

# **IMPROVING THE ENVIRONMENTAL PERFORMANCE OF SMALL TO MEDIUM ENTERPRISES: REVIEWS OF POTENTIAL APPROACHES**

**Reports for Perth Regional NRM (formerly Swan Catchment  
Council)**

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## EXECUTIVE SUMMARY

The following studies were conducted during 2008 by Tom Clark for Swan Catchment Council (SCC) (now Perth Regional NRM) with the overall aim of improving the environmental performance of small and medium-sized enterprises (SMEs):

- *Incentives for Small to Medium-sized Enterprises to Improve their Environmental Performance.*
- *Further Assessment of Extended Producer Responsibility Options for Small and Medium-sized Enterprises*
- *Green Public Procurement as a Way of Improving the Environmental Performance of Small and Medium-sized Enterprises*

The results of these studies were presented in separate internal reports to SCC.

The following document combines these reports into a publicly available, downloadable single report. The Executive Summary provides the overall results while details are provided in Parts I to III covering each of the respective studies, together with supporting appendices.

### ***Part 1: Incentives for small and medium-sized enterprises to improve their environmental performance***

A literature review was conducted of Australian and international initiatives and experience of the effectiveness of initiatives.

#### **Main findings**

##### General

- There are no exact definitions and boundaries are blurred but it is necessary to distinguish between incentives and incentive-based approaches.
- All non-regulatory approaches involving voluntary action or market mechanisms, including basic assistance and support, can be classed as incentive-based. A broad definition has therefore been adopted at this stage and all possible approaches considered.
- Incentive-based initiatives or approaches (IBAs) can be classified as economic instruments (e.g. grants and other subsidies, tax relief), voluntary approaches (e.g. environmental management systems), voluntary agreements and basic support.

##### Historical development and rationale

- There has long been government, business and academic interest in the application of incentive-based approaches to improving the environmental performance of business.
- The advantages of market and incentive based approaches has been widely stated. The disadvantages have often been understated. All approaches have their limitations.
- There has been considerable attention to environmental incentives for SMEs because of the perceived advantages compared to regulation.

- Literature on environmental management and IBAs across business as a whole is widely available. However, this has been mainly focused on larger firms. There remains a lack of literature and other research into SMEs although this situation has been changing.

#### Application and engagement

- Adoption of incentive based approaches has been patchy and often limited even across large businesses.
- Incentive-based approaches have been widely attempted for SMEs but participation has been limited.
- Application of all measures, not surprisingly, has been greatest in the more environmentally advanced countries.

#### Performance

- There is a general consensus that incentive-based approaches have been beneficial; however
- There is little hard evidence or measurement of their effectiveness.
- Regulation remains the dominant instrument for improving the environmental performance of business as a whole, including SMEs.

#### Barriers

- There are many internal and external barriers to improving the environmental performance of SMEs.
- Addressing these barriers has proved to be universally difficult even when incentives have been provided and in the 'advanced' countries.

#### Success factors

- There are no magic formulae; success is influenced by situational factors.
- There is a general consensus on general requirements and success factors for incentive-based approaches for SMEs e.g. well-designed and targeted.

#### Future potential

- The full potential of incentive-based approaches is yet to be realised in the absence of strong economic and market drivers.
- Various factors are nevertheless driving increased current attention to incentive-based approaches e.g. the urgency of addressing climate change and the opportunity afforded by increased energy costs.

### **Main recommendations**

New and emerging initiatives aimed at reducing greenhouse emissions by business in general, including SMEs, appear to have the most potential for consideration in WA/Australia alongside existing or any proposed initiatives:

- There is a strong driver as energy prices are increasing, and will increase even more.
- There is less of an 'environmental' perceptual barrier (energy use is established as a business issue, even if has not been a priority).
- All SMEs are energy users, some more than others.

## ***Part II: Further assessment of extended producer responsibility options for small and medium-sized enterprises***

The work built on earlier research for SCC on this subject and was intended to provide the base for a set of case studies on successful application of EPR by SMEs

### **Main findings**

- EPR is a broad product-oriented policy concept but has been interpreted in different ways: there is no precise definition, especially regarding 'the producer' and the area has been controversial
- Product stewardship and other terms have emerged to embrace similar or related aims and principles, but mainly in the US and Australia.
- EPR (and most product stewardship) approaches can be classified by: Aims, objectives and scope; type of responsibility (liability, economic, physical and informational); product, industry or waste type (most existing EPR programs cover take-back requirements for a few main waste/product groups); level of coercion (schemes can be classified along a spectrum from purely voluntary to fully mandatory); scale and maturity of scheme (geographical coverage, volumes or tonnage of materials/products involved, participation by companies; length of time of operation); individual versus collective responsibility (responsible for own products or joining a group scheme); implementation mechanism (including supporting legislation, economic instruments, organisational arrangements for managing schemes, infrastructure and management practices in business.
- Outside of European and some other initiatives on electronic and electrical equipment, packaging and vehicles most EPR schemes have been limited. Nearly all have focused on end-of-life waste
- EPR and product stewardship have not significantly influenced life cycle thinking and practice outside of a few specific areas. Across business and government these green procurement and eco-design remain relatively rare.
- Some success factors can be identified (e.g. clear objectives, incentives, product specific, responsibilities defined, consultation, environmentally and economically effective, compliance mechanism) as well as a range of barriers (lack of common understanding, uncertain efficiency and effectiveness, lack of drivers, lack of markets for recycled materials, setting charges, long supply chains and difficulties in feedback, industry resistance to regulation, barriers to life cycle thinking, and general barriers in SMEs such as lack of time, resources and interest)
- SMEs may be involved in or affected by EPR/product stewardship in a variety of ways depending on the situation e.g. under liability, financial, physical or informational obligations; by virtue of supplying or using a targeted product or contributing to the generation of targeted waste, directly in its own operations, or at the end of life of the products it supplies; where not exempted from a mandatory scheme an SME may be legally defined as the producer, or as having legal responsibilities under a shared approach, or an SME may choose to participate in a voluntary industry scheme; an SME may exercise individual responsibility where it can recover products from customers, or it may contribute towards a collective scheme where required under the rules or regulations to pay for the recycling or disposal of the products it supplies; an SME may be involved in be affected by product related implementation mechanisms, including regulations and requirements to pay deposits, charges and levies, or may be engaged in green procurement and eco-design, either voluntarily or in response to customer or regulatory requirements In practice, application by SMEs has been unusual.

## **Main conclusions**

- EPR and the related concept of product stewardship are broad in their intention but have been generally limited in interpretation and application.
- They are both valid approaches for formal, especially for mandatory or co-regulated approaches to, especially problem wastes at end of life and related product issues
- The terms and approaches are, however, open to interpretation, controversial, difficult to apply effectively, rarely used in policy making and (outside of product stewardship initiatives by a few, mainly US corporations) not used in business.
- If the aim is to improve life cycle thinking and product performance, whether by SMEs or business generally, then specific product policies and programs to improve standards and management are likely to be more effective.
- The life cycle impacts of SMEs are significant and should be addressed.
- There are emerging major business opportunities for SMEs in eco-innovation.

## **Main recommendations**

- Further development of formal EPR/product stewardship initiatives by business and government should be encouraged to address problem end-of-life wastes and other general product issues requiring a cooperative approach – waste oil is an obvious example. Where relevant and possible SMEs should be considered and included in any schemes.
- SME programs should be developed for improving life cycle performance, in the areas of standards, green procurement, eco-design and eco-innovation.

## ***Part III: Green public procurement as a way of improving the environmental performance of small and medium-sized enterprises***

This study investigated how green public procurement (GPP), especially by local government, can help to improve the environmental performance of small to medium-sized enterprises (SMEs) as well as the frequently-stated value and wider public benefits

## **Main findings**

### General application of GPP

- As a concept, green public procurement has long been advocated, discussed and documented. Many public organisations have applied GPP to some degree; there have been some success stories.
- The level of application and impact has, however, so far failed to reach its potential. There have been and continue to be many well-known barriers to applying GPP successfully, including lack of leadership, institutional processes, lack of procurer knowledge, lack of green suppliers and products and practical difficulties.
- There are nevertheless promising prospects for change with a growth in initiatives and stronger drivers, especially the need for energy efficiency and greenhouse emissions reduction.
- Although SME suppliers are generally included in GPP initiatives, few example of specific targeting were found.

- There are often pressures to exempt SMEs from GPP initiatives on the grounds of low expectations of environmental performance or in response to concerns that green requirements may impose a burden on SMEs

#### Current impact of GPP on SME environmental performance

- GPP does not appear to have yet had a significant impact on supply chains and markets in Australia; the scale has generally been too low. There has been even less general impact from GPP on the SME sector
- While there are many companies, large and small, supplying greener products and services (albeit a small proportion of the total number) it proved difficult to identify any cases where SMEs had 'gone green' or developed greener products specifically in response to actual or potential public sector demand
- Examples of GPP specifically stimulating green supply remain essentially in the area of niche products made mainly for the public sector, such as playground or other equipment made from recycled plastic.
- Finding more examples might be possible through a more extensive survey but may not be productive, especially when it is already known that the drivers have been weak and the examples are specialised and minor. In the circumstances it is recommended that a focus on the way forward, and achieving a much greater impact on suppliers and markets will be more useful.

#### Potential impact and opportunities

- Extensively applied to all products and services, GPP could have a significant direct impact on greening SMEs as well as achieving wider savings and other benefits
- If good environmental management and product performance was a pre-requisite for supply to the public sector in Australia, it would send a clear signal to suppliers, large and small, locally, nationally and internationally, that they need to improve.
- GPP can have a particular influence on SMEs in niche products and services (i.e. helping to provide markets for greener existing products and services) and eco-innovative products and services (i.e. helping to stimulate demand for greener new products and services). Both of these categories can be found across all of the main product and service categories.
- The impact of GPP will be much greater if combined with green purchasing by the business sector

#### Possible GPP mechanisms for greening SMEs

- Considerations include: Integration with regulatory and other market and incentive-based approaches, application across all procurement, progress with the development of environmental management and product labeling, working with business on wider green procurement, integration with sustainable (including social considerations), and provision of appropriate support and help to SMEs.
- Suitability criteria are likely to include costs and benefits compared to other approaches, likely effectiveness, simplicity – a prerequisite for dealing with SMEs, building on existing initiatives where appropriate (avoiding 'reinventing the wheel'), and following best practice principles
- Options to consider include mandatory v voluntary application; National v State v Local Government focus; product and service focus; environmental and other issues focus in supplier requirements and assessment; performance requirements and expectations; how to work with the business sector and how to encourage innovation through GPP

## **Conclusions and recommendations**

- Green public procurement is an under-applied public tool whose time has come. Its application should be greatly increased as a matter of urgency across all levels of government as an essential element of sustainable development as well as to capture the wide benefits.
- Combined with regulation and other market approaches it represents an important approach to improving the environmental performance of public sector suppliers, SME as well as larger, as well as supply chains and markets.
- To be effectively applied, the application of BMP should be mandatory across all public sector organisations, including processes for monitoring and reporting performance. Appropriate measures should be taken to overcome the many institutional and other barriers identified in this and other reports. While recognising the difficulties, there is no longer any excuse for not doing it.
- Within a mandatory framework, voluntary approaches will be needed to allow flexibility for different situations.
- There needs to be a high level of cooperation between organisations within and between states to share knowledge, practice and supplier databases to make the job easier for purchasers.
- Without pre-empting multiple approaches, Eco-Buy appears to offer an effective model which has already begun to expand nationally. This initiative has already recognised the need to bring business members on board. As noted in the report a cooperative approach with business will have a greater overall impact as well as bringing to the table the skills and expertise of the business community.

## **Part I**

# **INCENTIVES FOR SMALL TO MEDIUM ENTERPRISES TO IMPROVE THEIR ENVIRONMENTAL PERFORMANCE**

# 1. INTRODUCTION

## 1.1 This report

This document is a report on research into incentives for Small to Medium Enterprise (SMEs) to improve their environmental performance. It has been prepared by Tom Clark for the Swan Catchment Council (SCC), in accordance with its consultant brief and request for tender (RFT).

## 1.2 Background

The SCC, through its Sustainable Production Program, is engaged in a National Pilot Project aimed at assisting SMEs in adopting better environmental practices. The pilot project focuses on SMEs, especially on businesses with 20 employees or less. The project scope does not include SMEs with Department of Environment and Conservation (DEC) licensed activities.

The major focus areas of the pilot project are to:

1. Prevent the discharge of pollutants to land and waterways and reduction of both illegal dumping and waste to landfill. The project will establish the most effective tools to achieve this outcome.
2. Encourage businesses to move to higher level best practices such as water and energy efficiency.
3. Establish and trial guidelines for development of new industrial estates
4. Investigate the role of the corporate sector in taking some responsibility for product life cycle.
5. The project will include consideration of how the model could be transferable to other states across Australia, and of how the model may be resourced and implemented on a long term sustainable basis.

Identifying incentives for SMEs to improve their environmental practices is seen as a key element to improving the performance of this sector. Enforcement of environmental legislation is generally very resource intensive, in terms of onsite assessments by regulatory officers, and is limited to a narrow scope that covers only pollution control matters.

## 1.3 Purpose and scope of the project

The overall purpose of this project is review experience in applying incentives to SMEs and, in the context of WA and Australia, to make recommendations on how to encourage this group to use Best Management Practices (BMPs).

Specific tasks as stated in the RFT were to:

- a) Provide an overview and evaluation of Western Australian, national and international initiatives, within government, corporate, academic and NGO sectors, associated with SME incentive programs. This will require an extensive desktop study complemented by

communication with relevant entities to ensure accuracy and currency of information and data presented.

- b) Determine how effectively these initiatives engage SMEs and how they result in better environmental practices within businesses' operations.
- c) Identify a range of incentive concepts that can be applied to SMEs in Australia. In considering the varying limitations and barriers faced by SMEs, these may be specific to different industry sectors.
- d) Provide recommendations for the development of incentive programs for SMEs that will encourage and enable businesses to adopt better environmental practices and reduce their impact on the environment. These should include innovative, sustainable, feasible and logically supported recommendations with identified stakeholders clearly defined.

## 1.4 Conduct

Work conducted to date has included:

- A web and literature search.
- Initial analysis.

References are listed in Appendix 1.

The focus of the project as whole is on incentives which are relevant to SMEs and which may, be considered for their applicability in WA/Australia.

For completeness, and since there may be lessons and insights, all types of incentive-based initiative for business have nevertheless been identified and considered. General incentive approaches are aimed at all businesses and have often intended to include SMEs as well as larger firms e.g. ISO 14001 certification.

However, the focus of this review is on initiatives and studies specifically targeted at SMEs, especially smaller SMEs and microbusinesses

As has been widely experienced, and is reinforced by this review, taking too broad an approach is unlikely to be useful in the present context. This because fundamentally different business contexts, stakeholders, drivers, incentives and barriers apply to SMEs (especially microbusinesses) compared to larger firms, As a result only targeted and well-delivered incentive approaches for SMEs have been, or are likely to be successful. General environmental incentive initiatives for business have been mainly aimed at or taken up by larger businesses or, sometimes, larger SMEs (which are often closer to larger firms in organisational behaviour and management patterns) while participation by SMEs has been typically low.

