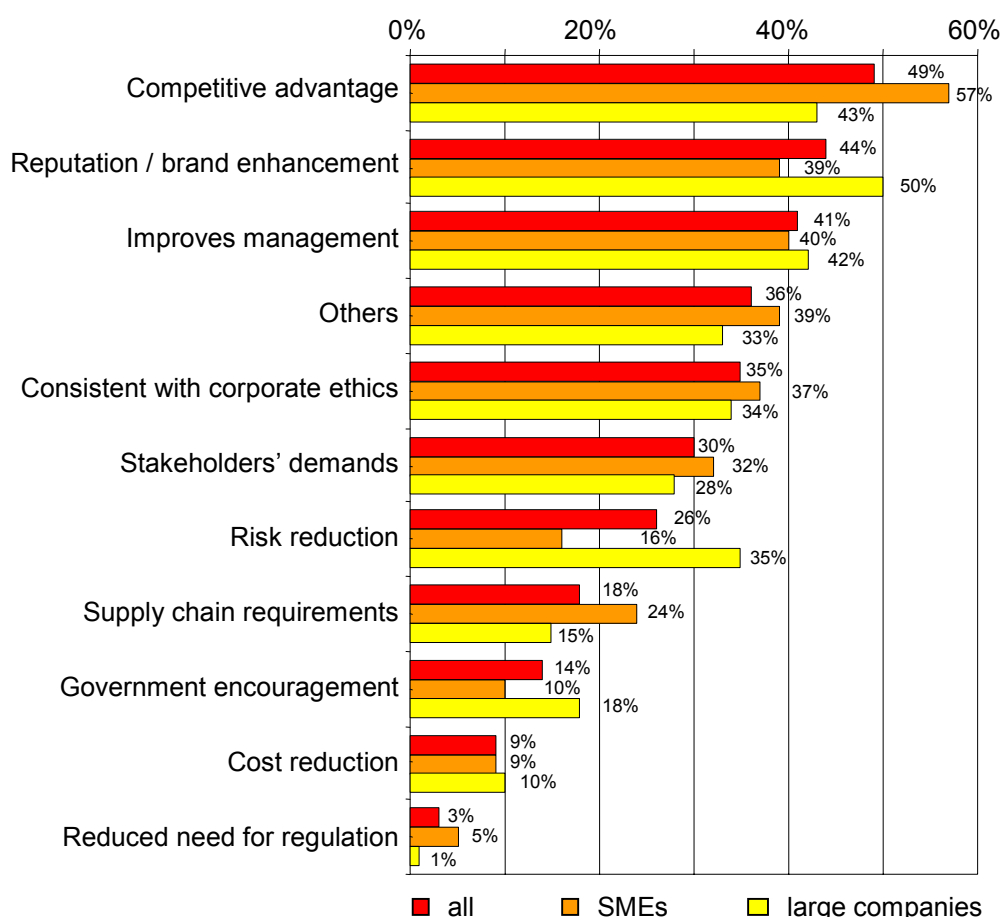


Figure 2: Importance of various drivers for engaging small and large companies in compliance-plus environmental initiatives. Companies with less than 200 employees are classified as SMEs.

The key drivers were competitive advantage and reputation or brand enhancement. They were named by 49% and 44% (weighted average) of the companies engaging in environmental initiatives, respectively. 41% of the respondents indicated that they pursued voluntary initiatives because they improved management and 35% because it was consistent with their corporate ethics. Another third named other drivers, such as certification requirements, ensuring legal compliance, head office or top management decisions, or clients' expectations. 30% mentioned stakeholders' demands, 26% risk reduction and 18% supply chain requirements. Government encouragement, cost reduction and a reduced need for regulation appeared to be minor drivers for environmental change in Hong Kong, with 14%, 9% and 3% of responses, respectively. This appears to contradict the fact that a lack of government encouragement emerged as a major reason for the comparatively poor environmental performance of Hong Kong companies (table 3). It may be interpreted as a sign that the government does not play a significant role in this process at present but could exert considerable influence if it took up a stronger leadership role.

Though most drivers were rated rather similarly by small and large companies, significant differences occurred in some cases. Large companies responded more strongly to arguments regarding risk reduction and reputation, and to government encouragement. These may be signs of a greater degree of awareness of the positive impact of corporate environmental management among larger firms. The last factor probably also reflects the limited amount of attention the Hong Kong government has paid to SMEs in the past. SMEs put more emphasis on competitive advantage and supply chain requirements than larger companies, in contrast to studies from the UK that found a low degree of awareness of supply chain issues among SMEs (Rowe and Hollingsworth, 1996). In Hong Kong's export-oriented economy, small businesses may be more confronted with differing legislation and customers' expectations in other countries and therefore more aware of the importance of supply chain issues.

A breakdown of the major drivers for the ten studied environmental initiatives is given in table 4. The ratings of small and large companies were often rather similar, with a few notable differences. Employment of *designated staff* to deal with environmental issues appeared to be largely compliance-driven. Reasons such as ISO requirements and ensuring legal compliance were given by 51% of the respondents. The most frequently named reason, however, was management improvement (61%). Competitive advantage and risk reduction were also considered important.

Table 4: Major drivers for engaging companies in ten types of environmental initiatives (key drivers in bold print; drivers other than the top three in brackets).

Major drivers	all comp.	SMEs	large c.
Designated staff to deal with env. matters			
Improves management	61%	61%	61%
Others: ISO requirements, legal compliance etc.	51%	61%	43%
Competitive advantage	37%	39%	(35%)
Risk reduction	(34%)	(17%)	48%
Environmental management system (EMS)			
Competitive advantage	66%	74%	59%
Improves management	44%	37%	50%
Reputation / brand enhancement	37%	42%	32%
Published policy statement on env. matters			
Competitive advantage	64%	76%	55%
Reputation / brand enhancement	54%	59%	50%
Consistent with corporate ethics	38%	41%	(36%)
Improves management	38%	(29%)	45%
Supply chain management			
Risk reduction	46%	(35%)	56%
Improves management	43%	47%	39%
Others: ISO requirements, etc	40%	(29%)	50%
Supply chain requirements	(32%)	41%	(22%)
Consistent with corporate ethics	(31%)	41%	(22%)
Verification / accreditation of env. performance			
Competitive advantage	65%	56%	75%
Others: industry practice, head office requirement etc.	44%	50%	(38%)
Reputation / brand enhancement	38%	(22%)	56%
Improves management	(35%)	28%	44%
Extended producer responsibility initiatives			
Stakeholders' demands	41%	62%	(25%)
Others: EMS requirement, legal requirement etc.	38%	38%	38%
Cost reduction	34%	38%	31%
Reputation / brand enhancement	(28%)	(15%)	38%
Engagement with stakeholders			
Stakeholders' demands	42%	43%	42%
Competitive advantage	42%	57%	(25%)
Reputation / brand enhancement	38%	43%	(33%)
Risk reduction	(35%)	(14%)	58%
Improves management	38%	(36%)	42%
Participation in voluntary env. initiatives			
Reputation / brand enhancement	72%	50%	82%
Consistent with corporate ethics	44%	38%	47%
Others: raise employees' awareness, client req., etc.	36%	63%	(24%)
Government encouragement	(32%)	(0%)	47%
Support of local environmental initiatives			
Reputation / brand enhancement	95%	100%	92%
Consistent with corporate ethics	79%	100%	69%
Government encouragement	26%	50%	(15%)
Stakeholders' demands	(21%)	(17%)	23%
Environmental, social or sustainability reporting			
Reputation / brand enhancement	73%	71%	75%
Consistent with corporate ethics	47%	57%	38%
Competitive advantage	40%	43%	38%
Stakeholders' demands	(27%)	(0%)	50%

Environmental management systems, environmental policy statements and verification or accreditation relating to environmental performance were mainly seen as tools to enhance competitive advantage. This driver was predominant among both SMEs and larger companies. Half of the SMEs performed verification or accreditation mainly because they were required to do so, either by their head office, because of standard industry practices or for other reasons. Improved management, enhanced reputation, stakeholders' demands and corporate ethics were other major drivers for introducing environmental management systems, policy statements and verification or accreditation. Interestingly, 24% of the SMEs (14% of larger companies) also stated that government encouragement had been an incentive for publishing an environmental policy statement.

The reasons for engaging in environmental *supply chain management* were rather heterogeneous. Evidently, risk reduction figured on top of the list, though it was not the key driver for SMEs. Other frequently mentioned drivers were management improvement, ISO requirements, supply chain requirements, reputation, corporate ethics, stakeholders' demands and competitive advantage.

Initiatives relating to *extended producer responsibility (EPR)* and *engagement with stakeholders* were, unsurprisingly, mainly driven by stakeholders' demands, though various other drivers were considered almost equally important. Many companies regarded extended producer responsibility as a necessity in order to ensure compliance with the adopted EMS or with existing or upcoming legislation. Furthermore, it was the only initiative in the survey that was associated with cost reductions, by both large and small businesses. Reputation and brand enhancement was another major aspect for larger companies (38%). 31% of these companies also claimed to have been encouraged by the government to engage in EPR initiatives, whereas this driver was not mentioned by any SME. Engagement with stakeholders was mainly seen as a means of reducing risks by large companies (58%). SMEs, on the other hand, predominantly mentioned competitive advantage (57%). This may be a sign that SMEs did not really refer to stakeholders' engagement as a structured process aimed at improving their environmental performance, but tended to include any form of interaction with stakeholders that might be of use for their business.

