

Three Steps to Eco-Efficiency

DESCRIPTION

This tool was developed to assist small and medium-sized manufacturers in Canada to develop an eco-efficiency program that is custom tailored to their business needs. The process involves the following three steps:

- 1) **Self-Assessment** – determines the current level of eco-efficiency activity in your company.
- 2) **Strategic Planning** – provides a framework to develop a customized eco-efficiency program.
- 3) **Benefit-Cost Analysis** – helps you to get the biggest bang for your eco-efficiency buck.

This three-step process is available as a package of user-friendly worksheets which can be downloaded through the links below.

USAGE TIPS

When viewed on your computer you will find that individual worksheets contain hyperlinks to valuable resources on general and specific topics related to eco-efficiency. For example, in the worksheets for Step 1, each eco-efficiency action statement is numbered. Click on any of the numbers to link to an on-line resource for that statement.

A glossary containing many of the terms used in this package is also accessible through the main navigation bar at the left of this page.

FEEDBACK

Comments and suggestions on how we might improve this package are welcome. Please direct your comments to: Van.Camp.Tom@ic.gc.ca

ACKNOWLEDGMENTS

Industry Canada gratefully acknowledges the contribution of the following individuals for their time and effort in testing this package.

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STEP 1: SELF ASSESSMENT

1.1 - Purpose

The purpose of this step is to determine the extent to which eco-efficiency practices and tools are being used in your organization, and in which specific business function.

1.2 - Assign a Project Manager

A Project Manager should be assigned to oversee the selection of team members, distribute worksheets, collect and verify responses, and to manage consultations. The Project Manager should be a senior officer who has excellent knowledge of the organization, including its business lines, manufacturing processes, and environmental activities. He or she should become familiar with the entire Three Steps To Eco-Efficiency package.

1.3 - Assemble Your Team

Next, the Project Manager should distribute the attached worksheets to individuals who can provide knowledgeable input and an objective assessment of the company's current activities within each of the following business functions: Management, Product Design and Development, Purchasing, Accounting, Marketing and Communications, Production and Distribution, and Facilities Management. You may wish to use the space provided at the bottom of each worksheet to assign a specific deadline for returning the worksheet.

Tips

- Ask your team members to follow the instructions provided on each worksheet, and to respond to the statements based on the current conditions in the company, rather than on future plans or anticipated activities.
- When completing the worksheets, it may be helpful to start with individuals in business functions that may be familiar with the concepts and objectives of eco-efficiency.
- If a particular statement does not apply to your company, team members should answer "not applicable" or "NA".
- Participants may refer to the Glossary and Links pages of the <http://strategis.ic.gc.ca/e2> web site for more information on individual topics.

1.4 - Next Steps

Collect the worksheets from your team members. Scores should be verified by the Project Manager before proceeding to Step 2 – Strategic Planning.

Assigned to: _____
(date) _____

Return to: _____

By

MANAGEMENT

Improving your financial performance and competitiveness through eco-efficiency requires leadership from management. Providing incentives and communicating a commitment to eco-efficiency is necessary to motivate employees, engage stakeholders, and to increase productivity and innovation.

Please respond **Yes**, **No** or **not applicable (NA)** to each of the following statements. Your response should reflect the current conditions within the company.

	Statement	Response		
		Yes	No	NA
1	We have a written policy, supported by senior management, that links environmental performance with economic performance.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2	Our company sets environmental performance and efficiency targets and measures progress toward them.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3	We monitor the environmental innovations and productivity improvements of competitors and within our industry sector.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
4	Our company encourages (through rewards, promotions, etc.) suggestions to improve resource, energy, and material efficiency.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
5	We track current and proposed environmental regulations and legislation that may impact our business.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
6	Our company provides training in environmental management for our managers and staff.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
7	Our company has assigned a person(s) to be responsible for environmental and eco-efficiency matters.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
8	We have an environmental management system (e.g., ISO 14001) in place.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
9	We currently meet all environmental legislation and regulations that apply to our company's operations and products.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
10	We meet regularly with our stakeholders to inform them of our improvements in eco-efficiency and productivity.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
TOTALS		_____	_____	_____

Calculate your score:

$$\frac{\text{[total Yes]}}{\text{[total NA]}} \text{ divided by } (10 - \text{[total NA]}) = \text{_____} \text{ multiplied by } 100 = \text{_____}$$

Assigned to: _____

Return to: _____

By (date) _____

PRODUCT DESIGN AND DEVELOPMENT

Approximately 80% of a product's long term environmental impacts and costs are established during the design stage. Product design and development are therefore very important considerations when seeking to provide innovative product improvements, decrease costs, and increase productivity and value to customers.

Please respond **Yes, No** or **not applicable (NA)** to each of the following statements. Your response should reflect the current conditions within the company.