It is not the purpose of this interim report to judge whether a particular measure is likely to be acceptable or feasible for SMEs in the WA/Australian context, only to present the range of possible approaches and experience of their benefits and drawbacks.

For the purposes of this review, the following types of incentive/initiative are excluded from further consideration as not being directly relevant to a study of environmental incentives for SMEs or of direct interest to SCC:

- Approaches which are wholly primarily regulatory in nature. As is shown below, there is no firm dividing line between regulatory and incentive-based approaches and some approaches are hybrid. However purely regulatory approaches do not fit the definition of 'incentive-based' set out below.
- Incentives/initiatives aimed at the wider public and consumers. They may result in benefits for businesses as well as the environment by stimulating market demand for improved performance, and are arguably a condition for the success of business incentives, but are not specifically incentives for business.
- Specific incentives aimed at landowners, the agricultural sector and resources sector and mainly aimed at protecting conservation values and resources
- Specific incentives for business or SMEs in sectors which are not a direct focus for SCC e.g. environmental initiatives in the tourism industry.

International practice and experience is considered where relevant in drawing lessons. However, realistic transferability is an issue. The review has therefore focused on developed countries with environmental issues, business, regulatory and social systems comparable to those in Australia (i.e. principally Western Europe and North America).

## 2. DEFINITIONS AND TYPES OF INCENTIVE-BASED APPROACH

In reviewing the types of incentive is useful to first consider what the term means and how it is used.

### 2.1 Definition of incentive

**a) *There is no precise definition for ‘incentive’ in the present context; ‘incentive’ needs to be distinguished from ‘incentive-based initiative’***

The term ‘environmental incentive’ has been widely used in describing both *initiatives* aimed at improving the environmental performance of society and businesses, and the *benefits* resulting from such initiatives.

For the purposes of this review, an ***incentive*** for improved business environmental performance is

*Any positive benefit offered, or potentially accruing, to a business as a result of voluntary action to improve environmental performance (e.g. financial gain, cost saving or competitive advantage)*

An ***incentive-based environmental initiative for approach***, is

*Any initiative or approach by government, the corporate or other sector offering incentives to businesses to improve their environmental performance*

In general, incentives and incentive-based initiatives

- Are about voluntary and market-based rather than regulatory approaches
- Typically provide positive motivation to improve performance, rather than threat as a consequence of poor performance (i.e. are about ‘rewards and carrots’, ‘pulling’ business towards improved performance, rather than ‘sticks’, ‘pushing’ business towards better performance).
- Typically relate to direct to financial benefits, directly through financial support or cost savings, or indirectly through potential enhanced company reputation, customer attraction and sales.
- May, if a broader definition is adopted, include ‘in kind’ and intangible general benefits, such as access to advice, support and information, as well as tangible reward (the incentive is receiving free services which may generate business benefits which would otherwise have to be paid for).
- Are distinguished from traditional ‘command and control’ regulatory approaches such as emissions standards and licensing. While it can be argued that regulation provides an ‘incentive’ to improve performance (e.g. risk of a fine or other penalty) there is not so much an incentive to perform as a disincentive to poor performance.

**b) *There is some blurring in terminology***

- As noted above, the terms incentive and incentive-based initiative have often being used interchangeably (confusing ends and means)

- Regulations are often explicitly or implicitly stated as providing incentives when, as noted above, they are fundamentally different
- Blurring of the terms drivers and incentives (e.g. a scheme may utilise the driver of customer or other stakeholder pressure to offer the incentive of enhanced sales). A conceptual framework is provided below to further clarify these terms
- Blurring of boundaries between incentives and regulation e.g.
  - Incentives have often being specifically offered to companies to improve regulatory compliance (e.g. reduced licensing fees if a company is certified to ISO 14001)
  - An EMS is considered best available technology under some pollution control regulations e.g. Under the Irish Integrated Pollution Control regulations, EMSs are mandatory for all relevant firms.
  - Incentive-based voluntary approaches often require supporting regulation to be successful
  - Some economic instruments are mandatory e.g. landfill taxes
  - Some market-based approaches are mandatory e.g. energy labeling for white goods
  - Some grants and assistance are aimed at assistance with regulatory compliance
  - Some approaches offer reduced licensing requirements and charges if environmental management is implemented
- The term incentive is often being used in the narrowest sense of the word to only relate to economic incentives such as taxes and grants, whereas all environmental initiatives may offer some incentives to some degree.

## 2.2 Types

Many types of incentive-based initiative been attempted internationally. Initiatives can be categorised in various ways

At the highest level, all environmental policy instruments can be divided into various main types, depending on the degree of public-private interaction and degree of compulsion (i.e. obligatory or voluntary). Webb et al (2006), in a review for the UK government, divided the instruments that can affect firms into three categories:

- Command and control regulation
- Market based instruments
- Voluntary approaches

As noted above, the first category does not constitute an incentive-based approach and is not considered further, while the second two categories provide potential incentives. Relevance to SMEs is not distinguished at this stage

### **a) Market based instruments (MBIs)**

MBIs are economic policy instruments, in the environmental context, aimed at shifting markets and businesses towards improved environmental performance.

The European Environment Agency (EEA, 2005) has identified 5 types of MBI (Table 1)

**Table 1: Types of market based (economic) instrument**

	<b>Approach</b>	<b>Incentive</b>
<b>1. Tradable permits</b>	<ul style="list-style-type: none"> <li>• An emissions cap is set and companies are allocated or buy emissions permits, as in carbon trading schemes</li> <li>• Companies which have achieved targets or allocations most efficiently may sell permits to those which have not</li> <li>• The approach can be used in allocating scarce resources e.g. water allocation</li> </ul>	<ul style="list-style-type: none"> <li>• Companies have an incentive to reduce emissions in the way that is most efficient for them</li> <li>• Permits or allocations are a tangible financial asset and potential source of revenue</li> </ul>
<b>2. Environmental taxes</b>	<p>There are various types</p> <ul style="list-style-type: none"> <li>• Tax relief e.g. tax allowances for investment in pollution control.</li> <li>• Pollution taxes e.g. differential taxes on cleaner fuels</li> <li>• Broad taxes on unwanted behaviour, such as waste and carbon emissions e.g. landfill taxes and carbon taxes</li> <li>• Taxes are often aimed at consumers as well as businesses</li> </ul>	<ul style="list-style-type: none"> <li>• Tax relief provides a direct incentive for improved performance</li> <li>• Product-related pollution taxes offer an incentive for cleaner product choice</li> <li>• Taxes on unwanted behaviours provide a disincentive for poor performance</li> </ul>
<b>3. Environmental charges and levies</b>	<ul style="list-style-type: none"> <li>• Levies or charges are placed on unwanted activities</li> <li>• Are often forms of taxation e.g the UK Climate Change Levy imposed on use of energy by business and the public sector</li> </ul>	<ul style="list-style-type: none"> <li>• Generally provide a disincentive for poor performance</li> <li>• May include incentives for improvement e.g. the UK Climate Levy offers discounts and other tax offsets if targets are met</li> </ul>
<b>4. Environmental subsidies and direct incentives</b>	<ul style="list-style-type: none"> <li>• Direct financial assistance in the form of grants or other payments or indirect subsidy in the form of support or other assistance is provided</li> <li>• Such subsidies are typically aimed at SMEs as an incentive to overcome resource and other barriers</li> <li>• Incentives can include compensation for environmental efforts carried out e.g. the M-moms project in Sweden</li> </ul>	<ul style="list-style-type: none"> <li>• Provide direct incentives for environmental improvement</li> </ul>
<b>5. Liability and compensation schemes</b>	<ul style="list-style-type: none"> <li>• As a condition of business activity, firms take out a bond or are insured to cover compensation for environmental damage and clean-up</li> <li>•</li> </ul>	<ul style="list-style-type: none"> <li>• Schemes generally act as a disincentive to poor performance rather than an incentive to good performance</li> <li>• Incentives may include discounts or reduced premiums for good performance</li> </ul>

**Note**

1. Participation in MBs may be mandatory in some cases, voluntary in others.
2. Increasing use of the term market based instrument (e.g. in the context of emission trading)

Creates an additional area of potential confusion in terminology. MBIs should be distinguished from 'market incentives' (see below) which primarily aim to generate markets for environmental performance through EMSs, product labeling and green procurement.

## b) Voluntary approaches

Voluntary incentive-based approaches can be defined as

*voluntary commitments undertaken by industry in order to pursue actions leading to the improvement of the environment*

Voluntary approaches can be categorised in various ways. The following categories (Table 2) are drawn from various reports, including a review by the European commission.

It should be noted that governments and other agencies have typically developed packages or mixes of approaches. Pragmatic policy-making has recognised the need to apply a mix of appropriate measures according to the problem and sector e.g. government support programs for EMS implementation have often included financial support, training and advice as well as leadership on green procurement and promotion of award schemes and other voluntary programmes.

**Table 2 Types of voluntary approach**

<b>Initiative type</b>	<b>Approach</b>	<b>Incentive</b>
<b>1. Passive information and advice</b>	<ul style="list-style-type: none"> <li>• Website, campaigns phoneline, publications, advice. often provided in combination with other forms of support</li> <li>• Making performance improvement easier through information and awareness.</li> </ul>	<ul style="list-style-type: none"> <li>• Saves resource and time cost of seeking information</li> </ul>
<b>2. Active/direct support and advice (e.g. 'hand-holding');</b>	<ul style="list-style-type: none"> <li>• a local advisor goes into the company and assists with auditing and implementing improvements</li> <li>• Makes performance improvement easier through physical support.</li> </ul>	<ul style="list-style-type: none"> <li>• Saves resource and time costs of implementing improvement</li> </ul>
<b>3. Training</b>	<ul style="list-style-type: none"> <li>• Includes in-house and external training</li> <li>• Makes performance improvement easier through enhanced skills and awareness.</li> <li>•</li> </ul>	<ul style="list-style-type: none"> <li>• Saving resource and time costs of companies gaining capabilities independently (or avoidance of the costs of learning the hard way e.g. fines or wasted material/energy)</li> </ul>
<b>4. Network approaches</b>	<ul style="list-style-type: none"> <li>• Use of business networks for sharing knowledge, ideas, benchmarking, R&amp;D, marketing</li> <li>• May be government, business or NGO-led or a partnership</li> <li>•</li> </ul>	<ul style="list-style-type: none"> <li>• Opportunity to improve performance and enhance products/services and sales through innovation</li> <li>• Access to potential customers and markets through contacts/links/ joint marketing</li> <li>• Cost savings resulting from ideas and shared resources.</li> </ul>
<b>5. Economic incentives</b>	<ul style="list-style-type: none"> <li>• See MBIs above</li> <li>• Voluntary economic incentives include those MBI instruments e.g. grants or accelerated depreciation for environmental investment, which are voluntary rather than mandatory</li> <li>• They can include government financial assistance, such as grants for implementing environmental management systems</li> <li>• They can include incentives provided by business e.g.favourable loans, reduced</li> </ul>	<ul style="list-style-type: none"> <li>• Direct financial benefit</li> </ul>

	insurance premiums for good performance, and sponsorship	
<b>6. Market incentive initiatives</b>	<ul style="list-style-type: none"> <li>• Creation of demand and markets for environmentally friendly businesses, products and services</li> <li>• Providing mechanisms for businesses to gain competitive advantage through enhanced customer attraction or operational efficiency</li> <li>• Helps to inform customer and investor choice</li> <li>• E.g. through EMSs, product labeling and certification, industry codes, and green procurement.</li> <li>• Voluntary reporting, awards and benchmarking can be said to be forms of market incentive approaches by informing customers, shareholders and other stakeholders on performance.</li> </ul>	<ul style="list-style-type: none"> <li>• Potentially enhance sales/share value, access to markets, retention/attraction of customers/investors</li> <li>• Environmental performance may be a prerequisite for competing in some markets</li> </ul>
<b>a) Environmental management systems</b>	<p>EMSs fall into three broad categories:</p> <ul style="list-style-type: none"> <li>• <b>Company specific systems</b> Developed by managers within the firm for the firm</li> <li>• <b>Trade association systems</b> Developed by the trade association for its member firms)</li> <li>• <b>Standardised systems:</b> general frameworks, standardised across a nation/nations, including the Eco-Management and Auditing Scheme (EMAS) (developed by the European Commission and applicable to E.U. firms), ISO 14001 (developed by the International Standards Organisation, international in scope)</li> </ul>	<ul style="list-style-type: none"> <li>• Companies may benefit from cost savings</li> <li>• Having an EMS/certification may be an advantage or necessary for winning business from some business or public sector customers</li> </ul>
<b>b) Product eco-labeling</b>	<p>Product labeling schemes have taken various forms</p> <ul style="list-style-type: none"> <li>• <b>Obligatory labeling/rating</b> against specific performance measures e.g. energy rating</li> <li>• <b>Voluntary labeling</b> of specific (e.g. Forest Stewardship) or general (e.g. German Blue Angel) verified performance against a registered scheme</li> <li>• <b>Self labeling</b> by companies (of limited value compared to independently verified information; has often led to accusations of 'greenwash' where claims are misleading)</li> <li>• The general aim is improved standards and pushing environmentally inferior products out of the market</li> </ul>	<ul style="list-style-type: none"> <li>• Labeled products attract customers where environmental performance is consideration in product choice</li> <li>• Poor ratings are intended as an incentive for companies to improve their products' performance or face being marginalised</li> </ul>
<b>c) Green procurement</b>	<p>Approaches and schemes take various forms</p> <ul style="list-style-type: none"> <li>• <b>Semi-mandatory public procurement</b> e.g. the Japanese Government has passed a law setting out requirements on green purchasing</li> <li>• <b>Voluntary/cooperative public procurement</b> e.g. the UK Government's 'Buying into the Environment' initiative</li> <li>• <b>Green procurement by businesses</b> self managed or in cooperation with other firms</li> </ul>	<ul style="list-style-type: none"> <li>• Managing/reducing supply chain impacts and working with suppliers helps to reduce companies' environmental impacts, save costs and attract customers</li> </ul>
<b>d) Industry codes</b>	<p>Many industries have drawn up environmental codes to which members sign and commit to good or best practice</p>	<ul style="list-style-type: none"> <li>• Signing may help to attract/retain customers/investors as well it being a general basis for commitment</li> </ul>