The three remaining initiatives – participation in *voluntary environmental initiatives* in collaboration with government and / or industry, *support of local environmental initiatives* (e.g. through sponsoring) and *environmental, social or sustainability reporting* – are activities that do not offer a direct financial benefit. Consequently, they were only adopted by a small part of the surveyed businesses, typically those

with a strong interest in environmental issues. For those companies, reputation and brand enhancement was generally the driving factor, along with corporate ethics. If SMEs engaged in voluntary environmental initiatives with government or industry, they did so for a variety of additional reasons: to provide training for their employees, to raise the awareness of their workforce or to fulfil the requirements of a client, to name just a few. 63% of SMEs cited other reasons, with stakeholders' demands mentioned by a further 38%. Larger companies, on the other hand, were often convinced by the government to participate in voluntary environmental initiatives (47%). The drivers cited by the SMEs suggest that they, too, might be susceptible to government encouragement if suitable programs were offered. However, this does not seem to be the case, as government encouragement was not named by any of the SMEs. Government had managed to encourage some SMEs to support local environmental initiatives (50%), though, although very few small companies were actually willing to spend resources on this. Finally, environmental, social or sustainability reporting was often required by the stakeholders of larger companies (50%), but never by SME stakeholders – probably because the environmental impact of SMEs is generally perceived as minor.

4.6 Barriers to engaging in environmental change, and incentives for adopting new environmental initiatives

Respondents who did not engage in one of the voluntary environmental initiatives covered by the survey were asked to choose the main barriers that prevented them from doing so from a given list. Results are given in figure 3.

An overwhelming 78% of the SMEs stated that they did not engage in voluntary activities because they were not legally required to do so. The major barrier for large companies was a lack of demand from stakeholders (55%). 44% of the respondents mentioned a lack of demand from customers. One third did not pursue environmental initiatives because they were not seen as a priority by senior management, and another third because of a general lack of incentives.

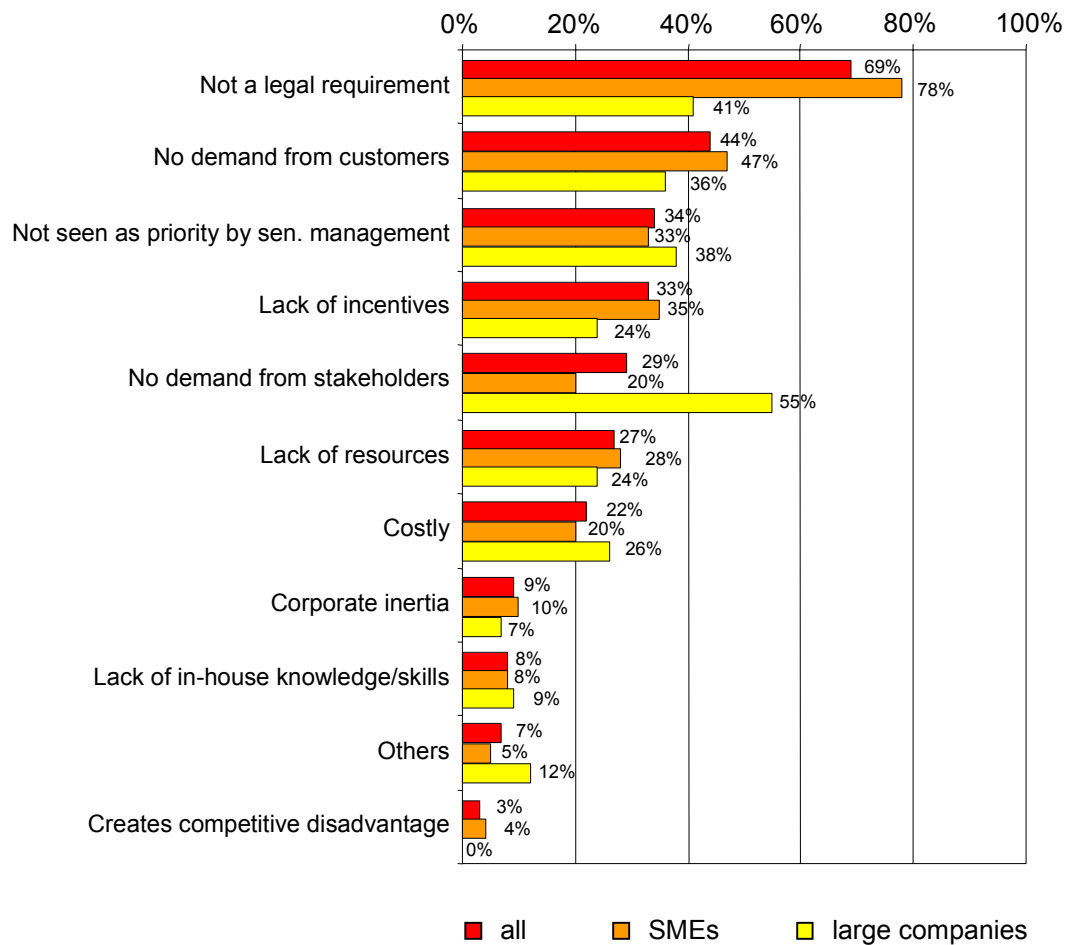


Figure 3: Importance of various barriers against engaging small and large companies in voluntary environmental initiatives.

A lack of resources (27%) and the costs of voluntary initiatives (22%) appeared to be of lesser importance, with little difference between small and large companies. The least frequently cited barriers were corporate inertia (9%), lack of in-house knowledge and skills (8%), competitive disadvantage (3%) and other reasons (7%). What keeps SMEs from engaging in compliance-plus activities is thus apparently not just a lack of resources and skills, but rather a missing sense of urgency. As long as SMEs do not perceive such initiatives as a necessity or an added value, they will be unlikely to engage in them even if they are offered financial, personal or technical support.

Table 5: Major barriers preventing companies from engaging in environmental change.

Question:

- *What are the main barriers that prevent you from doing more than you already do within your own organisation with respect to environmental management?*

Barriers	count (n = 55)	percent (n = 55)
Lack of resources (money, space, time, staff, equipment etc.)	26	47%
Costs	15	27%
Not seen as necessity / other issues take priority	8	15%
Lack of in-house knowledge and skills	6	11%
No demand from customers	6	11%
Lack of government motivation and support	6	11%
Opposition / no support from senior management	5	9%
Env. management considered as non-productive, no tangible return	4	7%
Lack of awareness among workers	3	5%
Lack of government infrastructure (e.g. waste management, recycling)	3	5%

When survey participants were asked about barriers in an unprompted, more general way (“What are the main barriers that prevent you from doing more than you already do with respect to environmental management?”), the focus shifted from legislative requirements to available resources (see table 5). Shortage of money, staff, time, space or equipment was emerged as a key barrier. Far fewer mentioned corporate culture (opposition from senior management, environmental management considered as non-productive, lack of awareness among workers) or external influences (lack of demand from customers, lack of government support, lack of government infrastructure). This focus on resources has been observed in various other SME studies (Pimenova and van der Vorst, 2004; Hitchens *et al.*, 2003). It is reasonable and obvious to assume that SMEs are generally unwilling and often unable to allocate their limited resources to activities that do not offer a direct benefit to their core business. Nevertheless, comparison of the answers obtained in prompted and unprompted questions (figure 3 and table 5) makes it clear that such data have to be interpreted with care. Though costs and limited resources were frequently named as key barriers in the open-ended questions, their role appeared much less important in direct comparison with other factors such as legislation and stakeholders’ demands.

These factors were also frequently cited as incentives that might persuade respondents to do more within their own organisation with respect to environmental management (unprompted question, see table 6). Government encouragement and

support were often mentioned (9 responses), but legislation and customers', stakeholders' or supply chain requirements were considered significantly more relevant (19 and 18 mentions, corresponding to 35% and 33% of all respondents, respectively). Award schemes were cited by another 9 respondents. Financial considerations figured lower on the list, as did various other internal and external drivers.

Table 6: Incentives that might encourage companies to engage in environmental change.

Question:

- *What incentives or other drivers would make you do more within your own organisation with respect to environmental management?*

Incentives	count (n = 55)	percent (n = 55)
Legislation / legislative requirements	19	35%
Customers' or supply chain needs and requirements	18	33%
Government encouragement and support (knowledge, finances etc.)	9	16%
Awards scheme	9	16%
Cost reductions or increased profits	8	15%
Tax or other financial incentives	6	11%
Education, training, seminars (by government and / or industry)	5	9%
Enhancement of corporate image / reputation / brand	5	9%
Maintaining the ISO 14001 standard	4	7%
Public concern / social recognition	4	7%

A similar pattern emerged when respondents were asked to rate the relevance of incentives from a given list (see figure 4 for an overview of results). Just as with barriers, a significant difference between the answers of small and large companies was observed. SMEs cited legislative requirements as a major incentive (67% of SMEs, 28% of larger companies), while larger companies reacted more strongly to stakeholders' demands (45%, compared to 32% of SMEs). Cost reduction appeared to be another prime incentive for SMEs (47%, compared to 22% of larger companies). Evidence of enhanced competitive advantage was relevant for small and large companies alike (38% in total), as was support in terms of resources or technology (28%). As before, evidence of enhanced reputation figured more prominently among larger companies. Supply chain requirements, evidence of risk reduction, evidence of enhanced corporate management, and awards / labelling schemes all appeared to play a minor part in encouraging companies to adopt new

environmental initiatives. In accordance with the barriers discussed earlier, financial and informative support from the government did not appear to play a key role when compared directly with other incentives.