	Statement	Response		
		Yes	No	NA
1	We have integrated resource, material, energy and other efficiency criteria into the development of our products.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2	Where possible, we use recycled, recyclable, renewable, or low impact materials in our products and packaging.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3	Our company attempts to minimize the amount of material used in product production, packaging, distribution and use to reduce waste and costs.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
4	Our designers and engineers use tools to improve the environmental performance and production efficiency of our products (e.g., life cycle engineering, design for disassembly tools, etc.).	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
5	Our products/services currently meet all applicable environmental regulations, safety and performance standards.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
6	Our product design and engineering criteria include increasing product durability and lifespan.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
7	We have made an effort to reduce or eliminate the toxic/hazardous substances used in the production and use of our products.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
8	We have designed and developed products that ease the disassembly, remanufacturing, recycling and disposal at the end of their useable life.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
9	We have determined the main environmental impacts and costs of our products throughout their life cycle (production, use and disposal).	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
10	Our company has established a program to increase the service intensity and/or leasing options of our products.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
TOTALS		___	___	___

Calculate your score:

$$\frac{\text{[total Yes]}}{\text{[total NA]}} \text{ divided by } (10 - \text{[total NA]}) = \text{_____} \text{ multiplied by } 100 = \text{_____}$$

Assigned to: _____

Return to: _____

By (date) _____

PURCHASING

By optimizing the total cost of goods or supplies (including use and disposal costs), companies can increase operating and material management efficiency. A relationship between purchaser and supplier that encourages discussion of eco-efficiency will increase the likelihood of improved environmental performance, supply chain efficiency and innovation.

Please respond **Yes**, **No** or **not applicable (NA)** to each of the following statements. Your response should reflect the current conditions within the company.

	Statement	Response		
		Yes	No	NA
1	We optimize the purchase of products/material that exhibit eco-logos, environmental labels, or contain recycled/renewable material.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2	We base purchasing decisions on a total cost or best value approach (i.e., looking at the total cost of purchasing, use and waste management of a particular material, substance or product).	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3	We minimize or are phasing out the purchase, use, handling and disposal of materials and substances that are hazardous or toxic.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
4	We work with other business functions to discuss and improve purchasing procedures, criteria and efficiency.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
5	We require our suppliers to provide environmental information on their company and products.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
6	Our company provides education/assistance to suppliers on environmental matters in order to increase supply chain efficiency.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
7	We communicate our environmental purchasing criteria/requirements to marketing staff, employees, stakeholders, and customers.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
TOTALS		___	___	___

Calculate your score:

$$\frac{\text{[total Yes]}}{7 - \text{[total NA]}} = \text{_____} \text{ multiplied by } 100 = \text{_____}$$

Assigned to: _____

Return to: _____

By (date) _____

ACCOUNTING

Identifying and tracking environmental costs can provide a stimulus for eco-efficiency improvements. Informing other business functions of these costs can lead to product, production and facility improvements, while encouraging innovation and increasing awareness. Accounting systems can also be used to evaluate cost savings and/or revenue from environmental, efficiency and productivity improvements.

Please respond **Yes**, **No** or **not applicable (NA)** to each of the following statements. Your response should reflect the current conditions within the company.

	Statement	Response		
		Yes	No	NA
1	Our company measures the environmental costs associated with our operations and processes (e.g., monitoring and abatement equipment, remediation, waste disposal, compliance costs).	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2	We measure the costs to our customers associated with the use and disposal of our products (e.g., energy/consumable use, recycling).	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3	The environmental costs to ourselves and our customers are communicated to personnel in all of our key business functions.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
4	We work with Purchasing, Facilities Management and other functions to evaluate the environmental costs of capital purchases and new technologies.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
5	We work with Management to allocate credits and performance bonuses to departments and business functions where efficiency and productivity improvements have been made.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
6	Environmental costs are allocated to the departments or business functions where they are generated (e.g., activity-based costing).	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
TOTALS		___	___	___

Calculate your score:

$$\frac{\text{[total Yes]}}{\text{[total NA]}} \text{ divided by } (6 - \text{[total NA]}) = \text{_____} \text{ multiplied by } 100 = \text{_____}$$

Assigned to: _____

Return to: _____

By (date) _____

MARKETING AND COMMUNICATIONS

An increasing number of consumers (individuals and institutions) in Canada and abroad are buying “green.” Providing environmental information on your products and services can satisfy the information needs of this market segment and for other stakeholders (e.g., suppliers, insurers, investors, and employees). Increasing awareness will help to brand your company as one that is committed to innovation, efficiency, and strong environmental performance.

Please respond **Yes**, **No** or **not applicable (NA)** to each of the following statements. Your response should reflect the current conditions within the company.