<b>e) Voluntary reporting</b>	Companies may report performance in various ways <ul style="list-style-type: none"> <li>• Formal annual environmental or sustainability reports, separate or as part of statutory annual reports</li> <li>• Reports prepared in an ad hoc way, published or on websites</li> <li>• Reports prepared as part of an EMS (EMAS requires it)</li> </ul>	<ul style="list-style-type: none"> <li>• Open communication is intended to enhance company reputation among stakeholders</li> </ul>
<b>f) Benchmarking</b>	Companies' performance is compared anonymously or publicly	<ul style="list-style-type: none"> <li>• Good performers' reputation may be enhanced</li> <li>• Poorer performers may be shamed into improvement</li> </ul>
<b>g) Awards</b>	Government or business-sponsored awards for exemplary performance	<ul style="list-style-type: none"> <li>• Enhanced company, product or management reputation</li> </ul>
<b>7 Voluntary agreements (covenants)</b>	<ul style="list-style-type: none"> <li>• Voluntary agreements between business associations and government are a way of working towards environmental objectives and targets, while avoiding the immediate threat of legislation or regulation.</li> <li>• VAs typically go beyond current legislative or regulatory requirements e.g. Dutch and Bavarian schemes</li> </ul>	<ul style="list-style-type: none"> <li>• Taking part in voluntary agreements can be a way to ensure that the company is meeting high environmental standards, which can in turn help in business relationships and winning sales and contracts</li> </ul>

## Further categorisation

Voluntary initiatives can be further categorised in the following ways (Table 3):

**Table 3: Other categories**

<b>Category</b>	<b>Approach</b>
<b>1. By degree of external involvement</b>	<p>All voluntary approaches can be divided into</p> <ul style="list-style-type: none"> <li>• <b>internal approaches</b> i.e. those the firm can undertake in isolation</li> <li>• <b>external approaches:</b> those the firm cannot make on its own, but which require input from some external agency, and</li> <li>• <b>voluntary agreements and promises:</b> Formal agreements the firm makes to reach or employ a certain performance standard.</li> </ul> <p>There is some overlap e.g. a firm could undertake an Environmental Management System (EMS) on its own, or have its EMS certified to ISO 14001. For simplicity all EMSs are included under internal voluntary approaches since certification/registration to an external standard is viewed as an 'optional extra' rather than an integral part of the EMS policy instrument.</p>
<b>2. By type of external agency involved</b>	<p>Initiatives may be</p> <ul style="list-style-type: none"> <li>• Government, business or NGO led</li> <li>• Multi-stakeholder</li> </ul>
<b>3. By objective and environmental or business benefit</b>	<p>Initiatives commonly aim to e.g.</p> <ul style="list-style-type: none"> <li>• improve compliance with environmental legislation</li> <li>• increase the adoption of environmental management systems, or</li> <li>• deliver a particular environmental improvement, such as improved local air quality, reduced waste to landfill, reduced water pollution or energy savings</li> </ul> <p>Environmental objectives and business benefits (incentives) targeted may be specifically stated.</p>
<b>4. By target participants</b>	<p>Initiatives may be</p> <ul style="list-style-type: none"> <li>• Local, regional or national</li> <li>• Aimed at all sectors, at a specific sector, a group of sectors</li> <li>• Aimed at all business, mainly at larger firms or at SMEs</li> </ul>

## 2.3 Conceptual framework

In reviewing incentives and incentive-based initiatives, it is useful to consider them in the context of decision-making by firms and factors which may lead to (or prevent) improved environmental performance. A simple generic corporate environmental decision-making (CEDM) framework is set out in Figure 1 and Table 1. This was used in a recent study by the UK Government into environmental incentives and drivers for business as a whole, including larger firms as well as SMEs.

Here CEDM is defined as the process by which environmental decisions are taken in the context of internal and external influences. Environmental decisions result in outputs intended to deliver improved environmental performance (for example, the adoption of an environmental policy or management system, voluntary initiative etc.). These outputs will be expected to deliver a range of outcomes from tangible changes in performance (e.g. environmental, financial etc.) or intangible (e.g. cultural or behavioural).

In this model, many factors influence decisions by firms, factors for SMEs are different from those for large firms, and processes may be complex and influenced by the business context. Nevertheless, all factors may be grouped according to whether they are internal or external drivers, incentives or barriers.

In this model, ***incentives*** are perceived or actual benefits resulting from a decision or outcome, and include internal as well as external benefits. Internal benefits include intangible, non-financial, as well as tangible benefits, and include benefits for management and employees individuals as well as for the firm. This is an especially important distinction for owner-managers in SMEs where individual and business interests may be the same.

External benefits may also be tangible (e.g. enhanced sales and revenue) or intangible, such as enhanced reputation.

***Drivers***, in the present context, are internal or external factors leading to improved performance. External drivers include regulations, government initiatives offering incentives, and stakeholder. Internal drivers include organisational culture and leadership.

***Barriers*** are factors which block environmental improvement. Internal barriers include organisational factors while external factors include lack of regulation and lack of customer or market demand.

***Outputs or actions*** are, for example, voluntary approach adopted.

***Outcomes*** are objectives, such as specific environmental improvements.

When considering this framework as a basis for definition of incentive based approaches, the following should be noted

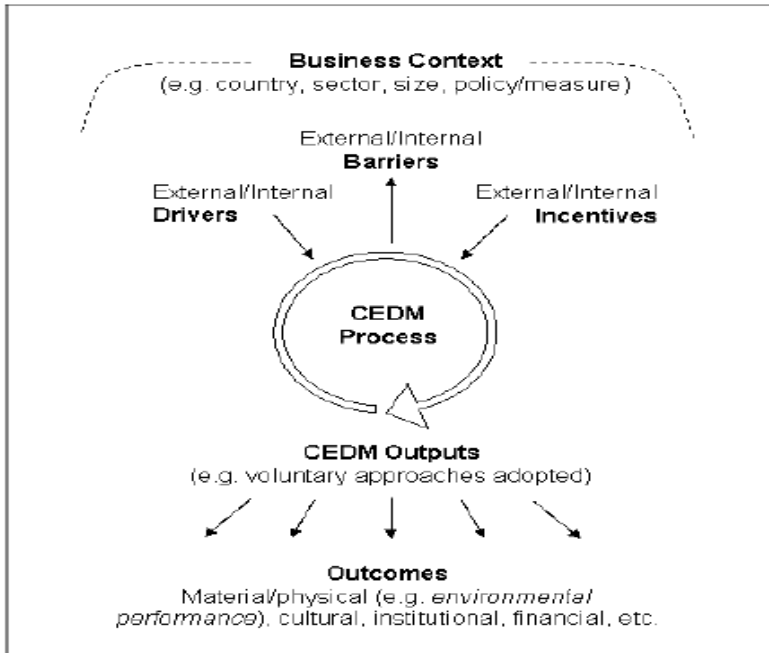
- Incentives should be distinguished from drivers and barriers
- Initiatives aimed at providing internal incentives should be distinguished from those providing external incentives

- While the CEDM model as a whole is generic, there are many factors at work in improving or blocking the environmental performance of business. The availability of government or other incentive-based initiatives is just one of many such factors and this makes judging the relative influence of an initiative all the more difficult.
- All factors are situational to any firm and those for SMEs are different from larger firms e.g dominance of internal factors and less regulatory and stakeholder influence
- Some drivers and incentives are inherently of little or no applicability to most SMEs e.g. those relating to shareholders.
- Experience and studies of SMEs have shown the dominance of powerful, inherent barriers and the difficulty of overcoming these even when financial incentives have been provided.
- More specific models of owner-manager behaviour in SMEs have included the 'business-mental model' aimed at addressing the 'knowing-doing' gap, where even with knowledge of benefits and help to overcome time and resource constraints, firms still do not take action to improve performance.

**Table 4: Key influences on business environmental performance**

	<b>Internal</b>	<b>External</b>
<b>Incentives</b>	<ul style="list-style-type: none"> <li>• Resource/cost savings and efficiency gains</li> <li>• Enhanced employee morale/retention/productivity</li> <li>• Attracting staff</li> <li>• Personal benefits for management/staff from environmental leadership</li> </ul>	<ul style="list-style-type: none"> <li>• Increased sales/income</li> <li>• Enhanced share/asset/business value</li> <li>• Enhanced reputation/customer attraction</li> <li>• Market opportunities</li> <li>• Competitive/first mover advantage</li> <li>• Raised entry costs for competitors</li> <li>• Influencing suppliers</li> <li>• Access to new technology/innovation</li> </ul>
<b>Drivers</b>	<ul style="list-style-type: none"> <li>• Leadership</li> <li>• Top level commitment</li> <li>• Organisational culture and norms</li> <li>• History</li> <li>• Operational risk</li> <li>• Employee pressures</li> </ul>	<ul style="list-style-type: none"> <li>• Legislation/regulation</li> <li>• Risk to business reputation and product image</li> <li>• Competitor activity</li> <li>• Government initiatives</li> <li>• Peer pressure</li> <li>• Stakeholder pressures <ul style="list-style-type: none"> <li>- Customers</li> <li>- Trading partners</li> <li>- Shareholders/investors</li> <li>- Neighbours/community/society (license to operate)</li> <li>- Government</li> <li>- Financial institutions</li> <li>- Insurers</li> <li>- NGOs/interest groups</li> </ul> </li> </ul>
<b>Barriers</b>	<ul style="list-style-type: none"> <li>• Lack of leadership/top level commitment</li> <li>• Organisational culture/norms</li> <li>• Lack of awareness/knowledge</li> <li>• Lack of employee participation/acceptance</li> <li>• Scale (size, resources, time)</li> <li>• Financial</li> </ul>	<ul style="list-style-type: none"> <li>• Lack of/weak regulations</li> <li>• Lack of market demand</li> <li>• Lack of customer demand/interest</li> <li>• Shareholder/investor disapproval</li> </ul>

**Fig 1: Simple decision-making model**



### 3. DEVELOPMENT AND APPLICATION OF INCENTIVE-BASED APPROACHES

It is useful to consider the context of application of incentive-based approaches to business as a whole as well as specific application to SMEs

#### 3.1 Historical development and rationale

a) ***There has long been government, business and academic interest in the application of incentive – based approaches***

- Incentive – based approaches (IBAs) have been considered for the past twenty years or more and have been perceived as having efficiency and other advantages over traditional command and control regulation. The history and political, social and other context of their development is summarised in Appendix 2.
- The advantages of IBAs have been widely stated and are also summarised in Appendix 2.
- Promoting the win-win of sustainable development and environmental business management through economic and market incentives has been at the core of governmental policy in many countries alongside traditional and new regulatory approaches
- In addition to an extensive range of governmental and related reports and publications the area of business environmental management and performance has also been the subject of extensive academic study. Most application and study, however has related to large firms

b) ***There has been considerable attention to environmental incentives for SMEs***

- Alongside recognition of the need to improve the environmental performance of business as a whole it is widely recognised that this cannot be achieved without improving the performance of SMEs since most businesses are SMEs and their collective environmental impact is significant (there are no hard figures some estimates claim as much as 80% of all business environmental impacts).

Incentive-based approaches have been targeted at SMEs for various reasons.

- It is often difficult to apply regulations to SMEs
  - SMES are internationally recognised as important engines of growth and employment. Governments have been reluctant to apply regulations which might cause financial hardship for SMEs and affect employment growth
  - The large number of SMEs makes regulating them resource intensive and often impractical
  - Many SMEs are in sectors not subject to licencing or other direct regulation, or the scale of the impacts of individual firms often makes them exempt from licensing requirements
  - Many aspects and impacts such as materials and energy use do not easily lend themselves to regulation
  - Where regulations are applied to SMEs, they often need assistance in complying.

- It is commonly recognised that SMEs need targeted incentives and help
  - SMEs are often severely resource-constrained and tend to need special assistance if change requires effort and especially if it requires investment
  - SMEs have barriers and drivers which are different from larger firms; Incentives must recognise these and be sufficient to overcome barriers.
  - Untargeted incentives and general approaches are often inappropriate for SMEs e.g. Some general measures such as tradeable permits, environmental charging and voluntary reporting tend to be aimed at or more appropriate for larger firms rather than SMEs
  - Due to lack of resources and barriers, participation by SMEs in generalized market-based approaches has often been low e.g. in eco labelling schemes and ISO 14001
  - SMEs are widely recognised as critical for innovation, and besides needing finance for general (non-environmental) innovation, are seen as needing finance so that national industries can compete in the emerging global market for environmental products and services.

There has been less literature on improving the environmental performance of SMEs than for large firms but the volume has been increasing in recent years (Appendix 1)

### 3.2 Application and engagement

#### ***a) Adoption of incentive based approaches has been patchy and often limited even across large businesses***

All of the approaches summarised in Section 2 above have been applied to varying degrees by governments and other organisations, in some cases extensively (see Appendix 5)

In spite of the perceived advantages and claims made, however, application remains limited by most governments and across business as a whole, even among many large companies

- Most application has been limited outside of the more environmentally advanced and even in these countries not necessarily at very high levels even in the latter.
- Economic incentives are widely considered to offer most potential but, apart from grants, subsidies and tax relief) have been rarely tried apart from a few selected areas such as landfill taxes,
- Market-based approaches have become fairly well established, especially environmental management systems among large firms in some sectors, but participation is low across all businesses. Even the 'flagship' of certified environmental management systems has only been adopted by a small fraction of all businesses internationally
- Green procurement has been growing but continues to play a small part in government and corporate purchasing. There is still an overwhelming tendency to buy on price.
- Product labelling is established for some products in some countries, especially energy labelling, but uptake and market penetration remains low.
- Voluntary agreements are a well-established approach in some of the more 'advanced' European countries but are rare internationally.
- All voluntary approaches have their limitations and barriers to effective application
- Intentionally or not, many approaches have been mainly adopted by larger firms and failed to reach SMEs (see Section 4)

**b) *Incentive-based approaches have been widely attempted for SMEs but participation has been limited***

Most of the above approaches have been attempted and applied to some degree to SMEs in most developed and some developing countries. Approaches have specifically targeted at or intended to include SMEs (see Appendix 4 for examples)

- Tax relief, grants and other subsidies have been specifically designed to assist SMEs eg extensive grant provision in the Nordic countries
- Passive and active support and training is especially aimed at SMEs, as illustrated by the example above from France
- There have been widespread efforts to encourage SMEs to adopt environmental management systems e.g.
  - From the outset it was intended that SMEs would participate in ISO 14001 and EMAS and governments have commonly provided grant and other assistance (e.g Centrelink in Australia)
  - Supported by the UK Government, the EMS standard BS7750, has been developed to better meet the needs of SMEs, as an intermediate step to possible later certification to ISO 14001
  - The Dutch Government implemented a product-oriented environmental management system (POEMS) to assist SMEs with eco-design
  - Some industry 'badging' initiatives have included simplified environmental management standards and codes e.g MTA Green Stamp
- Product eco-labels have tended to be mostly adopted by larger manufacturers but in the Nordic countries and Germany, some SMEs have participated in schemes
- SMEs have often been included in green procurement initiatives e.g.
  - As manufacturing and other companies increasingly contract out, leading companies commonly work with suppliers (mainly first tier, including SMEs) to improve their environmental performance. These suppliers may include SMEs in developing countries e.g the global electronics industry commonly works with SMEs
  - The UK government has recognised the special needs of SMEs in its 'Buying into the Environment' initiative (e.g. difficulties in getting on tender lists).
- Industry environmental codes by industry associations cover many sectors, including those with significant SME membership.
- Voluntary reporting has been generally restricted to large firms. An exception is Germany where EMAS certification by SMEs has been encouraged and SMEs are required to report on their performance.
- SMEs are known to have participated in environmental benchmarking exercises e.g. the Perth drycleaners study by Curtin University. No information has yet been found on international experience although, as noted above, benchmarking is not well-liked by business and examples are likely to be hard to find.
- Awards appear to have been a popular way of encouraging or publicising good performance, at least amongst winners and often have categories for SMEs
- Voluntary agreements in the Netherlands and Bavaria have included SMEs, although, as noted above, initiatives have been rare

In spite of considerable efforts, however, most initiatives and studies report low participation by SMEs (Appendix 5)

**c) Application of all measures has been greatest in the more environmentally advanced countries**

As a generalisation, across all measures the past level of government support and scale of business/public participation has generally been commensurate with the relative environmental advancement and public awareness of a country e.g within the EU

- highest in Scandinavia, Netherlands, Germany
- intermediate in the UK
- lowest in the southern and eastern European countries.