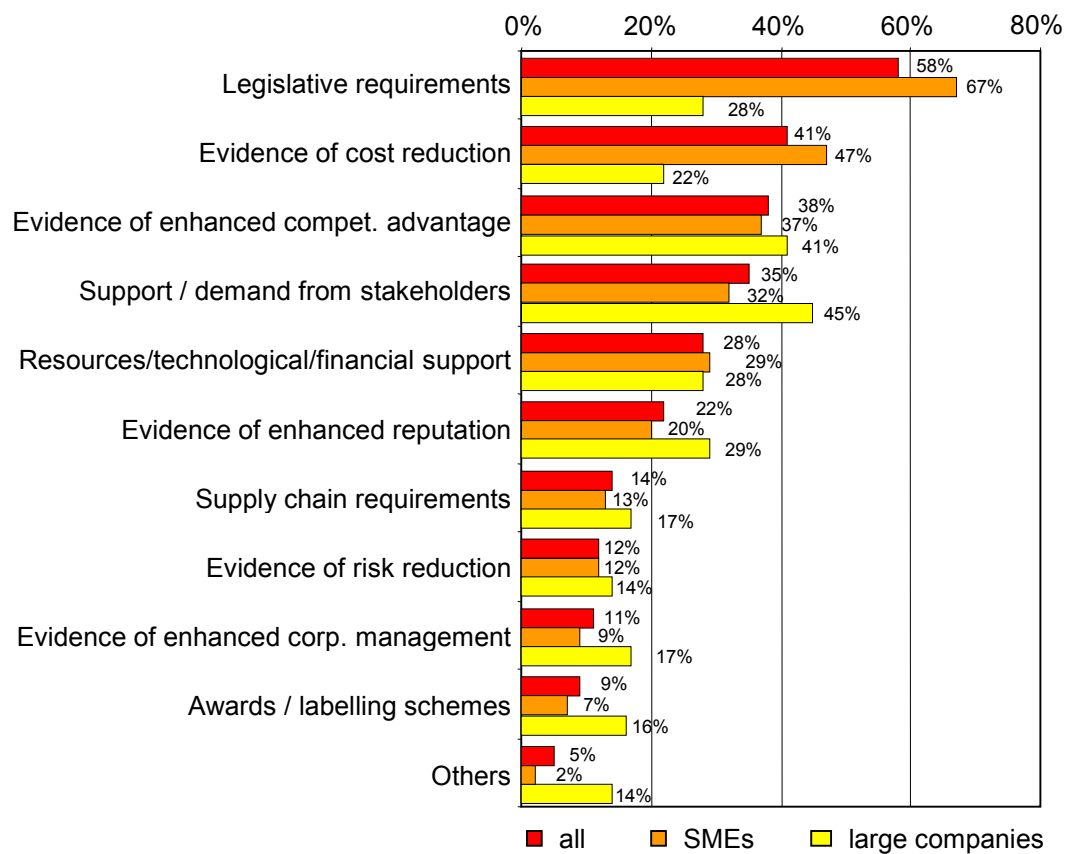


Figure 4: Importance of various incentives for engaging small and large companies in new voluntary environmental initiatives.

4.7 Barriers and incentives with regard to ten selected environmental initiatives

Finally, respondents who stated that their company did not engage in one of the environmental initiatives covered in the survey were asked to choose from a given list the three most relevant barriers that prevented them from engaging in this activity. Table 7 provides an overview of the predominant barriers named by small and large companies.

The answers provided were rather uniform, with little difference between the ten types of environmental initiatives. The predominant choice of small companies was “not a legal requirement”. In fact, this was the most frequently chosen barrier against every single type of environmental initiative, named by an overwhelming majority of 68-93% of the SMEs that did not engage in the respective activities. The second most important barrier from the SME viewpoint was a lack of customer demand, which figured among the top three barriers for nine out of the ten initiatives. Large companies ascribed less weight to legislative requirements. Instead, they focussed on stakeholders’ demands, as shown above (chapter 4.6). Consequently, a lack of stakeholders’ demands was regarded as one of the prime barriers against every initiative except the support of local environmental initiatives.

A very general “lack of incentives” was viewed as a major barrier to initiatives as diverse as the employment of designated environmental staff, environmental management systems, published policy statements on environmental matters, verification or accreditation related to environmental performance, engagement with stakeholders, and support of local environmental initiatives, particularly among SMEs. Engagement with stakeholders, participation in voluntary environmental initiatives, environmental reporting and, surprisingly, supply chain management, were also hindered because senior management ascribed them a low priority. Two of the environmental initiatives (extended producer responsibility and the support of local environmental initiatives) were regarded as costly, and only in one case (engagement with stakeholders) did a lack of resources appear to play a major role. Lack of in-house skills and knowledge, corporate inertia and competitive disadvantage were never among the three most relevant barriers. Interestingly, costs were mentioned as an argument both for and against engaging in initiatives relating to extended producer responsibility (EPR). It seems likely that many companies are unaware of the possibilities for cost reductions that may be offered by EPR initiatives, and are therefore unwilling to engage in them.

Table 7: Major barriers that prevent companies from engaging in ten types of environmental initiatives. Key barriers are shown in bold print; barriers other than the top three in brackets. No results are included (n.a.) if a question was answered by three or less respondents.

Major barriers	all comp.	SMEs	large c.
Designated staff to deal with env. matters			
Not a legal requirement	79%	79%	n.a.
No demand from customers	43%	43%	n.a.
Lack of incentives	36%	36%	n.a.
Environmental management system (EMS)			
Not a legal requirement	92%	92%	n.a.
No demand from customers	54%	54%	n.a.
Lack of incentives	38%	38%	n.a.
Published policy statement on env. matters			
Not a legal requirement	75%	80%	n.a.
No demand from customers	63%	67%	n.a.
Lack of incentives	44%	40%	n.a.
Supply chain management			
Not a legal requirement	83%	93%	50%
No demand from customers	50%	50%	50%
Not seen as a priority by senior management	33%	36%	(25%)
No demand from stakeholders	(28%)	(14%)	75%
Verification/accreditation of env. performance			
Not a legal requirement	80%	86%	67%
No demand from customers	45%	50%	33%
No demand from stakeholders	35%	(14%)	83%
Lack of incentives	(30%)	36%	(17%)
Extended producer responsibility initiatives			
Not a legal requirement	64%	69%	50%
No demand from customers	45%	50%	33%
Costly	32%	31%	33%
No demand from stakeholders	(27%)	(6%)	83%
Engagement with stakeholders			
Not a legal requirement	70%	88%	45%
No demand from stakeholders	48%	(38%)	64%
No demand from customers	37%	44%	(27%)
Lack of resources	(30%)	52%	(36%)
Not seen as a priority by senior management	37%	(31%)	45%
Participation in voluntary env. initiatives			
Not a legal requirement	63%	71%	(33%)
Lack of incentives	47%	46%	50%
No demand from customers	40%	38%	50%
No demand from stakeholders	(33%)	(29%)	50%
Support of local environmental initiatives			
Not a legal requirement	56%	76%	(0%)
Not seen as a priority by senior management	50%	44%	67%
Lack of incentives	38%	44%	22%
Costly	(26%)	(20%)	44%
Environmental, social or sustainability reporting			
Not a legal requirement	63%	68%	53%
No demand from customers	50%	52%	47%
Not seen as a priority by senior management	33%	32%	33%
No demand from stakeholders	(25%)	(20%)	33%

Besides identifying the barriers that prevented them from engaging in a certain type of environmental initiative, respondents were also asked to choose three key incentives that might persuade their company to engage in that initiative in the future. Results are given in table 8.

Answers were as uniform as those summarised in table 7. Legislative requirements topped the list of incentives for SMEs (key incentive for all initiatives except engagement with stakeholders), but were of lesser importance for larger companies. Evidence of cost reduction, evidence of enhanced competitive advantage and support / demand from stakeholders were deemed to be other major incentives for a broad range of environmental initiatives. Although enhanced reputation was one of the key drivers for companies that had adopted environmental initiatives (see chapter 4.5), this incentive seems to have little appeal for companies that are not yet engaged in such activities. Only when it came to engagement with stakeholders and support of local environmental initiatives did respondents consider this an effective incentive. As expected, larger companies emphasized evidence of enhanced reputation more than SMEs. Support in terms of resources, finances or technology only played a major role with regard to participation in voluntary environmental initiatives, support of local environmental initiatives and environmental, social or sustainability reporting. Small and large companies rated its importance rather similarly. Awards and labelling schemes never showed up among the top three incentives, although several respondents had mentioned them in the open-ended question (table 6). Supply chain requirements, evidence of enhanced corporate management and evidence of risk reduction also appeared to be of minor importance.

Overall, this detailed analysis confirmed the more general findings outlined in section 4.6: Most companies appear to be unwilling to engage in any type of environmental initiative in the absence of external pressure. Compliance with legislation is the key incentive for SMEs, while larger companies are strongly influenced by their stakeholders' demands. Incentives and support offered by the government appear to be unlikely to elicit environmental change in companies unless they are paired with increased external demands or pressures and a change in company culture.

Table 8: Major incentives for encouraging companies to engage in ten types of environmental initiatives. Key incentives are shown in bold print; incentives other than the top three in brackets. No results were included (n.a.) if a question was answered by three or less respondents.