	Statement	Response		
		Yes	No	NA
1	Our company monitors and responds to customer environmental concerns, requirements and/or activities.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2	We utilize eco-logos or environmental labels on some/all of our products and services.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3	Our company provides environmental information to new and existing employees.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
4	Our departments and business functions exchange information regarding environmental, performance and efficiency success stories.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
5	We have a marketing strategy that includes the environmental aspects of our products.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
6	Our product marketing and communications material includes environmental information.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
7	Our company provides environmental information to insurers, regulators, suppliers and financial institutions.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
8	Our company provides information to customers on how to improve their environmental performance.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
TOTALS		_____	_____	_____

Calculate your score:

$$\frac{\text{_____}}{\text{[total Yes]}} \text{ divided by } (8 - \frac{\text{_____}}{\text{[total NA]}}) = \text{_____} \text{ multiplied by } 100 = \text{_____}$$

Assigned to: _____

Return to: _____

By (date) _____

PRODUCTION AND DISTRIBUTION

Eco-efficiency is about doing more with less. This is achieved by optimizing the inputs (energy and material) and outputs (products and waste) of production and distribution processes. Investigating the efficiency of your inputs and outputs provides the stimulus for creating innovative solutions and productivity improvements.

Please respond **Yes**, **No** or **not applicable (NA)** to each of the following statements. Your response should reflect the current conditions within the company.

	Statement	Response		
		Yes	No	NA
1	Our waste management operations include a recycling program for our production operations.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2	We have taken measures to reduce material, water and energy use in production.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3	Our production operation optimizes the use of energy generated from renewable sources or from waste.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
4	Our company uses reusable/recyclable shipping containers, pallets, skids, or packaging.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
5	We use fleet management tools, techniques and technologies to optimize distribution and shipping efficiency.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
6	Our company has integrated environmental and efficiency criteria in process design.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
7	We use by-products or wastes from one process in another product or process, or sell them to another company.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
8	We provide product refurbishing, remanufacturing, refilling or other services.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
9	Our company offers an exchange or take-back program to accept old or used products.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
TOTALS		_____	_____	_____

Calculate your score:

$$\frac{\text{[total Yes]}}{9 - \text{[total NA]}} = \text{_____} \text{ multiplied by } 100 = \text{_____}$$

Assigned to: _____

Return to: _____

By (date) _____

FACILITIES MANAGEMENT

Optimizing energy and material flows in the operation and maintenance of facilities can lead to lower overhead costs. In addition, high efficiency plant layouts, heating and ventilation, and manufacturing systems, can provide productivity gains from improved employee health and well-being.

Please respond **Yes**, **No** or **not applicable (NA)** to each of the following statements. Your response should reflect the current conditions within the company.

	Statement	Response		
		Yes	No	NA
1	We have a waste management program in place that minimizes handling costs and complies with all applicable regulations.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2	We select and use energy efficient electrical, mechanical and lighting fixtures.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3	Our company has developed a prevention program to identify and eliminate sources of pollution and reduce costs.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
4	We have taken measures to improve the indoor environmental quality of our facilities (e.g., day-lighting, air quality).	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
5	We have water conservation measures in place to reduce costs and increase efficiency.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
6	We work with other business functions and property managers to seek facility improvements and optimize maintenance.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
7	We have a grounds management plan that suits the natural landscape, local eco-system and reduces maintenance costs.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
8	Our company has a program to promote and track the reduction of waste.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
9	Our construction contractors follow site management guidelines to reduce waste, recycle or remanufacture materials and minimize pollution.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
10	We have integrated environmental criteria in the design of new production facilities (e.g., energy efficiency, material & resource conservation, etc.).	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
TOTALS		___	___	___

Calculate your score:

$$\frac{\text{[total Yes]}}{\text{[total NA]}} \text{ divided by } (10 - \text{[total NA]}) = \text{_____} \text{ multiplied by } 100 = \text{_____}$$

Assigned to: _____

Return to: _____

By (date) _____

STEP 2: STRATEGIC PLANNING

2.1 - Purpose

Step 1 provided an estimate of the current eco-efficiency activity within your company. The purpose of this step is to use your self assessment results to assist you in planning an eco-efficiency strategy that is tailored to your company's needs.

2.2 - Complete your Eco-efficiency Profile

Transfer the self-assessment scores from the Self-Assessment worksheets in Step 1 to the attached Eco-efficiency Profile worksheet. Use the formula provided to calculate an average score for your organization. Use these scores to sketch bar graphs for each of the business functions, and for the company average. The graph will provide you with a useful visual representation of your profile to assist in communicating the results of your eco-efficiency self-assessment.