In Europe generally, central government programs tend to dominate but there are also major programs delivered through regional government and agencies

The level of application in the US and Australia has been generally at the intermediate level, to date, but this depends on the measure and State.

Japan is arguably towards the 'advanced' end in some respects, for example policy, regulation and other initiatives to promote a recycling economy (it has all but run out of landfill) and green procurement by government. Implementation of initiatives has been helped by a string 'compliance culture.'

When looking at the more detailed level and current initiatives, the picture is somewhat different.

- The UK has taken a lead in a number of areas e.g. EMS implementation, industrial symbiosis, green procurement, reporting
- Some US states have advanced levels of both regulation and market measures, as well as being leaders in 'cleantech' innovation, especially California
- It is not apparent that public and SME awareness in Japan matches that of government and corporations. There is a strong culture of consumerism. There is no evidence of significant engagement of SMEs in green procurement or other initiatives.

## 4 PERFORMANCE AND BARRIERS

### 4.1 General performance

The success of specific initiatives in relation to businesses, generally and for SMEs, can be judged by various criteria, including, relative to expenditure and effort:

- Relative levels of take-up or participation by firms
- Environmental performance improvements by firms (including absolute performance as well as other measures, such as increased awareness)
- Sustainability of changes (e.g whether performance is maintained after funding)
- Business benefits e.g improved efficiency, enhanced sales.

#### ***a) There is a general consensus that incentive-based approaches have been beneficial***

Considering business as a whole it is widely believed that IBAs have been beneficial for business and for the environment, but at modest rather than high levels

However, claims of benefits have to be considered in perspective

- There has been little measurement to justify such claims (see below)
- As noted above, participation remains generally low, even among many large firms but is especially low among SMEs. Studies in the UK, Canada, France, Australia and elsewhere attest to this (see Appendix 5).
- Market penetration of 'greener' products and services remains low across most countries and markets
- Economic incentives have only been applied to a limit extent and have yet to reach their potential. It is too early to judge their potential.
- High participation is not necessarily a measure of effectiveness unless other measures are considered e.g. a review of environmental grants and subsidies for Nordic SMEs did not find measured evidence of enhanced competitiveness. High participation is to be expected if subsidies are high.
- What measurement there has been of effectiveness, has been inconclusive e.g. it is not clear that ISO 14001 has driven performance significantly beyond regulatory compliance even in large companies. Due to low participation its impact on SMEs will be small.
- The advantages of IBAs have often been overstated by advocates and limitations insufficiently considered (Appendix 2)
- The advantages and parallel roles of regulation in policy mixes are often understated (Appendix).

UK research by Revell (see Appendix 2) is instructive when contrasting economic theory and win-win rhetoric with the harsh reality faced by SMEs.

#### ***b) There is little hard evidence of the efficacy of incentive-based approaches***

- Qualitative claims have commonly made of the environmental or other wider benefits of voluntary initiatives. However there has been generally little or no measurement or quantification of benefits or effectiveness.
- A literature review as part of a study of incentives for the UK Government (see Appendix 5) found that

- Overall, the current evidence base is patchy, and significant uncertainties in a number of areas undermine its ability to inform U.K. policy
- The quality of the available literature on the environmental effectiveness of different approaches is extremely variable and in some cases poor, particularly regarding methodology and bias
- The literature provides a useful insight into those factors that influence decision-making but insufficient attention is given to the U.K. context
- A study of environmental incentives in Nordic countries found little measurement of performance.
- The weight of available evidence suggests that Environmental Management Systems can produce performance improvements, although this improvement may be modest, and some studies do not find evidence of this link. The stringency of targets and the background corporate culture are also likely to be crucial factors
- Voluntary agreements are effective at delivering environmental performance with the right combination of negotiated targets and regulatory threat, although there is a distinct lack of empirical evidence
- Voluntary disclosure is not well addressed in the literature. All the evidence found indicates its effect is positive, but the research base is too weak to draw a reliable conclusion. There is a good representation of evidence on mandatory disclosure and the evidence is broadly positive
- There is substantial anecdotal evidence, and some available practitioner literature, to suggest that government initiatives and support programmes are effective at delivering environmental performance but further empirical research is needed to support this.
- Environmental initiatives have been widely regarded as a 'good thing' regardless of the cost, because of the scale of the problems. It is hard, if not impossible to value the environment. When considered against hidden or direct subsidies for, as well as gross expenditure on environmentally harmful activities, expenditure on environmental protection has been miniscule.
- It is difficult to measure wider benefits of any initiative against the many factors influencing life cycle environmental impacts, business growth and the wider tide of increasing consumption by society
- Where incentive approaches have been applied they have been part of a mix of measures rather than stand-alone. Multiple programmes present difficulties in measuring the environmental benefits that can be attributed to any single initiative.
- Although probably contributing to improved performance, it is not clear that EMSs and other initiatives have significantly driven performance beyond regulatory compliance.
- Development of market-based incentives has been hampered by various factors, but especially a lack of strong customer and public demand for greener products and services, especially in consumer markets. This is the case in most countries except for the more environmentally 'advanced' countries e.g. the Nordic countries. The situation has not been helped by under-pricing of energy and other resources.

**c) *Regulation remains the dominant instrument for improving the environmental performance of business as a whole***

- As noted above, application has been patchy, and it is not clear to what extent voluntary approaches have themselves significantly improved environmental performance beyond regulatory requirements
- Requirements for regulatory compliance are the foundation of and only specific performance requirement of certified EMSs. While leading companies have exceeded

compliance, available studies suggest that even many large companies do not typically go far beyond compliance.

- Regulations underpin various market and economic incentive
- Studies of business and management behaviour suggest that some businesses are unlikely to participate in voluntary approaches unless there is a very strong business benefit. Regulations are likely to be the only direct and certain way to influence many firms. If voluntary approaches are attempted they must be well-designed to ensure that benefits are sufficient to induce business uptake

While SMEs owner-managers of claim to hate regulations, they often state that they are they only thing that would make them take environmental action.

## 4.2 Barriers

### a) *There are many general barriers, external and within firms*

The list is long (reviewed in Appendix 6) and much academic literature, as well as government initiatives, have been devoted to studying and addressing barriers

External barriers to implementing voluntary measures include

- Lack of market demand (e.g. lack of customer demand and supply chain)
- Negative supply chain pressures (customers pinning SMEs down on costs)
- Lack of price signals in resources and costs
- Lack of political will
- Government resource constraints on providing support
- Short term funding and political horizons (many initiatives been dependent on support and have collapsed when funding has dried up)
- Institutional barriers to environmental policy and initiatives, including differing departmental priorities, and reluctance of Treasury Departments to adopt new models
- Competitive restriction on subsidies
- Barriers specific to initiatives e.g. green procurement is difficult when there is little choice or influence over supply chains.

Internal constraints to taking voluntary environmental improvement are well-known and include, especially in SMEs.

- Resource barriers e.g. time, financial, especially for firms in survival mode
- Awareness and capability: Lack of information, knowledge and capability, lack of awareness of benefits and incentives
- Perceptual and attitude: e.g. Insufficient perceived benefits in relation to effort
- Lack of top level commitment and motivation

### b) *Addressing barriers in SMEs has proved to be universally difficult*

- Internal barriers dominate the behaviour of SMEs and are difficult to overcome
- As noted above the problem of the knowing-doing gap is commonly experienced among SMEs. Even where benefits are communicated and incentives and support provided, to address barriers, many SMEs choose to ignore them. There are more pressing concerns (see note in Appendix 2, section 3)

- Economic interventions alone cannot be the sole intervention if we are to change SMEs. SMEs need to change their perceptions of environmental initiatives (Post et al., 1994; Tilley, 1999; Williamson et al., 2001).

## 5. LESSONS AND THE WAY FORWARD

### 5.1 General success factors

#### **a) *There are no magic formulae; success is influenced by situational factors***

- No approach has been ideal; as noted above, changing the behaviour of SMEs is inherently difficult even in the more advanced countries
- While no radical change or achievements have resulted, some level of success and change has been achieved in some countries with the various approaches, (although, as noted above, this has rarely been measured)
- The experience of other countries is useful to note and learn from but success and the transferability of approaches is dependent on situational factors e.g.
  - public demand and awareness (initiatives have been more successful in the more 'aware' and environmentally committed countries)
  - level of government support
  - level of stakeholder consensus
  - sectoral factors (eg structure, influence of trade associations)
  - company internal factors (e.g. motivation of managers)
  - quality of delivery by agencies involved.

#### **b) *There is a general consensus on general requirements and success factors for incentive-based approaches for SMEs (see Appendix 7 for recommendations from several reports)***

- Well-designed program, including resources for quality delivery and with incentives designed to address barriers
- Clarification of the objectives of a program
- Use of a mix of approaches
- Tailoring programs to sectors
- Concentrating on sectors receptive to change (e.g. success factors include: active and influential trade association, record of past initiatives, significant impacts and pressure from regulators, customers and the public)
- Consultation and buy-in from firms; establishing good communication and working relationships
- Education and awareness-raising of entrepreneurs
- Financial support and incentives for the implementation of management tools and purchase of environmental technology.
- Technical support for SME and sector specific management tools
- Use of existing information routes and careful co-ordination of support activities.
- Networking by businesses with enterprises in similar circumstances.
- Building trust
- Branding to improve the image of an initiative
- Regulatory support for voluntary approaches as part of a mix of voluntary regulatory action directed at SMEs
- Measurement and evaluation
- An initiative should evolve and improve over time, based on monitoring and review.

## 5.2 Future potential of incentive-based approaches

### ***a) The full potential of incentive-based approaches is yet to be realised in the absence of strong economic and market drivers***

- It could be argued (and many have) that economic instruments would be very effective if they were widely applied, but as noted above, they rarely have. They would then make market and other voluntary approaches also more powerful.
- Environmental economists and others (eg WBCSD – Appendix 7) have long argued for internalising environmental costs, removing perverse subsidies, and shifting the tax burden from labour and profit to pollution and waste. However, because of the many political, economic and societal barriers, no country has remotely achieved what are these necessary radical shifts as part of sustainable development.
- In the absence of wider changes, the potential and benefits of existing approaches, or variations is likely to be modest and incremental in the short term, although radical changes may be forced with time

### ***b) Various factors are nevertheless driving increased current attention to incentive – based approaches***

In spite of deficiencies and past failures, various factors appear forcing continuing and renewed attention to incentive-based approaches

- Growing recognition of the urgency of addressing environmental problems, especially climate change. Efforts to reduce the greenhouse emissions of business must include SMEs e.g. the UK Climate Levy includes incentives for business, including SMEs.
- Continued recognition of the potential value of incentive approaches as part of a policy mix
- Frequent failure of or inadequate application of existing or past approaches to deliver significant measurable benefits

Increasing consideration is being given to economic instruments, such as taxes and levies, while some previously failed or poorly implemented market approaches are being revamped, e.g.

- the EU eco-labeling scheme has been re-launched
- 'Buying into the Environment' is a major sustainable procurement programme by the UK Government to back up its stated intention to be a leader in Europe by 2010

There appears to be general emerging consensus that

- Existing initiatives need to be better designed and more cost effectively implemented and benefits need to be measured
- There need to be an appropriate mix of complementary regulatory and incentive-based policies, targeted at sectors and types of firm.
- There is a need for more creative approaches

Changing business and environmental conditions, especially resource constraints, energy price increases and new environmental market and innovation opportunities, may generate opportunities for more creative incentive-based solutions to improving performance.

Various studies point to the need for more creative approaches to influencing business leaders (e.g. the Webb/ADL report for the UK Government) and the Perron (Canada) review.

The literature contains a range of recommendations on future approaches e.g. Gunningham (Appendix 7) provides some suggestions on tailoring approaches to SMEs, including mixes of voluntary incentives and regulation. However, most suggestions are improvements to existing approaches rather than radical departures with radically different incentives.

An approach with promise for overcoming internal perceptual barriers is the 'business-mental' model but this remains an area of academic discussion. No examples of its practical application have been identified.

## **6. RECOMMENDATIONS**

Most of the established incentive-based approaches to engaging SMEs have been tried to varying degrees in WA and Australia, with mixed or lack of success comparable to other countries. There may be scope for revamping traditional approaches but since most approaches for SMEs require subsidy, this would depend on resources available and benefits.

Considering approaches which have been tried elsewhere but not in Australia, none immediately stands out as offering potential. Voluntary agreements have been successful in a few countries but these have been helped by situational factors. The potential for applying new general taxation approaches is likely to be limited or outside the scope of this review.

New and emerging initiatives aimed at reducing greenhouse emissions by business in general, including SMEs, appear to have the most potential for consideration in WA/Australia alongside existing or any proposed initiatives

- There is a strong driver as energy prices are increasing, and will increase even more.
- There is less of an 'environmental' perceptual barrier (energy use is established as a business issue, even if has not been a priority)
- All SMEs are energy users, some more than others

## **Part II**

# **EXTENDED PRODUCER RESPONSIBILITY OPTIONS FOR SMALL TO MEDIUM ENTERPRISES**

# 1. INTRODUCTION

## 1.1 This report

This document is a report on extended producer responsibility options for Small to Medium Enterprise (SMEs) to improve their environmental performance. It has been prepared by Tom Clark for the Swan Catchment Council (SCC), in accordance with its consultant brief and request for tender (RFT).

## 1.2 Background

The SCC, through its Sustainable Production Program, is engaged in a National Pilot Project aimed at assisting SMEs in adopting better environmental practices. The pilot project focuses on SMEs, especially on businesses with 20 employees or less. The project scope does not include SMEs with Department of Environment and Conservation (DEC) licensed activities.

The overall purpose of this project is to look at the issues and pressures that SMEs face with respect to NRM, and will make recommendations on how to encourage this group to use Best Management Practices (BMPs).

The major focus areas of the pilot project are to:

1. Prevent the discharge of pollutants to land and waterways and reduction of both illegal dumping and waste to landfill. The project will establish the most effective tools to achieve this outcome.
2. Encourage businesses to move to higher level best practices such as water and energy efficiency.
3. Establish and trial guidelines for development of new industrial estates
4. Investigate the role of the corporate sector in taking some responsibility for product life cycle.
5. The project will include consideration of how the model could be transferable to other states across Australia, and of how the model may be resourced and implemented on a long term sustainable basis.