Major incentives	all comp.	SMEs	Large c.
Designated staff to deal with env. matters			
Legislative requirements	71%	71%	n.a.
Evidence of cost reduction	64%	64%	n.a.
Evidence of enhanced competitive advantage	50%	50%	n.a.
Environmental management system (EMS)			
Legislative requirements	85%	85%	n.a.
Evidence of cost reduction	62%	62%	n.a.
Evidence of enhanced competitive advantage	38%	38%	n.a.
Published policy statement on env. matters			
Legislative requirements	63%	67%	n.a.
Evidence of enhanced competitive advantage	44%	40%	n.a.
Evidence of cost reduction	38%	40%	n.a.
Supply chain management			
Legislative requirements	72%	79%	50%
Evidence of cost reduction	56%	57%	50%
Support / demand from stakeholders	33%	36%	(25%)
Evidence of enhanced competitive advantage	(28%)	(21%)	50%
Verification / accreditation of env. performance			
Legislative requirements	68%	71%	60%
Evidence of cost reduction	47%	64%	(0%)
Support / demand from stakeholders	47%	29%	100%
Evidence of enhanced competitive advantage	(42%)	29%	80%
Extended producer responsibility initiatives			
Legislative requirements	60%	67%	40%
Evidence of cost reduction	55%	60%	40%
Evidence of enhanced competitive advantage	40%	53%	(0%)
Support / demand from stakeholders	(35%)	(27%)	60%
Engagement with stakeholders			
Legislative requirements	59%	88%	(18%)
Support / demand from stakeholders	48%	44%	55%
Evidence of cost reduction	37%	44%	(27%)
Evidence of enhanced reputation	37%	(19%)	64%
Evidence of enhanced competitive advantage	(30%)	(25%)	36%
Participation in voluntary env. initiatives			
Legislative requirements	55%	63%	(20%)
Evidence of cost reduction	41%	42%	40%
Evidence of enhanced competitive advantage	41%	(38%)	60%
Resources / technological / financial support	41%	42%	40%
Support of local environmental initiatives			
Evidence of enhanced competitive advantage	41%	38%	50%
Legislative requirements	38%	50%	(0%)
Resources / technological / financial support	38%	38%	38%
Evidence of enhanced reputation	38%	38%	38%
Environmental, social or sustainability reporting			
Legislative requirements	58%	67%	40%
Evidence of enhanced competitive advantage	40%	40%	40%
Support / demand from stakeholders	38%	(36%)	40%
Resources / technological / financial support	(35%)	40%	(27%)

5. Discussion and conclusions

The present survey's main objective was to identify drivers and barriers to engaging Hong Kong businesses in environmental change and to analyse if and how these factors differ between large and smaller companies. Perhaps the most striking finding was the general unwillingness of the large majority of local companies, particularly SMEs, to deal with environmental issues at all. This was reflected in the response rates, which were low even compared to similar SME studies conducted in other parts of the world. It confirmed earlier studies reporting a substandard degree of environmental awareness and disclosure among the majority of businesses in Hong Kong (Chan and Li 2001; Chan and Welford, 2005; Lo *et al.*, 2003).

The unwillingness of most local businesses to even participate in a survey constitutes a major difficulty for this type of study, since it hampers the compilation of a statistically relevant sample and may lead to a heavily biased response. We circumvented this problem by explicitly focussing on companies with a more proactive approach towards environmental issues. Therefore, we do not claim that respondents to this survey represent the average Hong Kong SME. A completely random sampling approach would not have enabled us to analyse drivers for environmental change, as a survey scale far exceeding our possibilities would have been necessary to compile a sufficiently large sample of companies.

The majority of our respondents shared the impression that Hong Kong companies lag behind their counterparts in other parts of the developed world in terms of environmental management. Three factors were mainly held responsible for the comparatively poor performance of Hong Kong businesses: a lack of government support and encouragement, a strong societal pressure to focus on monetary benefits, and a lack of resources and internal support.

In general, SMEs engage significantly less in voluntary environmental activities than larger companies, but those who adopt a more pro-active approach do so for similar reasons. Regardless of company size, competitive advantage and enhanced reputation are the most important drivers for environmental change. Unsurprisingly, companies tend to focus on those types of environmental initiatives that offer them a direct financial or competitive benefit. In their case study on SMEs with a pro-active approach to environmental matters in the UK, Petts *et al.* (1998) emphasized that the environment was seen as having a potential business benefit in all those companies. Our results confirm that companies, including SMEs, are often willing to engage in environmental projects if they perceive them as adding business value (such as

competitive advantage, improved management, brand enhancement) and help them to perform better in their core business.

However, the majority of companies in Hong Kong are either not aware of these potential benefits or unable to gain an advantage through improved environmental management. Rather than engaging pro-actively in environmental initiatives, they prefer to wait for the certainty of impending legislation. This attitude is particularly widespread among SMEs. Simply put, most SMEs are only willing to consider environmental initiatives if they face some sort of obligation, either through legislation or as a result of customers' or stakeholders' demands. Hence, regulators and legislators play a key role in initiating environmental change in SMEs. Various authors have therefore suggested that regulation may be the most appropriate mechanism in order to improve the environmental performance of small firms (Rutherford *et al.*, 2000; Tilley, 1999), a position that is strongly supported by our findings.

At least for the time being, command-and-control mechanisms appear to be the most effective policy option for minimising the environmental impacts of Hong Kong SMEs. But while more stringent regulation and enforcement will certainly help to achieve a higher degree of environmental performance, it is unlikely to elicit more pro-active business practices. Regulatory compliance can become an end in itself rather than leading to fundamental changes in environmental attitudes (Drake *et al.*, 2004). Innovation, which plays a central role in the transition towards a sustainable and ecologically sound society, is not necessarily fostered by environmental legislation but requires further incentives and government support. Hong Kong has already successfully employed such mechanisms in the public transport sector, where a shift from diesel to the more environmentally friendly LPG (liquid petroleum gas) fuel in taxis and, increasingly, public minibuses has been accomplished due to a fundamental change in the government's environmental policy (Lam *et al.*, 2005).

Government support is thus another factor for engaging SMEs in environmental change. Many respondents to our survey mentioned a lack of government support when asked about reasons for the poor uptake of environmental management principles among Hong Kong companies in an unprompted question. It is evident that SMEs have limited resources and are therefore much more dependent on external support than large corporations. More government support, particularly in forms that are adapted to suit the particular needs of SMEs, is therefore highly desirable. Although the Environmental Protection Department and several business organisations have recently initiated new SME support programmes, our survey

shows that the Hong Kong government has been far more successful in encouraging larger companies than SMEs to take up voluntary environmental initiatives.

A more thorough analysis of drivers and barriers for environmental change puts the role of government encouragement into perspective, though. Although frequently cited as key incentive in an unprompted question, it did not emerge as a major factor when directly compared with other drivers. Similarly, although a lack of resources and support was frequently highlighted as major barrier against engaging in environmental change in an unprompted question, a direct comparison of different barriers showed that other internal and external factors were considered more influential. This is in accordance with earlier findings that government subsidies and support rank rather low among drivers for implementing an EMS in Hong Kong companies (Lo *et al.*, 2003). Financial and technical support alone is thus clearly not sufficient for eliciting environmental change in Hong Kong SMEs. A comparison of Dutch and Japanese environmental SME policy suggests that voluntary approaches to achieve environmental goals are only effective if they are backed up by a legislative and inspection system that allows the state to exert significant pressure on the sector to reduce environmental impacts (Revell, 2003). Similarly, we expect that Hong Kong SMEs will not effectively implement environmental initiatives without clear environmental policies and strict enforcement of government regulations.

Our findings suggest that another crucial factor is societal attitude towards the environment. Although SMEs are less exposed to public pressure than larger companies (not least because the public tends to consider their environmental impacts negligible), they are heavily influenced by their customers' environmental attitudes and demands. Hong Kong SMEs are often integrated into the supply chain of multinational corporations and many are active in the import-export business. Pressures resulting from more stringent corporate policies and new environmental regulations in major export markets such as the European Union are therefore likely to affect the environmental performance of local SMEs in the long run (Environmental Protection Department, 2001). Pressures exerted from local consumers are a different issue. Public awareness of environmental problems in Hong Kong is comparatively low, though it has been rising (Hills, 2001). Many local stakeholders still regard environmental policy primarily as an exercise in pollution control (Hills, 2005). This lack of public awareness is further exacerbated by the strong focus on short-term benefits in the local business culture (Shen and Tam, 2002). While education and empowerment of local consumers may not have a huge direct impact on the environmental performance of SMEs, it will certainly influence corporate

culture and the environmental awareness of managers and employees in the long term.

Such a change will be indispensable if Hong Kong businesses are to make fundamental and sustainable progress in terms of environmental management. For external pressures and support to result in improved business practices, endorsement of environmental matters by senior management is crucial. As Petts *et al.* (1998) noted in their case study on British SMEs with a pro-active environmental attitude, the key to the performance of all these companies was an senior individual who was seen as a champion of environmental policy and its implementation. However, few companies in Hong Kong currently consider environmental issues from a top management perspective (Lo *et al.*, 2003), and a lack of support from senior management was frequently cited as a barrier to engaging in environmental initiatives in our survey.

In summary, government policy, societal attitudes and corporate culture are equally important factors for the poor uptake of voluntary environmental initiatives among Hong Kong companies. With the current focus on end-of-pipe solutions in the Hong Kong government's environmental policy and the low level of environmental awareness in local society, truly sustainable improvements will be difficult to achieve. Chambers and business associations are engaging with SMEs to a certain degree, but appear to be lacking strong strategies and political engagement and are thus failing to efficiently integrate SMEs into the process of developing and implementing good environmental policies. To date their approach has been piecemeal, and they have done little else than try to market courses and industry briefings to the few companies that are already engaged for one reason or another. As long as most SMEs regard voluntary environmental activities as costly and unnecessary 'extras' that endanger their competitiveness and detract resources from their core business without offering any tangible benefits, they will be unwilling to engage in environmental change even if they are offered adequate support and assistance.

Obviously, Hong Kong businesses, particularly SMEs, do not yet accept their responsibility in corporate environmental management. However, despite this rather gloomy picture, it has to be acknowledged that some leading SMEs are going to great lengths in order to improve their environmental performance and easily reach the level of their counterparts in other developed economies. The growing number of activities, award schemes and consulting services geared at improving the environmental performance of SMEs in Hong Kong are certainly leading the right way.