Identifying opportunities for SMEs to adopt and apply Extended Producer Responsibility (EPR) principles to their business operations is seen as a key element to improving the performance of this sector.

A related research project completed previously for the SCC ("*The Feasibility of Increasing the Sustainability of Small and Medium Enterprises (SMEs) through Extended Producer Responsibility of Supply Chains within the Swan Region of Western Australia*") focuses primarily on waste issues and better disposal options for SMEs. A more comprehensive review was sought that will identify how SMEs can start shifting the responsibility of waste management back onto their producers and suppliers. Waste in this context may include packaging (e.g. polystyrene) and wasted materials (e.g., timber off-cuts), as well as products at end-of-life (e.g. computers).

### **1.3 Purpose and scope of the project**

The overall purpose of this project is to assess EPR options for SMEs and present some practical case studies drawn from WA.

Specific tasks:

- a) A clear analysis of EPR schemes and the options within these schemes that may apply to SMEs, including an assessment of why these may or may not work for this sector.
- b) A review of individual and collective schemes and a distinction between policy/regulatory and company/industry approaches.
- c) Consideration for supply chain management (e.g. green procurement), eco-design, specification to third party manufactures/suppliers and new forms of supply and ownership including impacts of new technology.
- d) In consultation with the SCC, selection of 10 light industrial premises to determine how EPR can be practically applied to business operations. From onsite interviews and assessments, a detailed review of each case study to outline which EPR options can be successfully applied, including recommendations on improving SMEs capability of adopting such options.

The first part of this project covered parts a), b) and c). There was a lack of suitable cases to proceed to part d)

### **1.4 Conduct**

Work conducted to date has included:

- A web and literature search.
- Initial analysis.

Literature, findings and analysis presented in the first report for SCC ( 'Report 1' ) is not repeated here but referred to where relevant.

The work included discussion with Professor Martin Charter of the Centre for Sustainable Design, UK, who is close to European national and European Union as well as international policy making and practice in this area.

## 2. ANALYSIS OF EPR AND RELATED APPROACHES

### 2.1 Definition, aims and principles of EPR and related concepts

In considering EPR options for SMEs it is useful to revisit the definition and underlying principles of EPR and related concepts, especially product stewardship.

#### a) *EPR is a broad product-oriented policy concept*

The original (1992) definition by the ‘father’ of the term Thomas Lindhqvist, and the OECD definition are set out in Appendix 1. Also set out is a review of the discussion on aims and principles. The following can be concluded on what EPR is intended (or hoped) to be by its proponents. EPR is

- A term to describe policy approaches where producers take responsibility for their life cycle (upstream as well as downstream), impacts of their products
- Broad in scope, addressing all product issues and impacts. It includes but is not just about take-back schemes.
- Broad in aims, intending to achieve fundamental shifts in waste, resource use and, through feedback to producers, product re-design and innovation. Some analyses have even suggested that it is critical for sustainable development through achieving more sustainable forms of consumption and production.
- Flexible in implementation, covering a variety of policy approaches and implementation mechanisms (Appendix 2),
- About real responsibility (as opposed to ‘motherhood’ statements of responsibility) which means some form of accountability, usually via some form of mandatory or regulatory element or voluntary performance agreement.

#### b) *EPR has been interpreted in different ways: there is no precise definition*

Some jurisdictions have mainly interpreted EPR as manufacturers taking responsibility for used (end-of-life) packaging and products (e.g., Japan, Australia), and other jurisdictions (e.g., Sweden) interpret EPR to mean that producers should assume responsibility for manufactured or imported goods throughout their life cycle, including the waste phase.

A particular sticking point has been defining the ‘producer’. The ‘producer’ can be taken to be the brand owner or it can mean the most responsible entity which may include but is not limited to the brand owner, manufacturer, franchisee, assembler, filler, distributor, retailer or first importer of the product who sells, offers for sale, or distributes the product in or into a jurisdiction. In the WA Government’s 2005 policy statement on EPR, the producer of a product is defined as including a supplier of the product in Western Australia, or a person having a proprietary interest in the name under which the product is supplied in WA.

Argument over strict producer responsibility (and payment) versus shared responsibility have dogged attempts to implement EPR. As a result of industry lobbying, the concept was effectively abandoned in the US in favour of ‘shared product responsibility’ and ‘product stewardship’. The situation has been similar in Australia although in both countries debate continues.

It should be noted that the term EPR was developed and used to **describe** policy approaches to addressing waste and other product life cycle impacts. Policy approaches which can be

classified as EPR have not arisen as a result of the concept. The term itself has been little used within European Union policy-making and regulation although most schemes exist here.

No examples have been found of companies using the term EPR to describe their life cycle activities. To the extent that businesses have responded to consultation, typically through industry associations, there has been general suspicion and hostility (e.g. in its fate in the USA and in NSW consultation).

***c) Product stewardship and other terms have emerged to embrace similar or related aims and principles.***

Appendix 3 describes some of these other terms:

- **Environmental product policy** has been used by some European countries to describe product-related environmental policies
- **Integrated product policy (IPP)** was an area of discussion by the European Commission (EC), but has now been abandoned in favour of 'sustainable consumption and product'
- **Extended product responsibility** emerged as a term in the US after EPR was shot down, but disappeared in favour of product stewardship.
- **Product stewardship** originated in the US. It has sometimes been used interchangeably with EPR but differs in emphasising a shared approach to life cycle impacts. The term has been adopted by a few US-based multinationals to describe their voluntary approach to product and supply chain management, including health and safety and social as well as environmental impacts, without in most cases relating performance to targets or measurement.

The term has also been adopted in Australia where it has also been preferred to EPR. It appears, for example, in some legislation (e.g. on waste oil), is promoted by the EPHC, by the Product Stewardship Council and some industry associations.

Again, there is no firm definition and the term is open to interpretation in relation to EPR. EPR has been considered in some circles to mean a mandatory, hard regulatory approach, with responsibility assigned to the single main producer, whereas it can include voluntary and shared approaches. Product stewardship has often been taken to mean 'voluntary' but can include regulatory and co-regulatory approaches (see consultation paper by EPHC).

WA's policy statement on EPR suggests that EPR is part of product stewardship while the NSW consultation paper suggests the opposite.

## **2.2 Classification of EPR and product stewardship**

***a) EPR (and most product stewardship) approaches can be classified in various ways***

The approaches are discussed in more detail in Appendix 2 and include classification by the following:

- **Aims, objectives and scope.** While aims of improving product life cycle performance are often stated, typically the main aim has been to divert waste from landfill, increase

recycling or deal with toxic materials in wastes. Often a specific explicit or implicit objective has been to transfer the costs of waste from municipalities to business. However, objectives have often been unclear, mixed or lost as schemes have gained momentum. EEE waste, like plastic bags, has been an iconic issue where politicians have made blanket commitments based on perceived problems. The resulting WEEE and RoHS regulations in the European Union (EU) have been the most far-reaching examples of EPR regulation, and have sent shock waves through the global electronics and electrical equipment (EEE) industry, especially the requirement for all products in the EU to have lead-free solder, and all products to be recycled in the EU. However, apart from diverting EEE waste from landfill (and mostly to China because the waste is low grade and domestic markets are often limited) the environmental benefits and aims have always been vague in relation to the vast cost and effort of implementation.

- **Type of responsibility:** These include product liability (responsible for harm), economic responsibility (e.g. for cost of disposal), physical responsibility (the producer is involved in the physical management of the product), and informative (environmental information is provided on the product e.g. how to recycle it).
- **By product, industry or waste type:** In principle EPR can be applied to any product, industry or waste. In practice most existing EPR programs cover take-back requirements for product groups such as packaging materials, batteries, end-of-life vehicles, solvents, paper, tyres and electrical and electronic equipment (EEE) giving rise to problem or 'priority' wastes by virtue of volume, or toxicity
- **By level of coercion:** Schemes can be classified along a spectrum from purely voluntary to fully mandatory. Often there is a mix of both elements, as in co-regulation where a scheme involves a voluntary agreement but there is supporting regulation to sanction non-participants. There has been heated debate on the voluntary versus regulatory approach, with industry not surprisingly preferring the former. Purely voluntary initiatives are rare. Voluntary initiatives in lieu of threatened legislation cannot be claimed to be fully voluntary. The WA government has stated a preference for a voluntary approach but will consider legislation if necessary. Product stewardship, which is more voluntary in nature than EPR, has been the preferred approach generally in Australia e.g. by the Environment Protection and Heritage Council. In practice, all schemes worthy of the classification as EPR, have involved some form of regulation.
- **Scale and maturity of scheme:** Schemes can be classified by geographical coverage (local, State, national or international); scale by volumes or tonnage of materials involved, proportion of markets covered and participation by companies; also by maturity, or length of time of operation. Most schemes are limited in geographical coverage and scale (an exception is WEEE and RoHS and some national packaging schemes) and most are fairly immature (except for some packaging schemes).

It cannot be said that EPR has been developed to any great extent when the world's biggest economy, the USA, barely recognises the term (only one notable scheme, for battery recycling, has been developed here). Internationally there has generally been more discussion than application. Similar considerations apply to product stewardship, it might be added, in spite of stated US and Australian preferences for this term. After a decade of discussion in Australia, the number of schemes is minimal.

- **Individual versus collective responsibility:** Under take-back and other schemes relating to downstream operation, a distinction can be made with regard to the degree of co-operation among the producers in fulfilling their responsibility. Under individual responsibility, producers take responsibility for the end-of-life management of their own products. Under collective responsibility, producers in the same product group together

fulfil their responsibility for the end-of-life management of their products regardless of the brand. There has been a mix of arrangements under existing programs e.g. under UK Packaging and WEEE regulations a producer may arrange their own take back or pay a levy towards third party recovery. For commodity type materials where there is no brand or product distinction relating to the waste, such as packaging and waste lubricating oil, collective arrangements are normal. Individual responsibility tends to be practiced under voluntary programs by large companies with branded products and well defined supply chains where producers can more readily recover their own products (e.g. high volume computer supply to large customers).

Like EPR, the meaning of the term is open to debate and has been interpreted in different ways (see Appendix 2)

- **Implementation mechanism:** Depending on the policy and type of scheme, EPR schemes may be implemented through a range of approaches, including supporting legislation (e.g. product or landfill bans, product standards and labeling), economic instruments (e.g. advance payments, deposits, levies, taxes), organisational arrangements for managing schemes (e.g. producer responsibility organisations, PROs), provision of infrastructure (e.g. collection and recycling facilities) and management practices in business (e.g. cleaner production, eco-design, green procurement, eco-labeling, and extended product ownership).

## 2.3 Application of EPR/product stewardship

### a) *Most EPR policy and practice has focused on end-of-life waste*

Besides focusing on industrial pollution and waste, many countries have developed explicit policies and strategies for addressing the problem of post consumer waste (including commercial as well as household). Where these have allocated responsibilities and costs they can be classed as EPR.

As noted above, EPR approaches have especially focused on end-of-life waste management policy and, especially in the European Union (EU) a raft of Directives has emerged which have been translated into law in Member States. These include the Packaging Directive and WEEE (waste electronic and electrical equipment), RoHS (Restrictions on Hazardous Substances) and ELV (End of Life of Vehicles) Directives. Other regulations have emerged for other 'Priority Waste Streams' such as tyres.

Drivers for a full life cycle approach have been limited whereas drivers for a waste focus have been stronger and include:

- Increasing volumes and costs of waste disposal, especially for high volume consumer goods
- Concerns regarding resource depletion and the need to increase recycling rates
- Concerns or perceived concerns regarding the health risks of certain substances in product use or at end of life. For example this was the driver behind the European RoHS Directive which has had the knock-on effective of eliminating lead solder from much world production of electronic goods. However, as noted above, it was never established that the use of lead solder was a significant health or environmental problem.
- Dealing with 'problem' wastes such as waste oil, tyres, etc

- Diverting waste from landfill, especially in some European countries and Japan which have limited landfill capacity.
- Reducing litter, especially from consumer goods packaging waste

**b) *Product-life cycle thinking, policy and practice remain relatively rare***

While the situation may be changing (e.g. green public procurement may become mandatory in Europe) product life cycle thinking remains relatively rare in both government policy and industry practice

- In most countries policies and regulations have long focused on the environmental impacts of processes and only recently has there been consideration of the impacts of products. Product environmental legislation is still fairly rare apart from bans on toxic materials which have been fairly widely implemented (although not usually for EPR reasons). In a few cases bans on landfilling have taken place to support EPR legislation.
- As discussed in the report on incentives for SMEs, there has been limited development of environmental economic instruments generally across all developed economies, although levy arrangements have been commonly developed for packaging schemes as well as PROs and infrastructure.
- While commonly stating intentions of addressing life cycle impacts of products, the main tools have only been applied to a limited extent. Green procurement or supply chain management has rarely been significantly applied by any government and only by relatively few leading businesses e.g. Eco-design or 'design for the environment' has rarely been significantly applied outside of a few leading multi-national electronics manufacturers. Few products or services are eco-labelled. Organisations with environmental management systems almost invariably focus on the impacts of their direct operations (although the 2004 revised version of ISO 14001 attempted to address this limitation in the standard)
- Extended product ownership arrangements have long been practiced for business reasons, and in some areas such as IT there is a growth of leasing instead of purchasing. This is assisting in take back and recycling although the growth is not for environmental reasons. While the environmental benefits have often been discussed, and the example of Interface Carpets widely quoted, the environmental potential has not been realised.

## **2.4 Success factors and barriers**

**a) *Some success factors can be identified***

The OECD and others have set out factors for a successful EPR scheme (see Appendix 5), and these could also be applied to product stewardship e.g.

- Provide incentives
- Stimulate innovation
- Life cycle approach
- Product specific
- Responsibilities defined
- Improve communication along supply chain
- Communication strategy
- Consultation

- Involve local government and other agencies
- Consider voluntary and mandatory approaches
- Analysis
- Evaluation
- Environmentally and economically effective
- Transparency
- Compliance mechanism

Whatever the approach it needs to have clear objectives and be tailored to the product and situation.

Situations advantageous for EPR (or product stewardship) include, for example

- High degree of government/business consensus on and environmental problem, benefits from the scheme and optimum solution
- High level of industry cooperation for collective approaches and supply chain influence or opportunity for individual approaches
- Opportunities for innovation and competitive advantage: By virtue of their business and technology employed, some firms may have more opportunity than others.
- The willingness of an industry and companies to exercise environmental leadership and see opportunities instead of lobbying against change or seeing the environment as a threat and cost burden.

Report 1 suggested that voluntary EPR schemes may be effective where

- There is a clearly identifiable producer for a product
- The whole supply chain is located within one country or trading bloc,
- The producer has a reasonable capacity to take action
- There is a well-structured or organised industry sector, and
- There is capacity to influence the whole supply chain.
- There is a market for the waste product,
- There are clear public health issues associated with the waste,
- Collection is cost-effective and social/environmental leadership provides market advantage,

While the latter conditions would be clearly advantageous some would in practice be idealised and difficult to achieve, or difficult to achieve simultaneously. For example, even the largest global corporations can usually only directly influence first tier suppliers and rely on these suppliers (as well as their specifications) to influence the next levels. For all their deficiencies and difficulties, the WEEE and RoHS legislation has nevertheless shown that, given the will, it is possible to influence complex products in complex markets with long, international supply chains, and achieve waste and re-design goals.

The success and effectiveness of any scheme ultimately depends on the ability to overcome the inherent barriers.

### ***b) There are many barriers***

Each policy approach as well as implementation mechanism has its own barriers. Some of the main ones are:

- Common understanding: There remains continuing, often polarised debate regarding the meaning and scope of EPR.
- Often uncertain efficiency and effectiveness.
- Lack of drivers for life cycle thinking e.g. lack of demand by customers.
- Markets for end products: Lack of markets for lower grade recycled material are a common problem in take-back and other recycling schemes
- Setting charges at levels which reflect true environmental costs but which are not going to create hardship, especially to SMEs.
- Sending feedback signals along supply chains in long or globalised product chains.
- Defining the producer.
- Resistance by industry to regulation.
- Difficulties in applying or resistance to life cycle thinking in companies

The barriers are compounded when considering EPR or product stewardship in relation to SMEs, where time and resource constraints (as well as limited ability or willingness to see business benefits) block all forms of environmental action.

### **3. RELEVANCE TO SMEs, ANALYSIS OF OPTIONS AND OPPORTUNITIES**

#### **3.1 General relevance**

##### ***a) SMEs may be involved in or affected by EPR/product stewardship in a variety of ways***

Considering the classifications of scheme or approach (2.2 and Appendix 2) an SME may be affected by or involved in EPR/product stewardship as follows.

##### **According to legal or other assigned responsibility**

- Liability: An SME may have product liabilities e.g. where there is a hazardous material content in products or equipment supplied
- Financial: An SME may be required to pay deposits, charges or levies on products purchased or wastes generated
- Physical: An SME may lease out equipment or packaging and be responsible for its recovery and disposal
- Informative: An SME may be required to label or provide environmental information on products supplied)

##### **According to product, industry and waste type**

- An SME may be involved in a scheme by virtue of supplying or using a targeted product or contributing to the generation of targeted waste, directly in its own operations, or at the end of life of the products it supplies
- Many light manufacturing (and many service) industries will, for example generate waste packaging, oil, tyres, batteries and IT equipment (see Report 1), the typical subjects of EPR/product stewardship schemes.

##### **According to degree of coercion or regulation**

- Where not exempted from a mandatory scheme (e.g. by virtue of minimum volumes of waste generated or product supplied) an SME may be legally defined as the producer, or as having legal responsibilities under a shared approach
- An SME may choose to participate in a voluntary industry scheme
- Under a co-regulatory approach an SME may opt out of voluntary participation but may face financial or other penalties if it attempts to profit or gain competitive from acting as a 'free rider'.

##### **According to individual or collective responsibility**

- An SME may exercise individual responsibility where it can recover products from customers, perhaps under an individual arrangement with its own, larger supplier. This may be an unusual situation but it is notionally possible e.g. for higher value products being returned for remanufacturing rather than scrap.
- An SME may contribute towards a collective scheme where required under the rules or regulations to pay for the recycling or disposal of the products it supplies.

##### **According to implementation mechanism**

Whether implemented as part of EPR or for other reasons, an SME may be involved in be affected by product related implementation mechanisms. SMEs may

- be affected by product regulation, especially by product/material bans, bans on landfill, requirements to provide information
- be affected by economic instruments e.g. requirements to pay deposits, charges and levies
- be involved in providing recovery, recycling, remanufacture or other services
- be engaged in green procurement and eco-design, either voluntarily or in response to customer or regulatory requirements, including participating by any large company customers in product stewardship schemes
- be engaged in extended ownership and product responsibility
- as a minimum, as part of site waste management/cleaner production, participate in a take-back scheme as an end consumer e.g. waste oil and packaging.

***b) In practice, application by SMEs has been unusual***

As discussed in the previous section, application of EPR, product stewardship and life cycle thinking is comparatively rare across government and industry as a whole. Not unexpectedly, application is rarer still in SMEs, in spite of efforts to encourage practice in some implementation areas such as eco-design.

The literature and legislation contains little specific reference to SMEs or how they might be engaged in a positive way. Most consideration has been on mitigating financial burdens or providing assistance or, as (the WA CCI has recommended) exempting them from mandatory schemes. Some assistance has been provided for voluntary participation such as incentives under the Australian waste oil program

The terms EPR and product stewardship, and related implementation mechanisms, have little currency in business and SMEs where there are many barriers to establishing even basic environmental management in core operations.

Nevertheless EPR/product stewardship can have a major impact and change practices in some areas e.g. SME suppliers have been forced painfully to comply with changes under WEEE and RoHS, although studies showed awareness and preparedness to be low even after ten years of information and attempts at consultation. SMEs were found to typically adopt the 'ostrich' approach, ignoring the issues, a 'wait and see' approach, hoping the issue would go away, or a reactive, last minute approach to compliance.

***c) SMEs should be included in programs to reduce the life cycle impacts of products***

It has been argued (e.g. Report 1) that EPR is of limited relevance to SMEs, or, as noted above, that SMEs should be exempted from regulation and financial burdens under mandatory schemes (WA CCI).

In spite of the barriers and difficulties, however, there are good reasons to include SMEs in EPR, product stewardship or other initiatives concerned with reducing product life cycle impacts.

- SMEs directly or indirectly contribute to a large proportion of the environmental impacts of business, and their impacts need to be addressed if sustainable consumption and production is to be seriously addressed
- Many of the environmental impacts of SMEs lie in their supply chains

- Under polluter pays principles businesses, small or large, should pay their fair share of the costs of prevention and remediation
- SMEs are important elements of supply chains and should exercise appropriate levels of responsibility for their life cycle impacts
- Provide there are clear benefits and environmental needs, an EPR/product stewardship plan can be effective and include SMEs if it is well designed, the success factors are broadly met and efforts are made to address specific barriers as far as possible (SMEs almost invariably require some level of assistance)
- There are limits to the degree to which SMEs (or society) can be spared, through direct or indirect subsidy, the economic and environmental realities we all face. Those businesses which exercise resource efficiency and environmental responsibility should be encouraged and helped to prosper. The others will eventually have no place.
- The main business opportunity for life cycle thinking lies in re-design of products and services for sustainability i.e. sustainable innovation for resource efficiency and dematerialisation and reduction of whole life cycle impacts. It needs to be more than take back and recycling. SMEs are internationally recognised as the main business vehicle for innovation.

### 3.2 Options and opportunities

There are two main options for SCC (and other Australian agencies) to pursue in relation to SMEs

- Formal schemes under Product Stewardship Agreements or similar, and/or EPR regulations
- Informal, voluntary programs for SMEs to encourage life cycle thinking, eco-design, green procurement and eco-innovation

#### **a) *Formal schemes should include SMEs where appropriate***

At national level, discussion on product stewardship agreements and other options has been continuing but focused on a few specific products and wastes. It is not clear where these discussions will lead or whether their scope will be significantly extended. The stated industry preference for voluntary initiatives has not been translated into significant action. The stated intention by States to consider EPR regulation in the absence of voluntary action has also not yet happened.

At least in the short term, the emphasis is likely to be on voluntary initiatives by industry. Where industries develop national, schemes, SMEs should be included where feasible. Arrangements may include financial charging or incentives, government assistance larger firms assisting smaller customers and suppliers.

Initiatives are likely to develop in relation to problem wastes relevant to SMEs, such as improved infrastructure for recycling waste oils, wood and other materials. Such initiatives may include EPR or product stewardship schemes. If so, arrangements should consider how SMEs should be included.

Progress on recycling initiatives was reviewed in Report 1.

***b) In the absence of a broader view and acceptance of EPR, other approaches are likely to offer more potential for higher levels of life cycle thinking***

Where EPR/product stewardship are only formulated as take-back and recycling, then they are appropriate for achieving these aims, alongside waste minimisation in companies.

Where, however, the aim is to higher level sustainability objectives of reducing the life cycle impacts by producers and users along the supply chain, especially stimulating improved product/ design and innovation, then EPR/product stewardship present difficulties:

- The general barriers have already been stated, including lack of common understanding and little or no recognition by business of either term.
- Higher level objectives are often stated but these are largely theoretical: apart from some toxic material bans (an implementation mechanism rather than EPR) and minor improvements to packaging there have been few significant feedback impacts on product design by EPR (see research by Lindhqvist).
- Unless aims and schemes (including incentives) are specifically aimed at addressing product design (and not just take back and recycling) then feedback to design is predictably uncertain, especially in long supply chains.

In other words, EPR and product stewardship are blunt instruments for life cycle thinking and changing management practices.

The other options for encouraging life cycle thinking are

**Sustainable product policy**

Grouping all environmental/sustainable product policy, including EPR, under this heading, or under sustainable consumption and production (SCP), in line with UN, EC and international action plans, and including specific product approaches for SMEs.

**Product standards:**

These are an option, especially where the aim is to remove or phase out unwanted products from the market e.g. by

- Regulation e.g. bans, obligatory content, mandatory labelling
- Semi regulatory e.g. mandatory labelling such that poor products are exposed
- Voluntary: Relying on market demand.

A mix of approaches can very effective, provided that they are well designed and focused on clearly harmful products, and where better alternatives are available.

Through product standards, clear signals can be sent along supply chains and innovation stimulated among SMEs as well as larger firms.

Regulatory or other initiatives in product standards should be backed by green procurement by government.

**Green procurement/ supply chain management**

Where well designed green procurement is a powerful force for stimulating improved performance along supply chains.

As noted above its potential has not been fully realised. Government needs to take a lead by practicing it and requiring its leading suppliers to also practice it. In this way supply chain management and eco-design processes may work their way down supply chains.

### **Eco-design and eco-innovation**

Eco-design best practice and eco-innovation should be encouraged by SMEs to help them gain customers and competitive advantage. In the medium to longer term, the way forward is not minor improvements to, or improving recycling of existing products, it is in re-design to minimise or eliminate problems.

### **Broader inclusion**

Targeting of businesses for these wider life cycle options can be broader and more flexible than under EPR/product stewardship. Besides those companies generating the usual targeted wastes it can also include:

- All businesses, including SMEs, with significant life cycle impacts upstream as well as downstream (including the many who typically believe their business has no environmental impacts)
- Wider issues than end of life waste, including ecological impact, pollution, energy use and resource use
- Not just manufacturers but also service organisations (including retailers) specifying, buying and supplying, rather than designing or manufacturing products i.e. the majority of SMEs
- Not just 'low-tech' metal bashers or material processors, with little scope for product re-design or innovation, but also 'eco-preneurs' involved in innovative products as well as low-tech activities

### **Broader definition of responsibility**

Under these options 'responsibility' is implicit or exercised in a broader, less legalistic or liability/accountability sense than under EPR. EPR emphasises **responsibility for** a waste or impact. Wider environmental responsibility, while vaguer and arguably 'motherhood' is nevertheless important in including **behaving responsibly towards** society, the environment, etc.

### **Program options**

Programs could be developed in these areas in a number of ways, depending on any existing activities, sector impacts and opportunities, business interest, and other factors.

- Programs in green procurement could be considered in relation to State government initiatives, and could, for example how to encourage and help SMEs to bid for work on the basis of green as well as other business credentials. They could also involve the provision of guidance and assistance in practicing green procurement for sound business reasons.
- Programs in eco-design could be considered for example, in markets where there might be competitive advantage. These could including sector specific or general guidance and training.
- Programs in eco-innovation could be considered. These could target need areas, providing assistance to existing innovators or include providing facilitation for businesses considering green product development. There are many areas for innovation, but key

areas include 'dematerialisation' ('services for products', 'closed loop', 'cradle to cradle' including remanufacturing) and 'decarbonisation'.

## 4. CONCLUSIONS AND RECOMMENDATIONS

The main conclusions from this review are:

- EPR and the related concept of product stewardship are broad in their intention but have been generally limited in interpretation and application.
- They are both valid approaches for formal, especially for mandatory or co-regulated approaches to, especially problem wastes at end of life and related product issues
- The terms and approaches are, however, open to interpretation, controversial, difficult to apply effectively, rarely used in policy making and (outside of product stewardship initiatives by a few, mainly US corporations) not used in business.
- If the aim is to improve life cycle thinking and product performance, whether by SMEs or business generally, then specific product policies and programs to improve standards and management are likely to be more effective.
- The life cycle impacts of SMEs are significant and should be addressed.
- There are emerging major business opportunities for SMEs in eco-innovation

The main recommendations are:

- Further development of formal EPR/product stewardship initiatives by business and government should be encouraged to address problem end-of-life wastes and other general product issues requiring a cooperative approach – waste oil is an obvious example. Where relevant and possible SMEs should be considered and included in any schemes.
- SME programs should be developed in the areas of standards, green procurement, eco-design and eco-innovation

## **Part III**

# **GREEN PUBLIC PROCUREMENT AS A WAY OF IMPROVING THE ENVIRONMENTAL PERFORMANCE OF SMALL TO MEDIUM ENTERPRISES**

# 1. INTRODUCTION

## 1.1 This report

This document is a report on how green public procurement, especially by local government, can help to improve the environmental performance of small to medium-sized enterprises (SMEs).

The review was conducted in May-June 2008 and forms the combined second part of earlier reviews conducted on incentives and extended producer responsibility/product stewardship as approaches for achieving the same goal.

It has been prepared by Tom Clark for the Swan Catchment Council (SCC), in accordance with its brief for consultancy.

## 1.2 Background

The SCC, through its Sustainable Production Program, is engaged in a National Pilot Project aimed at assisting SMEs in adopting better environmental practices. The pilot project focuses on SMEs, especially on businesses with 20 employees or less, and the major focus areas are set out in Table 1.1. The project scope does not include SMEs with Department of Environment and Conservation (DEC) licensed activities.

**Table 1.1. Focus areas of National Pilot Project**

The major focus areas of the pilot project are to:

6. Prevent the discharge of pollutants to land and waterways and reduction of both illegal dumping and waste to landfill. The project will establish the most effective tools to achieve this outcome.
7. Encourage businesses to move to higher level best practices such as water and energy efficiency.
8. Establish and trial guidelines for development of new industrial estates
9. Investigate the role of the corporate sector in taking some responsibility for product life cycle.
10. The project will include consideration of how the model could be transferable to other states across Australia, and of how the model may be resourced and implemented on a long term sustainable basis.

Green public procurement (GPP) is seen as a key element of improving the environmental performance of the SME sector, because of the substantial buying power of public agencies and their potential ability to influence suppliers and markets.

Following the earlier reviews on incentives and EPR, a focus on GPP was decided on by SCC as an approach offering particular potential. SCC has already conducted some work in this area, including a report in 2006 on procurement of greener services from SMEs. However, current developments, for example in relation to energy efficiency and climate change, suggest that there is a need and opportunity to make more rapid and extensive progress across all product and service purchasing than has been achieved in the past.