6. Policy recommendations

Based on the analysis of drivers and barriers to engaging SMEs in environmental change, we identified various factors that prevent these companies from adopting voluntary initiatives. There is clearly a need for

- stronger leadership by government and business associations,
- better environmental education of the general public and SME managers in particular, and
- better corporate governance in Hong Kong businesses of all sizes

in order to improve the environmental performance of SMEs in Hong Kong.

This leads us to the following four policy recommendations:

- Tougher environmental legislation while maintaining the current high level of implementation and enforcement.
- Better consideration of SMEs by regulators to avoid them slipping through the regulatory framework. This implies a fuller engagement of regulators with the SME sector, not only by means of providing information and support.
- A bigger role for business associations such as chambers of commerce and the Business Environment Council in building relationships between business and government. SMEs need to be more involved in political processes.
- Raised efforts to improve environmental education; and specifically the education, training and other support targeted at SME owners and managers. Emphasis should be put on demonstrating them how good environmental governance can lead to competitive advantage.

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APPENDICES

Appendix I: Questionnaire for Businesses

PART I – GENERAL COMPANY INFORMATION

Company name:

Sector:

Number of employees (in Hong Kong):

Interviewee name:

Organisational role of interviewee:

Contact information (phone, fax, e-mail):

Does your company have ISO 14001 certification? YES NO

Ownership: Hong Kong
 Mainland China
 Other country: _____

PART II – MULTIPLE CHOICE QUESTIONS

1. Does your company have a published policy statement on environmental matters?

- YES → please answer question 1 A
 NO → please answer questions 1 B and C

1A Which are the three most relevant reasons for your company to have a published policy statement on environmental matters? Please choose from the list below (1 = most relevant, 3 = least relevant):

- | | | | |
|-----------------------------------|-----|-------------------------------------|-----|
| a. Provides competitive advantage | ___ | g. Cost reduction | ___ |
| b. Reputation / brand enhancement | ___ | h. Improves management | ___ |
| c. Supply chain requirements | ___ | i. Risk reduction | ___ |
| d. Stakeholders' demands | ___ | j. Consistent with corporate ethics | ___ |
| e. Government encouragement | ___ | k. Others: _____ | ___ |
| f. Reduced need for regulation | ___ | | |

1B Choose the three most relevant reasons for your company not to have a published policy statement on environmental matters from the list below (1 = most relevant, 3 = least relevant):

- | | | | |
|-------------------------------------|-----|--|-----|
| a. Creates competitive disadvantage | ___ | g. Costly | ___ |
| b. Lack of incentive | ___ | h. Not seen as a priority by senior management | ___ |
| c. No demand from customers | ___ | i. Lack of in-house knowledge / skills | ___ |
| d. No demand from stakeholders | ___ | j. Lack of resources | ___ |
| e. Not a legal requirement | ___ | k. Others: _____ | ___ |
| f. Corporate inertia | ___ | | |

1C Which drivers would encourage your company to adopt the above practice? Please score from 1 to 3 (1 = most relevant, 3 = least relevant):

- | | | | |
|--|-----|---|-----|
| a. Evidence of enhanced competitive advantage | ___ | g. Resource / technological / financial support | ___ |
| b. Evidence of enhanced reputation / brand image | ___ | h. Evidence of cost reduction | ___ |
| c. Awards / labelling schemes | ___ | i. Evidence of enhanced corporate management | ___ |
| d. Supply chain requirements | ___ | j. Evidence of risk reduction | ___ |
| e. Support/demand from stakeholders | ___ | k. Others: _____ | ___ |
| f. Legislative requirements | ___ | | |

2. Does your company have any designated staff to deal with environmental matters?

- YES → please answer question 2 A
 NO → please answer questions 2 B and C

2A Which are the three most relevant reasons for your company to have any designated staff to deal with environmental matters? Please choose from the list below (1 = most relevant, 3 = least relevant):

- | | | | |
|-----------------------------------|-----|-------------------------------------|-----|
| a. Provides competitive advantage | ___ | g. Cost reduction | ___ |
| b. Reputation / brand enhancement | ___ | h. Improves management | ___ |
| c. Supply chain requirements | ___ | i. Risk reduction | ___ |
| d. Stakeholders' demands | ___ | j. Consistent with corporate ethics | ___ |
| e. Government encouragement | ___ | k. Others: _____ | ___ |
| f. Reduced need for regulation | ___ | | |

2B Choose the three most relevant reasons for your company not to have any designated staff to deal with environmental matters from the list below (1 = most relevant, 3 = least relevant):

- | | | | |
|-------------------------------------|-----|--|-----|
| a. Creates competitive disadvantage | ___ | g. Costly | ___ |
| b. Lack of incentive | ___ | h. Not seen as a priority by senior management | ___ |
| c. No demand from customers | ___ | i. Lack of in-house knowledge / skills | ___ |
| d. No demand from stakeholders | ___ | j. Lack of resources | ___ |
| e. Not a legal requirement | ___ | k. Others: _____ | ___ |
| f. Corporate inertia | ___ | | |

2C Which drivers would encourage your company to adopt the above practice? Please score from 1 to 3 (1 = most relevant, 3 = least relevant):

- | | | | |
|--|-----|---|-----|
| a. Evidence of enhanced competitive advantage | ___ | g. Resource / technological / financial support | ___ |
| b. Evidence of enhanced reputation / brand image | ___ | h. Evidence of cost reduction | ___ |
| c. Awards / labelling schemes | ___ | i. Evidence of enhanced corporate management | ___ |
| d. Supply chain requirements | ___ | j. Evidence of risk reduction | ___ |
| e. Support/demand from stakeholders | ___ | k. Others: _____ | ___ |
| f. Legislative requirements | ___ | | |

3. Does your company have an environmental management system in place (either certified or non-certified)?

- YES → please answer question 3 A
 NO → please answer questions 3 B and C

3A Which are the three most relevant reasons for your company to have an environmental management system in place? Please choose from the list below (1 = most relevant, 3 = least relevant):

- | | | | |
|-----------------------------------|-----|-------------------------------------|-----|
| a. Provides competitive advantage | ___ | g. Cost reduction | ___ |
| b. Reputation / brand enhancement | ___ | h. Improves management | ___ |
| c. Supply chain requirements | ___ | i. Risk reduction | ___ |
| d. Stakeholders' demands | ___ | j. Consistent with corporate ethics | ___ |
| e. Government encouragement | ___ | k. Others: _____ | ___ |
| f. Reduced need for regulation | ___ | | |

3B Choose the three most relevant reasons for your company not to have an environmental management system in place from the list below (1 = most relevant, 3 = least relevant):

- | | | | |
|-------------------------------------|-----|--|-----|
| a. Creates competitive disadvantage | ___ | g. Costly | ___ |
| b. Lack of incentive | ___ | h. Not seen as a priority by senior management | ___ |
| c. No demand from customers | ___ | i. Lack of in-house knowledge / skills | ___ |
| d. No demand from stakeholders | ___ | j. Lack of resources | ___ |
| e. Not a legal requirement | ___ | k. Others: _____ | ___ |
| f. Corporate inertia | ___ | | |

3C Which drivers would encourage your company to adopt the above practice? Please score from 1 to 3 (1 = most relevant, 3 = least relevant):

- | | | | |
|--|-----|---|-----|
| a. Evidence of enhanced competitive advantage | ___ | g. Resource / technological / financial support | ___ |
| b. Evidence of enhanced reputation / brand image | ___ | h. Evidence of cost reduction | ___ |
| c. Awards / labelling schemes | ___ | i. Evidence of enhanced corporate management | ___ |
| d. Supply chain requirements | ___ | j. Evidence of risk reduction | ___ |
| e. Support/demand from stakeholders | ___ | k. Others: _____ | ___ |
| f. Legislative requirements | ___ | | |

4. Does your company perform environmental, social or sustainability reporting?

- YES → please answer question 4 A
 NO → please answer questions 4 B and C

4A Which are the three most relevant reasons for your company to perform environmental, social or sustainability reporting? Please choose from the list below (1 = most relevant, 3 = least relevant):

- | | | | |
|-----------------------------------|-----|-------------------------------------|-----|
| a. Provides competitive advantage | ___ | g. Cost reduction | ___ |
| b. Reputation / brand enhancement | ___ | h. Improves management | ___ |
| c. Supply chain requirements | ___ | i. Risk reduction | ___ |
| d. Stakeholders' demands | ___ | j. Consistent with corporate ethics | ___ |
| e. Government encouragement | ___ | k. Others: _____ | ___ |
| f. Reduced need for regulation | ___ | | |

4B Choose the three most relevant reasons for your company not to perform environmental, social or sustainability reporting from the list below (1 = most relevant, 3 = least relevant):

- | | | | |
|-------------------------------------|-----|--|-----|
| a. Creates competitive disadvantage | ___ | g. Costly | ___ |
| b. Lack of incentive | ___ | h. Not seen as a priority by senior management | ___ |
| c. No demand from customers | ___ | i. Lack of in-house knowledge / skills | ___ |
| d. No demand from stakeholders | ___ | j. Lack of resources | ___ |
| e. Not a legal requirement | ___ | k. Others: _____ | ___ |
| f. Corporate inertia | ___ | | |

4C Which drivers would encourage your company to adopt the above practice? Please score from 1 to 3 (1 = most relevant, 3 = least relevant):

- | | | | |
|--|-----|---|-----|
| a. Evidence of enhanced competitive advantage | ___ | g. Resource / technological / financial support | ___ |
| b. Evidence of enhanced reputation / brand image | ___ | h. Evidence of cost reduction | ___ |
| c. Awards / labelling schemes | ___ | i. Evidence of enhanced corporate management | ___ |
| d. Supply chain requirements | ___ | j. Evidence of risk reduction | ___ |
| e. Support/demand from stakeholders | ___ | k. Others: _____ | ___ |
| f. Legislative requirements | ___ | | |

5. Does your company perform verification or accreditation relating to environmental performance (e.g. verification on environmental / sustainability reporting)?

- YES → please answer question 5 A
 NO → please answer questions 5 B and C

5A Which are the three most relevant reasons for your company to perform verification or accreditation relating to environmental performance? Please choose from the list below (1 = most relevant, 3 = least relevant):

- | | | | |
|-----------------------------------|-----|-------------------------------------|-----|
| a. Provides competitive advantage | ___ | g. Cost reduction | ___ |
| b. Reputation / brand enhancement | ___ | h. Improves management | ___ |
| c. Supply chain requirements | ___ | i. Risk reduction | ___ |
| d. Stakeholders' demands | ___ | j. Consistent with corporate ethics | ___ |
| e. Government encouragement | ___ | k. Others: _____ | ___ |
| f. Reduced need for regulation | ___ | | |

5B Choose the three most relevant reasons for your company not to perform verification or accreditation relating to environmental performance from the list below (1 = most relevant, 3 = least relevant):

- | | | | |
|-------------------------------------|-----|--|-----|
| a. Creates competitive disadvantage | ___ | g. Costly | ___ |
| b. Lack of incentive | ___ | h. Not seen as a priority by senior management | ___ |
| c. No demand from customers | ___ | i. Lack of in-house knowledge / skills | ___ |
| d. No demand from stakeholders | ___ | j. Lack of resources | ___ |
| e. Not a legal requirement | ___ | k. Others: _____ | ___ |
| f. Corporate inertia | ___ | | |

5C Which drivers would encourage your company to adopt the above practice? Please score from 1 to 3 (1 = most relevant, 3 = least relevant):

- | | | | |
|--|-----|---|-----|
| a. Evidence of enhanced competitive advantage | ___ | g. Resource / technological / financial support | ___ |
| b. Evidence of enhanced reputation / brand image | ___ | h. Evidence of cost reduction | ___ |
| c. Awards / labelling schemes | ___ | i. Evidence of enhanced corporate management | ___ |
| d. Supply chain requirements | ___ | j. Evidence of risk reduction | ___ |
| e. Support/demand from stakeholders | ___ | k. Others: _____ | ___ |
| f. Legislative requirements | ___ | | |

6. Does your company engage in supply chain management (e.g. providing code of conduct to or imposing environmental requirements on suppliers and contractors)?

- YES → please answer question 6 A
 NO → please answer questions 6 B and C

6A Which are the three most relevant reasons for your company to engage in supply chain management? Please choose from the list below (1 = most relevant, 3 = least relevant):

- | | | | |
|-----------------------------------|-----|-------------------------------------|-----|
| a. Provides competitive advantage | ___ | g. Cost reduction | ___ |
| b. Reputation / brand enhancement | ___ | h. Improves management | ___ |
| c. Supply chain requirements | ___ | i. Risk reduction | ___ |
| d. Stakeholders' demands | ___ | j. Consistent with corporate ethics | ___ |
| e. Government encouragement | ___ | k. Others: _____ | ___ |
| f. Reduced need for regulation | ___ | | |

6B Choose the three most relevant reasons for your company not to engage in supply chain management from the list below (1 = most relevant, 3 = least relevant):

- | | | | |
|-------------------------------------|-----|--|-----|
| a. Creates competitive disadvantage | ___ | g. Costly | ___ |
| b. Lack of incentive | ___ | h. Not seen as a priority by senior management | ___ |
| c. No demand from customers | ___ | i. Lack of in-house knowledge / skills | ___ |
| d. No demand from stakeholders | ___ | j. Lack of resources | ___ |
| e. Not a legal requirement | ___ | k. Others: _____ | ___ |
| f. Corporate inertia | ___ | | |

6C Which drivers would encourage your company to adopt the above practice? Please score from 1 to 3 (1 = most relevant, 3 = least relevant):

- | | | | |
|--|-----|---|-----|
| a. Evidence of enhanced competitive advantage | ___ | g. Resource / technological / financial support | ___ |
| b. Evidence of enhanced reputation / brand image | ___ | h. Evidence of cost reduction | ___ |
| c. Awards / labelling schemes | ___ | i. Evidence of enhanced corporate management | ___ |
| d. Supply chain requirements | ___ | j. Evidence of risk reduction | ___ |
| e. Support/demand from stakeholders | ___ | k. Others: _____ | ___ |
| f. Legislative requirements | ___ | | |

7. Does your company engage in initiatives relating to extended producer responsibility (e.g. take-back system)?

- YES → please answer question 7 A
 NO → please answer questions 7 B and C

7A Which are the three most relevant reasons for your company to engage in initiatives relating to extended producer responsibility? Please choose from the list below (1 = most relevant, 3 = least relevant):

- | | | | |
|-----------------------------------|-----|-------------------------------------|-----|
| a. Provides competitive advantage | ___ | g. Cost reduction | ___ |
| b. Reputation / brand enhancement | ___ | h. Improves management | ___ |
| c. Supply chain requirements | ___ | i. Risk reduction | ___ |
| d. Stakeholders' demands | ___ | j. Consistent with corporate ethics | ___ |
| e. Government encouragement | ___ | k. Others: _____ | ___ |
| f. Reduced need for regulation | ___ | | |

7B Choose the three most relevant reasons for your company not to engage in initiatives relating to extended producer responsibility from the list below (1 = most relevant, 3 = least relevant):

- | | | | |
|-------------------------------------|-----|--|-----|
| a. Creates competitive disadvantage | ___ | g. Costly | ___ |
| b. Lack of incentive | ___ | h. Not seen as a priority by senior management | ___ |
| c. No demand from customers | ___ | i. Lack of in-house knowledge / skills | ___ |
| d. No demand from stakeholders | ___ | j. Lack of resources | ___ |
| e. Not a legal requirement | ___ | k. Others: _____ | ___ |
| f. Corporate inertia | ___ | | |

7C Which drivers would encourage your company to adopt the above practice? Please score from 1 to 3 (1 = most relevant, 3 = least relevant):

- | | | | |
|--|-----|---|-----|
| a. Evidence of enhanced competitive advantage | ___ | g. Resource / technological / financial support | ___ |
| b. Evidence of enhanced reputation / brand image | ___ | h. Evidence of cost reduction | ___ |
| c. Awards / labelling schemes | ___ | i. Evidence of enhanced corporate management | ___ |
| d. Supply chain requirements | ___ | j. Evidence of risk reduction | ___ |
| e. Support/demand from stakeholders | ___ | k. Others: _____ | ___ |
| f. Legislative requirements | ___ | | |

8. Does your company participate in voluntary environmental initiatives in collaboration with industry and / or the government?

- YES → please answer question 8 A
 NO → please answer questions 8 B and C

8A Which are the three most relevant reasons for your company to participate in voluntary environmental initiatives? Please choose from the list below (1 = most relevant, 3 = least relevant):

- | | | | |
|-----------------------------------|-----|-------------------------------------|-----|
| a. Provides competitive advantage | ___ | g. Cost reduction | ___ |
| b. Reputation / brand enhancement | ___ | h. Improves management | ___ |
| c. Supply chain requirements | ___ | i. Risk reduction | ___ |
| d. Stakeholders' demands | ___ | j. Consistent with corporate ethics | ___ |
| e. Government encouragement | ___ | k. Others: _____ | ___ |
| f. Reduced need for regulation | ___ | | |

8B Choose the three most relevant reasons for your company not to participate in voluntary environmental initiatives from the list below (1= most relevant, 3 = least relevant):

- | | | | |
|-------------------------------------|-----|--|-----|
| a. Creates competitive disadvantage | ___ | g. Costly | ___ |
| b. Lack of incentive | ___ | h. Not seen as a priority by senior management | ___ |
| c. No demand from customers | ___ | i. Lack of in-house knowledge / skills | ___ |
| d. No demand from stakeholders | ___ | j. Lack of resources | ___ |
| e. Not a legal requirement | ___ | k. Others: _____ | ___ |
| f. Corporate inertia | ___ | | |

8C Which drivers would encourage your company to adopt the above practice? Please score from 1 to 3 (1 = most relevant, 3 = least relevant):

- | | | | |
|--|-----|---|-----|
| a. Evidence of enhanced competitive advantage | ___ | g. Resource / technological / financial support | ___ |
| b. Evidence of enhanced reputation / brand image | ___ | h. Evidence of cost reduction | ___ |
| c. Awards / labelling schemes | ___ | i. Evidence of enhanced corporate management | ___ |
| d. Supply chain requirements | ___ | j. Evidence of risk reduction | ___ |
| e. Support/demand from stakeholders | ___ | k. Others: _____ | ___ |
| f. Legislative requirements | ___ | | |

9. Does your company support local environmental initiatives (e.g. in the form of sponsorship)?

- YES → please answer question 9 A
 NO → please answer questions 9 B and C

9A Which are the three most relevant reasons for your company to support local environmental initiatives? Please choose from the list below (1 = most relevant, 3 = least relevant):

- | | | | |
|-----------------------------------|-----|-------------------------------------|-----|
| a. Provides competitive advantage | ___ | g. Cost reduction | ___ |
| b. Reputation / brand enhancement | ___ | h. Improves management | ___ |
| c. Supply chain requirements | ___ | i. Risk reduction | ___ |
| d. Stakeholders' demands | ___ | j. Consistent with corporate ethics | ___ |
| e. Government encouragement | ___ | k. Others: _____ | ___ |
| f. Reduced need for regulation | ___ | | |

9B Choose the three most relevant reasons for your company not to support local environmental initiatives from the list below (1 = most relevant, 3 = least relevant):