### **1.3 Purpose and scope**

The overall purposes of this review were to:

- Examine experience of, and the potential for green public procurement to improve the environmental performance of SMEs.
- In the context of WA and Australia, make recommendations on how to better achieve the potential of this approach.

The scope of the review is summarised as follows:

- It provides a brief snapshot of the current state of development of GPP, especially as it relates to SMEs; is not intended to present a detailed survey.
- The focus was on GPP as specifically applied to SMEs. As context the review considers the GPP as a whole (as applied to all suppliers, large and small), but it is not specifically concerned with products and services from larger suppliers.
- The focus was on SME suppliers to local government.
- The review covers both products and services.
- It is recognised that there has been a general move, both nationally and internationally, towards sustainable rather than just green public procurement. For the purposes of this review, however, the focus is on environmental procurement.
- The intention was to identify cases of GPP influencing environmental performance by SMEs, although in practice examples were difficult to find and so the emphasis is on what might be achieved.
- The focus was on identifying the way forward in this area rather than revisiting and repeating what has already been extensively studied and stated.

### **1.4 Conduct**

Work conducted included a web and literature search, analysis, and discussions with ICLEI, Eco Buy, Sustainable Choice (NSW), various local authorities in WA, Victoria and NSW, and some businesses. The review included international developments.

The focus of the information review and discussions was on current and emerging developments in GPP and on identifying cases showing evidence and any success stories of the influence of GPP on SME suppliers.

## 2. CURRENT APPLICATION OF GPP

### 2.1 General application

#### **a) *As a concept, green public procurement has long been advocated, discussed and documented***

- The general importance of and need for GPP in relation to sustainable development (SD) has been established since the Rio Earth Summit in 1992, if not earlier. The scale of public purchasing (typically around 15% of GDP in OECD countries) makes it one of the main ways, besides regulation, of influencing the environmental performance of markets as a key requirement for SD. It has been widely argued that the public sector has a responsibility to take a lead in this area.
- Since then many national governments and local governments have included GPP or sustainable public procurement in their sustainability strategies (e.g. Agenda 21 strategies by local government). Many public agencies in developed countries have policies on green/environmental/sustainable procurement or apply environmental considerations, at least to some degree, in purchasing decisions. Some countries, particularly Japan, have enacted laws making GPP mandatory.
- The aims and potential benefits of GPP have been widely stated (e.g. improving whole life value for taxpayers' money, reducing the environmental footprint of the public sector, and stimulating environmental innovation and markets).
- The term GPP as well as alternatives (e.g. environmentally preferable purchasing and sustainable public procurement) and principles have been widely defined, discussed and explained in reports, guidelines and conferences.
- Best management practices have been widely documented (e.g. management commitment, clear objectives, plans and criteria, training for procurers, supplier databases, performance monitoring and reporting).
- Many guidelines for procurers have been produced (e.g. with Australia, at Federal State and Local Government Levels, including the WALGA manual; international examples include the European Union Handbook and US EPA guidelines).
- National and international green purchasing networks are now well established in sharing information and support.

#### **b) *Many public organisations have applied GPP to some degree; there have been some success stories***

- Some areas of application have been fairly commonplace, for example purchasing recycled paper and energy efficient office equipment and lighting.
- A well-known success story was the US Federal Government's requirement for energy efficient office equipment. This was instrumental in the development of the international Greenstar rating scheme as well as achieving major savings in energy use.
- Some European countries have shown leadership in GPP and influenced markets in some areas e.g. The Swedish government has long established requirements for greener vehicles; GPP in Germany has influenced uptake of the EMAS environmental management system

- In Japan, GPP has been influential in increasing application of eco-design, especially in the electrical and electronics industry.
- Internationally, GPP has helped to stimulate demand for products with increased recycled content.
- In WA, major contractors to the Department of Main Roads are required to have ISO 14001 and this was anecdotally influential in the high level of EMS certification in the WA construction industry, at least among larger firms.

**c) The level of application and impact has, however, so far failed to reach its potential**

In spite of the potential benefits, application of GPP to date appears to have been generally patchy and limited. There is little evidence of major application of GPP or greening of public sector supply chains in Australia e.g.

- The 2004 report by Good Environmental Choice into the status of GPP in Australia suggested steadily increasing but generally low levels of activity and application. From available reports and discussions it is not evident that there has been any major change since then
- Among Eco-Buy local government members in Australia, it has been estimated that typically 3-4% of expenditure is on greener products, perhaps 10% for the best performers (in considering expenditure as a measure, it has to be recognised that not all expenditure is available for GPP, for example spending on employees. There is a general lack of data and reporting).
- From discussions, current application did not appear to be high (the general impression was still one of ‘early days’) even among more ‘advanced’ local governments e.g. members of Eco Buy or organisations signed up to the ICLEI Sustainable Procurement Project at Milestone 5 level –although the latter have action plans for increases. Levels of application across local government as a whole is likely to be lower still.
- There is little information on the specific level, performance or impact of GPP, with little evaluation, measurement or reporting. It appears to be generally at a niche, ad hoc or superficial level (limited to a few products and criteria, rather than systematically applied at a major level to all products and services).

Levels of GPP in Europe and North America are uncertain but available evidence is that levels of application are similarly generally low – although there is a recognised need to do more. Some of leaders in GPP, such as the Scandinavian countries and Germany, have more commonly established requirements for eco-labeling of products and certification of environmental management systems, but these are not typical. Furthermore, policy and practice may not be the same. For example, some anecdotal evidence was found that public procurement in Germany is still mainly on price.

**d) There have been and are many barriers to applying GPP successfully**

When considering the success factors there have often been well-known barriers at every level:

**Lack of top level leadership and commitment**

This may take various forms e.g.

- Lack of environmental interest
- Other political or departmental objectives taking priority.
- Ideological objection to using public procurement for other objectives than obtaining best (usually cheapest) value for taxpayers’ money
- Ideological belief that green requirements impose a burden on business.

### **Institutional and processes**

- Lack of clear objectives, policies and requirements
- Lack of mandatory requirements
- Under rules of international and national trade may not discriminate unfairly against 'un-green' suppliers
- Intense pressures to buy on price (case has to be made for other decisions)
- Lack of communication between environmental and procuring departments
- Bureaucratic procedures may discourage supplier engagement
- Conservative purchasing is a barrier to greener innovative products, combined with negative perceptions of greener products or technical bias against them (e.g. where recycled material is not permitted)
- Product standards often absent or limited in adoption.
- Centralised processes may limit scope for informed choice against requirements
- Often devolved processes may limit application of professional knowledge in purchasing decisions.
- Lack of enforcement
- Lack of measurement and reporting

### **Procurers e.g.**

- Often lack of training and awareness of impacts and alternatives
- Lack of guidance, criteria, advice and supporting information, including supplier databases
- Urban myths e.g. greener products are more expensive and/or inferior.
- Lack of professional knowledge (NB much purchasing is not done by purchasing departments or professional procurers)

### **Suppliers e.g.**

- Lack of time, resources and (often) interest.
- Lack of availability and supply of green(er) products and services (e.g. the Eco Buy and Sustainable Choice databases are still fairly limited, relatively few products are eco-labeled and few companies certified or green stamped compared to all products, services and companies)
- Lack of environmental management capability (especially SMEs)
- Lack of guidance, criteria, advice and supporting information
- Limited support for transition to compliance with environmental requirements

### **Practical**

- Defining what is green(er)/sustainable
- Complexities in assessment
- SMEs will not be contenders for bulk products or major service contracts (except as sub-contractors)
- The public sector can only influence some products, markets and supply chains: These have diminished as activities have been outsourced or privatised

## ***e) There are nevertheless promising prospects for change***

There is presently renewed and growing interest in GPP in Australia as drivers become stronger:

- There is increasing discussion and impetus at local, State and Federal levels, especially in supporting environmental and sustainability policies and objectives.
- Requirements for energy efficiency and greenhouse reduction are likely to especially drive GPP in the years ahead. For example, many local authorities signed up to Cities for Climate Protection (CCP) have explicitly or implicitly included GPP (of energy efficient products and services) in their action plans.

- Various initiatives provide a base for future wider application e.g. Eco Buy, Sustainable Choice and ICLEI's Sustainable Procurement Project.
- There are continuing developments in availability of greener and innovative products as well as in product standards, increasing greener options and choices.
- Some of the barriers are gradually being addressed, including those at institutional level e.g. the City of Mosman, NSW, has developed processes for better integrating GPP into strategic planning, organisational and operational processes.

Internationally there are increasing developments, especially in the European Union e.g. extension of regulations and programmes, and new approaches e.g. the UK Government's Quick Wins and Forward Commitment programmes. The first is about capturing 'low hanging fruit' and has been adopted by Queensland. The second is a way of encouraging eco-innovation by providing guaranteed orders (subject to conditions) for the end product. Monitoring these wider international approaches provide opportunities for learning as well as sharing experience.

It should be noted, in context, that green and sustainable purchasing is already often established to generally higher levels in leading businesses. Capitalising on their national and international influence provides an important parallel mechanism for cooperation as well as for greening broader supply chains.

## **2.2 Application of GPP to SMEs**

As noted above, the emphasis in this review is on the specific application of GPP to SMEs. It was found that, while local governments, there was little specific consideration of SMEs from an environmental perspective.

### ***a) SMEs are generally included in existing GPP initiatives***

- Local governments commonly have SMEs on their supplier lists (preference is often given to local suppliers - which may often be SMEs - for control and other reasons); where GPP is actively practiced supplier lists may include SME suppliers of greener products and services.
- GPP programs often have SMEs on suppliers' lists e.g. Eco-Buy has SMEs on its database and a number have joined the business program; many of the Sustainable Choice suppliers are SMEs, especially if the full size range for SMEs is considered.
- Non discriminatory tendering allows SMEs to bid for supply contracts if they are qualified
- Where GPP is applied, general selection requirements and criteria apply to all suppliers.

### ***b) Specific reference to or targeting of SMEs has, however, been rare in existing GPP initiatives***

GPP has multiple and broad environmental objectives with regard to products, impacts and supply chains. However, few examples were identified of greener SME suppliers being specifically targeted, referenced or provided for in initiatives. No examples were found of GPP being specifically applied to improving the environmental performance of SMEs. Exceptions of SME engagement in GPP include

- 'Buying local' requirements. As noted above, in practice this may be for control and reasons but this can form part of a sustainability policy favouring local SMEs and community development (although, apart from reduced transportation in supplying goods, this is not necessarily an environmental criterion).

- Some niche products, for example playground equipment made from recycled plastic, tend to be made or supplied by SMEs, sometimes as part of synergistic arrangements where locally collected material is provided by councils to manufacturers.

Internationally the discussion on SMEs and public procurement has been mainly about the general difficulties and barriers which SMEs face

- The UK Government Report on SPP 'Procuring the Future' noted the ways in which SMEs may be disadvantaged in bidding for public sector work. These disadvantages apply to SMEs for general as well as tenders with environmental requirements. Proposals for improvement were suggested such as simpler, less bureaucratic processes and forming consortia with larger firms.

**c) SMEs may often be implicitly or explicitly excluded from GPP requirements**

e.g.

- GPP may not be applied by agencies to smaller purchases (e.g. products or service contracts under a given value). These may be supplied by SMEs.
- More demanding environmental requirements will typically be relaxed for SMEs e.g. any requirement have a certified EMS.

Reduced requirements for SMEs may result from a lack of expectation of environmental capability as well as political concerns regarding not adding to bureaucratic burdens and time pressures on SMES.

Such concerns have been recently voiced by the European Association for Small and Medium Sized Enterprises (EASME) in relation to mandatory GPP proposals for EU member states. EASME has advocated exemption for SMEs from mandatory requirements. In Australia, similar concerns have been raised in placing any form of regulatory or other environmental requirements on SMEs.

**c) General as well as specific barriers apply**

The general barriers to application of GPP especially apply to SMEs, but especially

- Reluctance to impose environmental requirements on SME suppliers
- Lack of environmental awareness and management
- Conservatism limiting adoption of innovative solutions
- Limited adoption of EMSs and green product standards
- Bureaucratic processes discouraging SME suppliers (this is a general problem for public procurement, not specifically GPP)

Any GPP approach clearly needs to address these barriers as well as the general barriers ie. GPP targeted at SMEs needs to be managed within better developed general programs.

**d) The general prospects for improvement apply to SMEs**

The general benefits of GPP apply when including SMEs

- Many SMEs supply directly or indirectly to the public sector
- Most businesses are SMEs
- SMEs account for a significant proportion of the environmental impacts of business and supply chains
- SMEs have a significant role in innovation and potentially in eco-innovation

- The drivers, especially the need for energy efficiency, apply to all businesses

Therefore, in principle

- GPP represents a significant opportunity to improve the environmental performance of SMEs
- to exclude SMEs from GPP programs potentially significantly reduces the impact of GPP (and vice versa)

If well managed, GPP can be beneficial for SMEs, for example by helping SMEs to:

- Win and retain public sector business
- Save money through energy and resource efficiency
- Win and retain private sector business
- Apply green procurement to their own supply chains and gain business benefits.

### **3. IMPACT OF GPP ON SME ENVIRONMENTAL PERFORMANCE.**

#### **3.1 Current general impact of GPP**

##### ***a) GPP does not appear to have yet had a significant impact on supply chains and markets in Australia***

GPP can undoubtedly influence supply chains when well targeted and conducted on a sufficient scale, as evidenced by the success of Greenstar labeling as a result of US Federal Government procurement requirements. However:

- As noted above, the level of GPP in Australia is unlikely to be at sufficiently high levels to have a major influence.
- While the range of products and services purchased by the public sector is broad, it does not cover all types, and many types are only purchased to a limited extent. There is a particular focus on, for example buildings and construction, office consumables and equipment, vehicles and various services such as cleaning, printing, parks/gardens and recreational. The influence of even the largest purchaser on 'global' products such as paper and vehicles may be limited although public purchasing as a whole has probably helped encourage the supply of recycled paper and some energy efficient office and building equipment
- Apart from materials and equipment procured through central supplies agencies, most public sector purchasing is highly fragmented between and even within organisations. This in itself reduces the purchasing 'clout' of the public sector.
- The newer initiatives referenced above (such as Eco Buy) are still comparatively limited with respect to members, registered suppliers and uptake while areas of overlap may result in duplication and competition for support and wider influence.

In fairness, it should be noted that even if the level of GPP had been much higher its impact would be generally limited in the absence of market demand for greener products and services across consumer and business markets. At present this general demand is still lacking. GPP can help lead markets but cannot be effectively applied in a vacuum.