- | | | | |
|-------------------------------------|-----|--|-----|
| a. Creates competitive disadvantage | ___ | g. Costly | ___ |
| b. Lack of incentive | ___ | h. Not seen as a priority by senior management | ___ |
| c. No demand from customers | ___ | i. Lack of in-house knowledge / skills | ___ |
| d. No demand from stakeholders | ___ | j. Lack of resources | ___ |
| e. Not a legal requirement | ___ | k. Others: _____ | ___ |
| f. Corporate inertia | ___ | | |

9C Which drivers would encourage your company to adopt the above practice? Please score from 1 to 3 (1 = most relevant, 3 = least relevant):

- | | | | |
|--|-----|---|-----|
| a. Evidence of enhanced competitive advantage | ___ | g. Resource / technological / financial support | ___ |
| b. Evidence of enhanced reputation / brand image | ___ | h. Evidence of cost reduction | ___ |
| c. Awards / labelling schemes | ___ | i. Evidence of enhanced corporate management | ___ |
| d. Supply chain requirements | ___ | j. Evidence of risk reduction | ___ |
| e. Support/demand from stakeholders | ___ | k. Others: _____ | ___ |
| f. Legislative requirements | ___ | | |

10. Does your company engage with stakeholders (e.g. through stakeholder dialogue)?

- YES → please answer question 10 A
 NO → please answer questions 10 B and C

10A Which are the three most relevant reasons for your company to engage with stakeholders? Please choose from the list below (1 = most relevant, 3 = least relevant):

- | | | | |
|-----------------------------------|-----|-------------------------------------|-----|
| a. Provides competitive advantage | ___ | g. Cost reduction | ___ |
| b. Reputation / brand enhancement | ___ | h. Improves management | ___ |
| c. Supply chain requirements | ___ | i. Risk reduction | ___ |
| d. Stakeholders' demands | ___ | j. Consistent with corporate ethics | ___ |
| e. Government encouragement | ___ | k. Others: _____ | ___ |
| f. Reduced need for regulation | ___ | | |

10B Choose the three most relevant reasons for your company not to engage with stakeholders from the list below (1 = most relevant, 3 = least relevant):

- | | | | |
|-------------------------------------|-----|--|-----|
| a. Creates competitive disadvantage | ___ | g. Costly | ___ |
| b. Lack of incentive | ___ | h. Not seen as a priority by senior management | ___ |
| c. No demand from customers | ___ | i. Lack of in-house knowledge / skills | ___ |
| d. No demand from stakeholders | ___ | j. Lack of resources | ___ |
| e. Not a legal requirement | ___ | k. Others: _____ | ___ |
| f. Corporate inertia | ___ | | |

10C Which drivers would encourage your company to adopt the above practice? Please score from 1 to 3 (1 = most relevant, 3 = least relevant):

- | | | | |
|--|-----|---|-----|
| a. Evidence of enhanced competitive advantage | ___ | g. Resource / technological / financial support | ___ |
| b. Evidence of enhanced reputation / brand image | ___ | h. Evidence of cost reduction | ___ |
| c. Awards / labelling schemes | ___ | i. Evidence of enhanced corporate management | ___ |
| d. Supply chain requirements | ___ | j. Evidence of risk reduction | ___ |
| e. Support/demand from stakeholders | ___ | k. Others: _____ | ___ |
| f. Legislative requirements | ___ | | |

PART III – OPEN-ENDED QUESTIONS

11. What incentives or other drivers would make you do more within your own organisation with respect to environmental management? (e.g. legislative requirements, award schemes, more opportunities for professional training, costumer requirements etc.)

12. What are the main barriers that prevent you from doing more than you already do? (e.g. costs, resources, lack of importance, clients' demands, opposition from senior management etc.)

13. Do you feel that Hong Kong companies lag behind their counterparts (i.e. companies in the same sector of similar size) in other parts of the world (e.g. European Union, North America)?

YES, because _____

NO, because _____

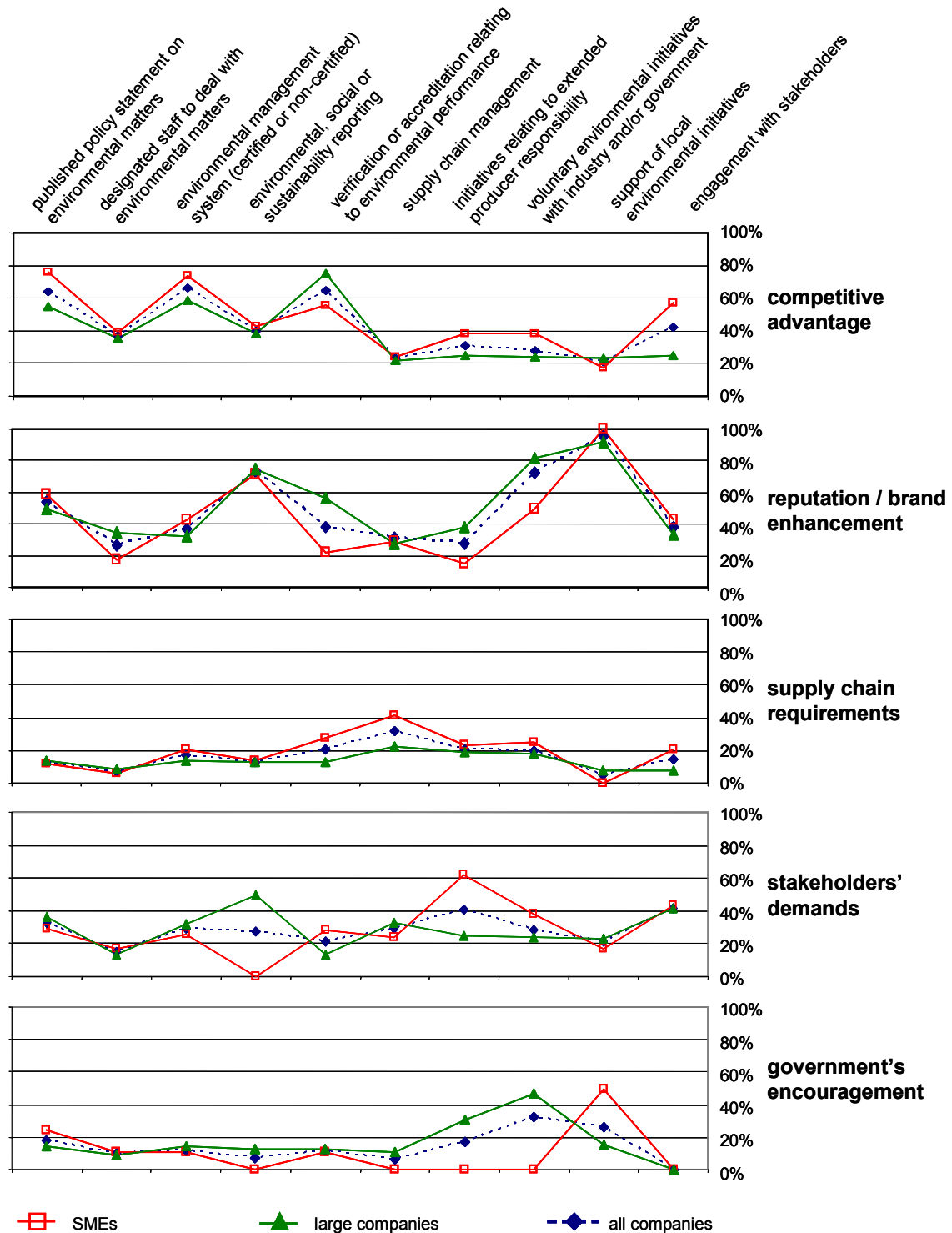
14. There is evidence to suggest that Hong Kong companies often lag behind competitor countries on environmental issues. Why do you think this is the case?

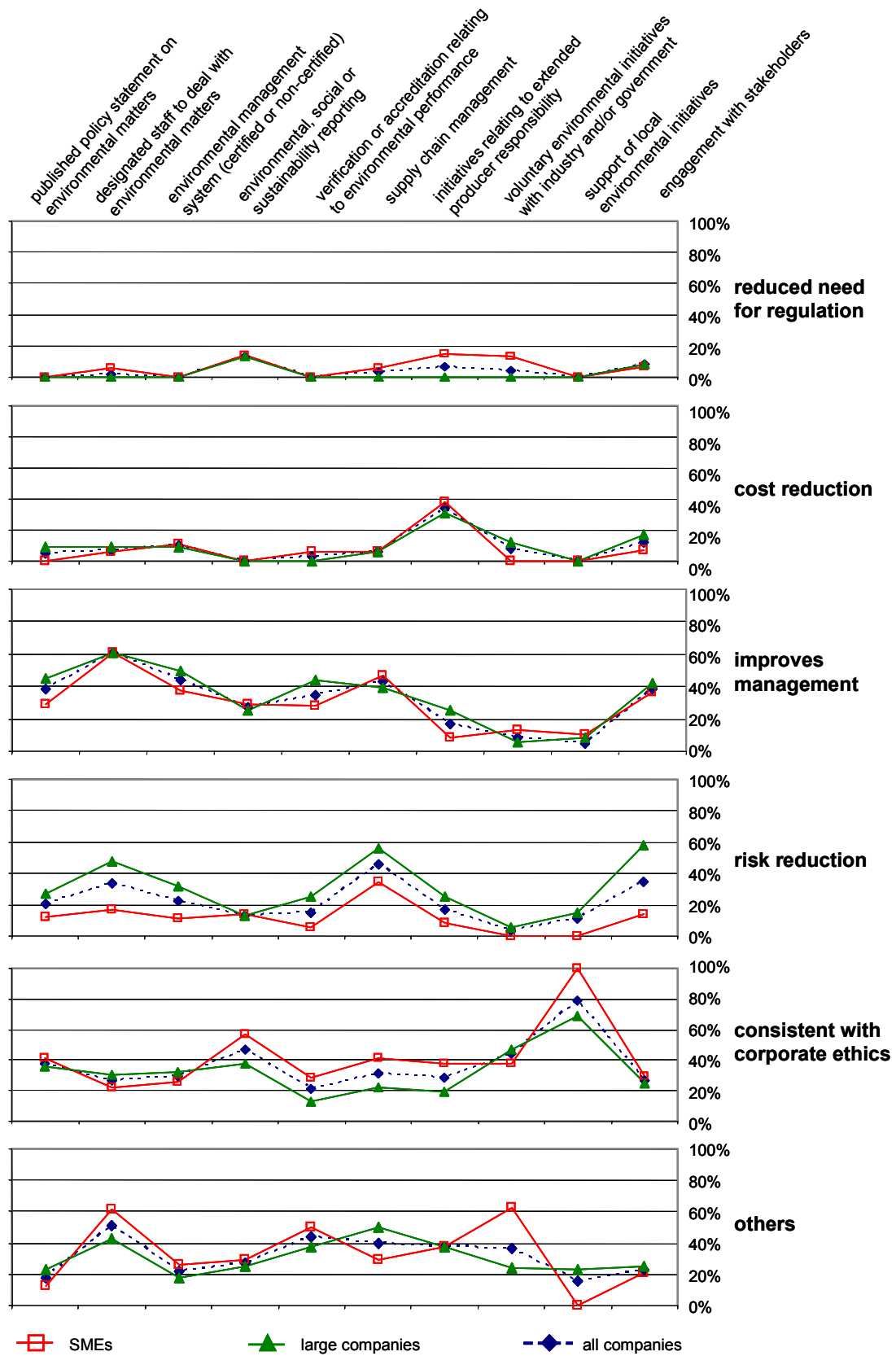
-- Thank you --



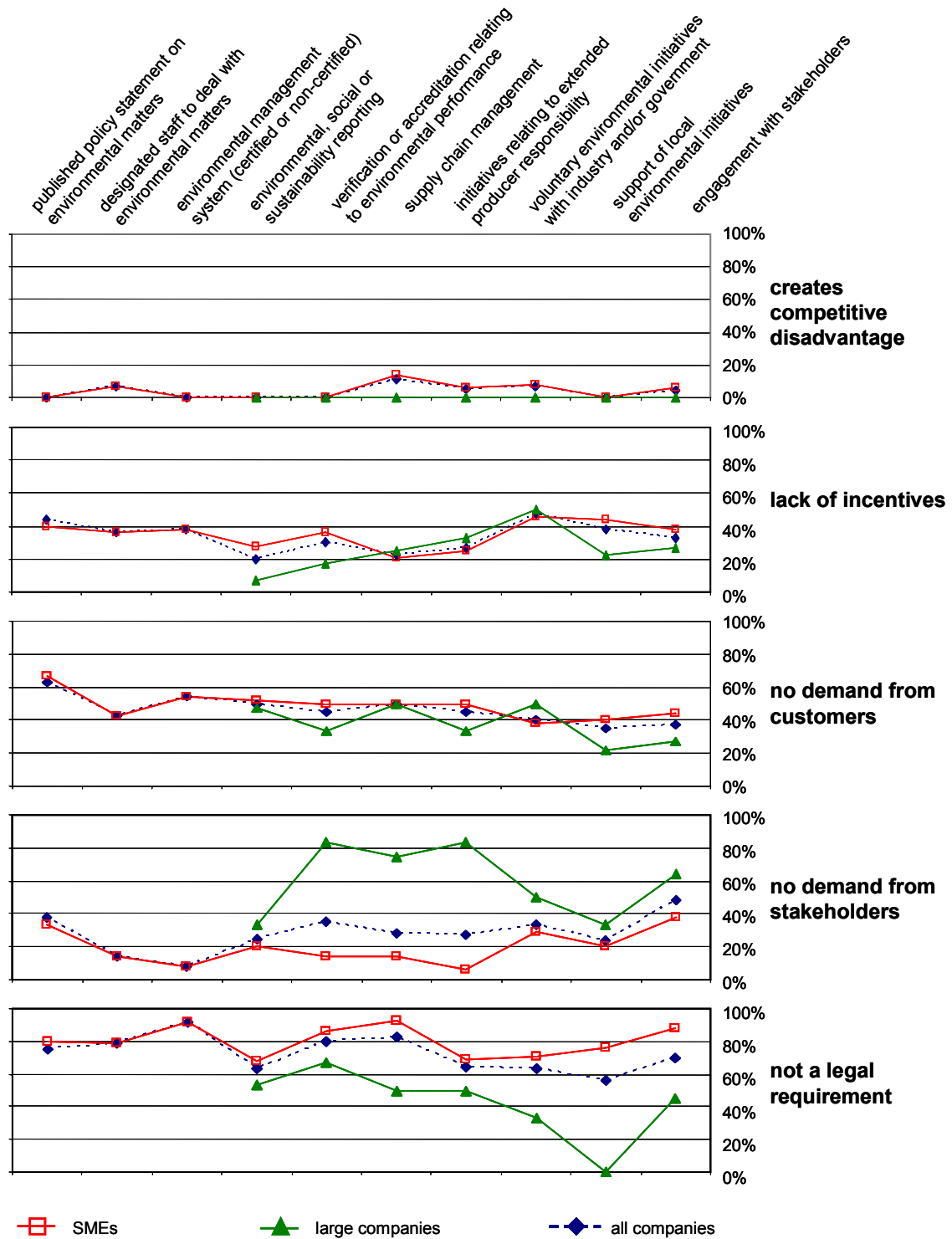
Appendix II: Drivers, barriers and incentives for SMEs and large companies

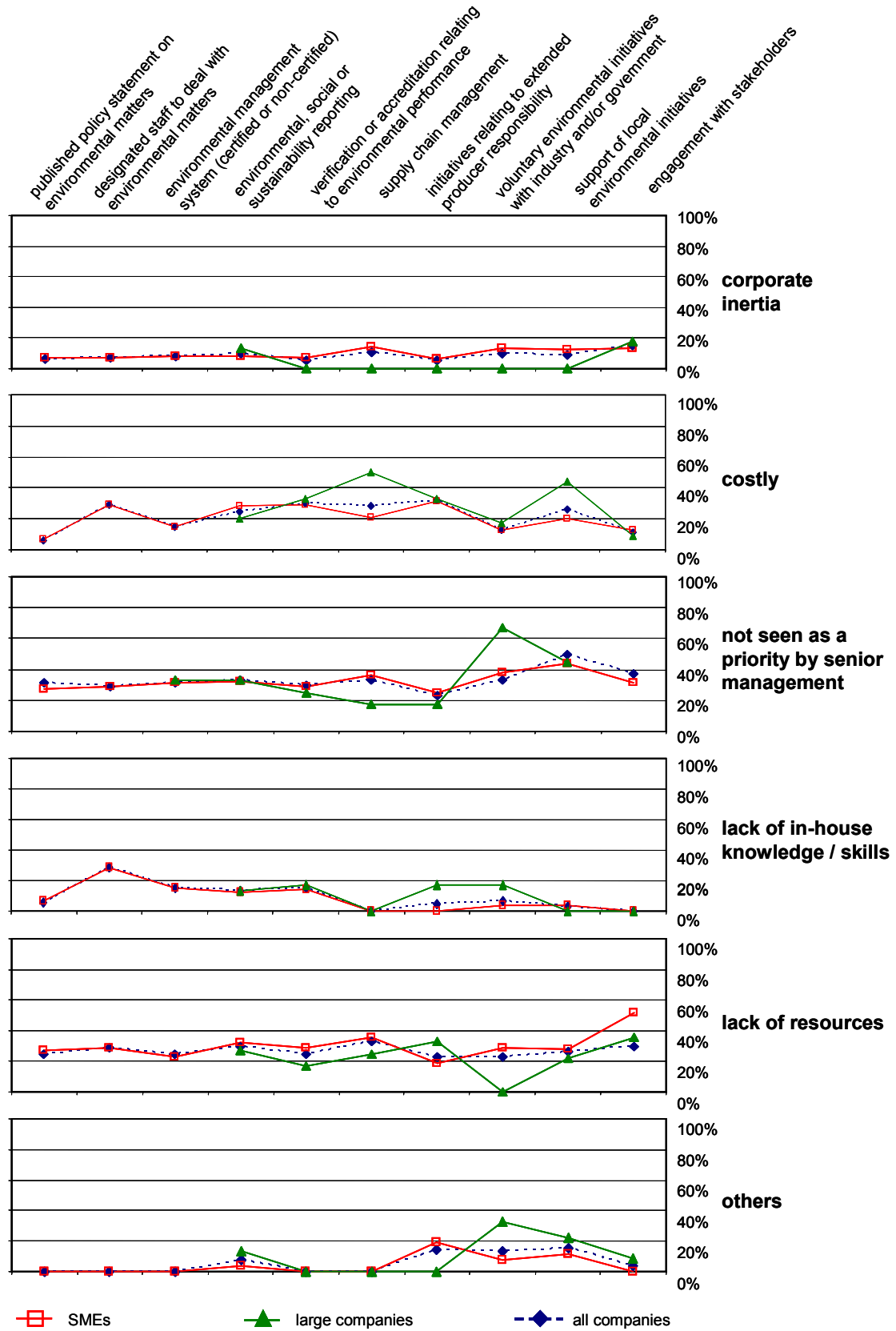
a) Drivers





b) Barriers





c) Incentives