##### ***b) There has been even less general impact from GPP on the SME sector***

Lack of general GPP by the public sector has meant a corresponding lack of influence and impact on the SME sector

- Even where GPP is applied, requirements tend to be relaxed for SMEs (as noted above – for example EMS requirements may only be imposed on larger suppliers)
- The lack of environmental requirements for larger first tier suppliers is likely to mean further lack of general impact down the supply chain (which may include SME suppliers or contractors to those direct first tier suppliers)
- More generally, the lack of overt GPP means a lack of strong signals to the market, especially of demand for environmentally innovative products and services which may be developed by SMEs if they see an opportunity

##### ***c) It proved difficult to identify any cases where SMEs had 'gone green' or developed greener products specifically in response to actual or potential public sector demand***

It was, first of all, not easy to identify good examples in of SMEs supplying greener products and services to Australian local governments:

- Many of the commoner types of greener purchasing are, by definition, from larger producers or suppliers e.g. office paper, office equipment, light fittings, green power.
- Those managing the Eco Buy, Sustainable Choice and ICLEI programs at a strategic or overall level did not necessarily have direct knowledge of suppliers.
- Initial telephone discussion with a selection of local governments did not identify many good cases – certainly no cases which ‘leapt out’ as shining success stories. As noted above, the general response was that it was still early days and plans were being developed.
- Those responsible for coordinating programs were typically in environmental departments, were often new to the organisation or role, and often did not have detailed knowledge of suppliers.
- Finding purchasing people with good overall knowledge of suppliers was difficult: Purchasing is often devolved to departments while products, materials and contracts are dealt with by different officers, or managed through state or other agencies. The general picture was one of an often reiterated emphasis on value for money, where environmental performance may or may not be considered – with no examples of a strong emphasis on green procurement.
- ICLEI kindly circulated a request for SME supplier success stories to WA and NSW members of the Sustainable Procurement Project, but no response has yet been received.

A few examples of ‘green’ SME products or services were nevertheless found from discussions. A search of the Eco Buy and Sustainable Choice databases also identified some examples of greener products supplied by SMEs where local government and other public agencies may be important customers.

As shown in Table 2, these two databases have some similar categories and in some cases the same suppliers.

**Table 2: Main categories in Eco Buy and Sustainable Choice databases**

(Note - in most cases there are also various product and service subcategories)

<b>Eco Buy database</b>	<b>Sustainable Choice database</b>
<ul style="list-style-type: none"> <li>• Building and construction materials</li> <li>• Cleaning and maintenance</li> <li>• Electrical</li> <li>• Energy and lighting</li> <li>• Fleet management</li> <li>• Furniture and fittings</li> <li>• Gas energy rated</li> <li>• Green power</li> <li>• Greenhouse friendly certified</li> <li>• IT and office equipment</li> <li>• Lighting</li> <li>• Miscellaneous</li> <li>• Office products</li> <li>• Packaging and containers</li> <li>• Paper</li> <li>• Parks and gardens</li> </ul>	<ul style="list-style-type: none"> <li>• Building and construction materials</li> <li>• Cleaning</li> <li>• Energy and lighting</li> <li>• Fleet management</li> <li>• Furniture</li> <li>• Garden organics</li> <li>• Office equipment</li> <li>• Office consumable (inc cartridges)</li> <li>• Office products – stationary</li> <li>• Miscellaneous</li> <li>• Paper</li> <li>• Parks and gardens</li> <li>• Playground equipment</li> <li>• Publications and printed material</li> <li>• Roads and footpath construction</li> <li>• Traffic management</li> </ul>

<ul style="list-style-type: none"> <li>• Roads and footpath construction</li> <li>• Traffic management</li> <li>• Waste management</li> <li>• Water products</li> </ul>	<ul style="list-style-type: none"> <li>• Waste management</li> <li>• Water products</li> </ul>
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The Australian Green Procurement Database run by Good Environmental Choice provides information on products certified under the Good Environmental Choice label under the Australian Eco-Labeling Association. It contains some similar product groups as well as consumer products. The total number of products is still fairly limited, however.

One company contacted was Ilum-a-lite which makes voltage reduction (energy saving) equipment and supplies to many local authorities in the Eastern States. It has also supplied Royal Perth Hospital in Perth. Although at the larger end of the SME spectrum (it has substantial sub-contract manufacturing) it illustrates how SMEs with niche environmental products can capture public sector contracts

There are now many companies, large and small, supplying greening products and services. An extensive survey would, no doubt, identify which were supplying to the public sector, and to what extent.

With respect to the present study, examples of GPP actually stimulating or driving SME supplier or product green performance were even harder to find:

- While GPP will be helping to green suppliers and supply chains where it is being applied – and may be very important to some suppliers – the scale of such purchasing in relation to the total market and supply base means that GPP is unlikely to have been a significant driver in itself, at least so far.
- As noted above, GPP has been more significant for products from larger suppliers. Some the categories in Table 2 are not generally relevant to SME suppliers, or only relevant to niche products and services.
- Green(er) suppliers still represent only a small proportion of the total product and service offering. Furthermore, while there is a significant number of suppliers in the above databases altogether, the entries in some product categories amount to only one or two and in some cases none.

Examples of GPP specifically stimulating green supply remain essentially in the area of niche products made mainly for the public sector, such as playground or other equipment made from recycled plastic.

Many councils use recycled toner cartridges but this service is not unique or necessarily primarily driven by GPP.

Finding more examples might be possible through a more extensive survey but may not be productive, especially when it is already known that the drivers have been weak and the examples are specialised and minor. In the circumstances it is recommended that a focus on the way forward, and achieving a much greater impact on suppliers and markets will be more useful.

## 3.2 Potential impact

### **a) *Extensively applied, GPP could have a significant direct impact on greening SMEs***

If best practice GPP was applied to all purchasing of products and services it should achieve significant benefits for the public sector, both direct savings and value in line with narrow and conventional procurement thinking, as well as the wider and longer term environmental, economic and social benefits of sustainable development.

If good environmental management and product performance was a pre-requisite for supply to the public sector in Australia, it would send a clear signal to suppliers, large and small, locally, nationally and internationally, that they need to raise their game.

There are clear priority areas where the impact will be greatest

- The environmental benefit would clearly be greatest in those major areas of purchasing where SMEs will generally play little or no role e.g. green power, green vehicles, paper supply, most office equipment, major building materials and services.
- Opportunities for both energy and financial savings are an immediate priority.

GPP can have a particular influence on SMEs in

- Niche products and services i.e. helping to provide markets for greener existing products and services
- Eco-innovative products and services i.e. helping to stimulate demand for greener new products and services

Both of these categories can be found across all of the main product and service categories.

### **b) *The impact of GPP will be much greater if combined with green purchasing by the business sector***

As noted above, GPP can only do so much and only influence certain markets and suppliers. Also green purchasing is often applied to only a limited extent by many businesses, large as well as small.

If GPP initiatives are combined with green purchasing by business the impacts are likely to be greatly increased:

- The signals to supply chains and markets will be much more powerful
- Many SMEs will not supply directly to the public sector and will not be concerned by GPP requirements.

## 3.3 Sector opportunities

The opportunities for greening supply chains will be greatest in areas of highest spend, highest environmental impact and highest potential for influence. These will vary by agency but for these reasons GPP initiatives have especially focused on, for example

- Building and construction

- Green power supply and renewables
- Office consumables
- Office and domestic equipment and furniture (including electronic, white and brown goods)
- Office services, including cleaning and maintenance
- Vehicles and transport
- Food and catering
- Recreational including sports, gardens and recreational

SMEs, as manufacturers or service suppliers, may play a part directly in all of these and other product sectors supplying to the public sector. As discussed above, some product or service sectors will obviously be mainly the preserve of large companies such as power supply and vehicle manufacture and supply and consumer electronics and electrical goods. SMEs may nevertheless have a role in even here in the supply of specialist equipment and maintenance services, or as sub-contractors or components suppliers to the larger suppliers.

**Table 3: Sector opportunities**

<b>Sector</b>	<b>Possible SME role</b>
Building and construction	Sub contractors Building materials and products suppliers Equipment suppliers
Green power supply and renewables	Renewables systems suppliers; Specialist equipment and services
Office consumables	Specialist office materials producers and distributors, including paper
Office and domestic equipment and furniture (including electronic, white and brown goods)	Manufacturers and distributors of ancillary and specialist equipment and components Furniture makers
Office services	Cleaning Maintenance
Waste and recycling	Waste management equipment and services Recycling Products made from recycled materials
Vehicles and transport	Component and consumables manufacturers and distributors Maintenance services
Food and catering	Food producers and distributors Caterers Organic food
Recreational including sports, gardens and recreational	Specialist equipment Horticulture – growers and distributors Maintenance services

## 4. POSSIBLE GPP MECHANISMS FOR GREENING SMEs

GPP may be used in various ways to green SMEs. Some considerations and possible approaches are set out here.

### 4.1 Considerations and constraints

#### General

- The potential for any market or incentive-based approach to greening SMEs must be taken in perspective: Improving the environmental performance of SMEs has internationally proved to be a difficult task, as demonstrated by the review of incentives (see Introduction). Only regulation has been significantly effective but over-regulating SMEs has been politically an anathema: there has been more tendency to protect SMEs against environmental demands. The harsh reality of energy prices and climate change may now force recognition of the need for improvement.
- The application of GPP needs to be increased across all government procurement and products, not just from SMEs: besides more significantly influencing markets it will help to influence SMEs supplying to major public sector suppliers
- GPP needs to progress with the development of environmental management in businesses, and product/service standards: These set clear benchmarks to suppliers and procurers as well as shifting markets away from poor performance.
- GPP also needs to be applied alongside regulatory development and financial incentives for environmental improvement: GPP is one of a package of mechanisms which should be applied in an integrated way.
- Many SMEs do not supply directly to the public sector: As noted above, greening of supply chains through procurement will often mean requiring larger first tier suppliers to influence their SME suppliers.
- As noted above, although the focus here is on GPP, there has been a move towards sustainable procurement. While appearing to add more issues and complexities, there may be some advantages for SMEs e.g. in offering more boxes to tick
- Objectives need to be clear, especially when GPP is used to support non-environmental policies e.g. supporting local SMEs may or may not be the 'greenest' option.
- As with all new approaches for SMEs, some level of support for implementation is likely to be needed, as well as differentiating between micro SMEs and larger firms.

#### Assessment criteria

Suitability criteria are likely to include the following

- Costs and benefits compared to other approaches
- Likely effectiveness
- Simplicity – a prerequisite for dealing with SMEs
- Building on existing initiatives where appropriate (avoiding 'reinventing the wheel')
- Following best practice principles

## 4.2 Options

Option	Assessment
Mandatory v voluntary application	<ul style="list-style-type: none"> <li>• Framework and requirements for applying GPP must be broadly mandatory and national to send the strongest signals to the market and direct procurers; voluntary approaches tend to not work with strong leadership and individual commitment.</li> <li>• Existing policies and regulations need to be built on but need to be enforced, and performance measured and reported to ensure compliance.</li> <li>• Practices should be standardised where possible but criteria and assessment tailored to agencies, impacts, issues and products (balancing over-prescription against inconsistency and poor implementation)</li> </ul>
National v State v Local Government focus	<ul style="list-style-type: none"> <li>• The broader the scheme and coverage the more the influence, the greater the scope for standardisation and efficiency and sharing of information and databases – as well as the wider the market opportunities for green suppliers</li> <li>• States and local governments have their own needs and supplier knowledge but localised schemes are unlikely to significantly influence the market and be inconsistently applied.</li> <li>• Eco-Buy and Sustainable Choice, offer successful approaches which can be tailored to State and local needs</li> </ul>
Product and service focus	<ul style="list-style-type: none"> <li>• All products and services may be included in GPP</li> <li>• The emphasis will be on major areas of spend and/or environmental impact</li> <li>• Consideration of SMEs will be on products and services where SMEs play a role</li> </ul>
Environmental and other issues focus in supplier requirements and assessment: Expectations of SMEs	<ul style="list-style-type: none"> <li>• All areas of performance may be considered.</li> <li>• The focus will depend on criteria relevant to specific products i.e. significant impacts.</li> <li>• Some broad focal areas can be chosen e.g. energy performance, resource efficiency</li> <li>• Broader sustainability criteria may be included.</li> <li>• Where an issue is significant or one of concern it should be considered for all suppliers regardless of size (in the interests of fairness as well as environmental and market performance)</li> <li>• SMEs suppliers should be following at least basic and preferably good or best practice with respect to waste, materials efficiency, energy and water use, emissions, hazardous materials, ecological impact in operations and product design (including their own purchasing)</li> <li>• Higher levels of performance (preferably best practice) may be expected of larger suppliers</li> <li>• Where supplier or procurer awareness is low it needs to be enhanced</li> </ul>
Performance requirements;	<ul style="list-style-type: none"> <li>• Larger suppliers (including larger SMEs) should have</li> </ul>

Expectations of SMEs	<p>ISO 14001 (preferably certified or if an internal system, demonstrably followed)</p> <ul style="list-style-type: none"> <li>• Smaller SMEs should at least follow some of the basic elements of an EMS</li> <li>• Complying with a simple green stamp or similar scheme provides evidence to procurers as well as framework for suppliers</li> </ul> <p>(NB in Europe a scaled down version of EMAS has been developed for SMEs and in the UK a scaled down version of ISO 14001 is established and successful)</p> <ul style="list-style-type: none"> <li>• Consideration should be given to industry specific or general green stamp schemes for SMEs</li> <li>• Where product standards or labels exist these should be applied to all suppliers, regardless of size</li> <li>• Where there are presently no product standards, or labels consideration should be given to supporting their further development.</li> </ul>
Working with or through larger firms	<ul style="list-style-type: none"> <li>• Larger suppliers to the public sector should, as part of EMS and other requirements, should be expected to apply green purchasing to their own supply chains, as well as eco-design in product design.</li> <li>• Larger firms may, for example as members of Eco-Buy, provide advice and support to SMEs in partnership with the public sector</li> </ul>
Encouraging eco-innovation	<p>Processes should be established for encouraging innovative solutions to meeting needs (to address excessive conservatism) e.g.</p> <ul style="list-style-type: none"> <li>• Trialing innovative products and sharing of experience and information between agencies.</li> <li>• Committing to future orders if performance is satisfactory</li> </ul>

## 5. CONCLUSIONS AND RECOMMENDATIONS

Green public procurement is an under-applied public tool whose time has come. Its application should be greatly increased as a matter of urgency across all levels of government as an essential element of sustainable development as well as to capture the wide benefits.

Combined with regulation and other market approaches it represents an important approach to improving the environmental performance of public sector suppliers, SME as well as larger, as well as supply chains and markets.

To be effectively applied, the application of BMP should be mandatory across all public sector organisations, including processes for monitoring and reporting performance. Appropriate measures should be taken to overcome the many institutional and other barriers identified in this and other reports. Notwithstanding the difficulties, there is no longer any excuse for not doing it.

Within a mandatory framework, voluntary approaches will be needed to allow flexibility for different situations.

There needs to be a high level of cooperation between organisations within and between states to share knowledge, practice and supplier databases to make the job easier for purchasers.

Without pre-empting multiple of different approaches, Eco-Buy appears to offer an effective model which has already begun to expand nationally. This initiative has already recognised the need to bring business members on board. As noted in the report a cooperative approach with business will have a greater overall impact as well as bringing to the table the skills and expertise of the business community.