2.3 - Strategic Planning

Review and discuss your Eco-efficiency Profile with your project team and management. Compare your company's average score to the corresponding scores of the three main Eco-efficiency Strategies included in this package – Coping, Informed, and Proactive. At a **minimum**, your team should seek to answer the following key questions:

- is the company as a whole, Coping, Informed or Proactive? what are our internal and external drivers? (i.e., where are we?)
- what priority areas should we focus on for improvement? what are our goals? (i.e., where do we want to go?)
- what specific actions should we take? (i.e., how do we get there?)

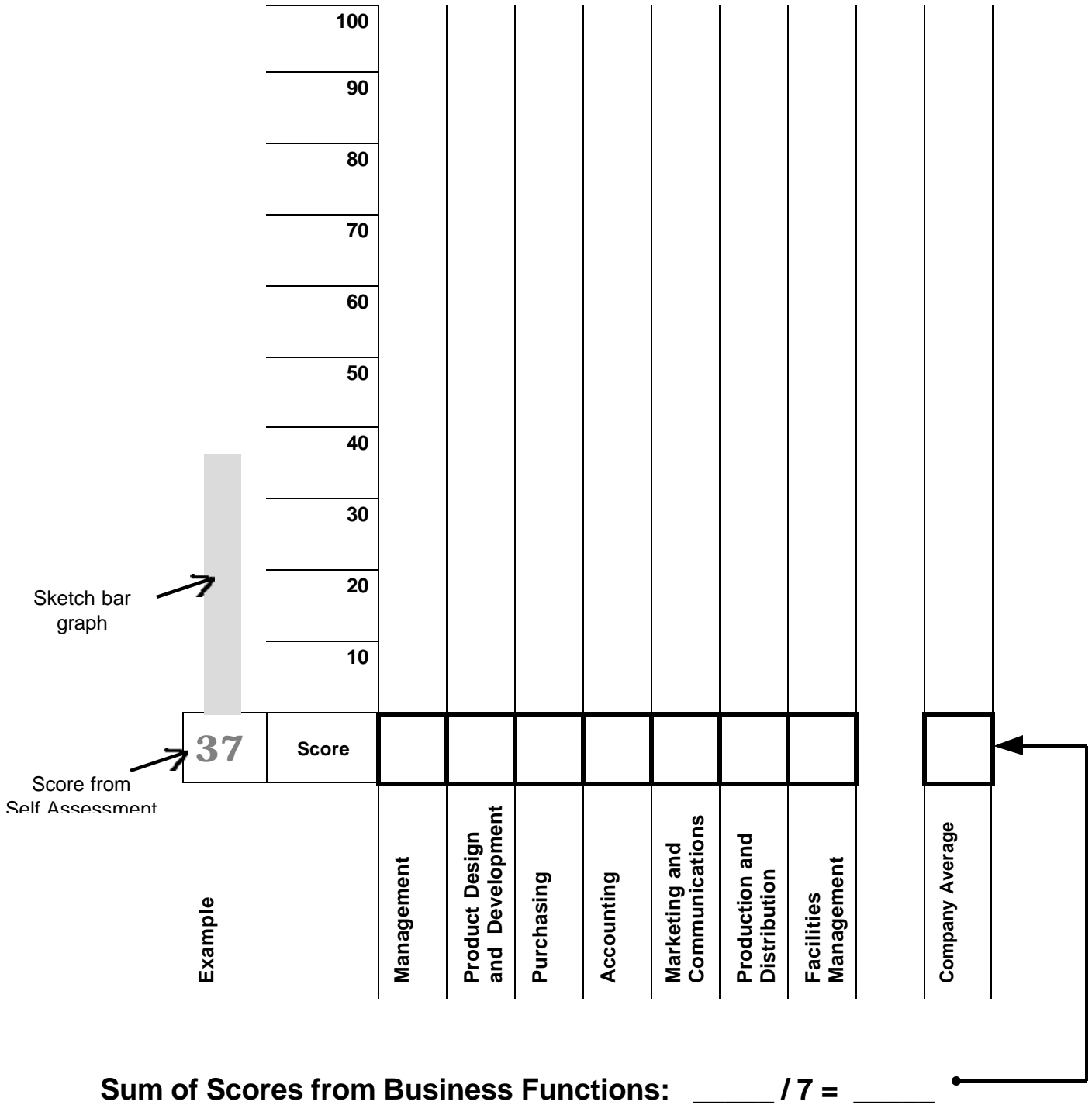
Note: In developing a list of potential actions to address your priority areas, you may wish to consider including some of the eco-efficiency activities listed in the Self-Assessment worksheets from Step 1.

2.4 - Next Steps

By answering the key questions set out above, you should now have a clear idea of “*where you are*” in terms of eco-efficiency, what your priority areas are, or, “*where you want to go*,” and your proposed list of actions to answer the question – “*how do we get there?*” The next step in the process is transfer the results of your strategic planning, including your drivers, goals and proposed list of actions, to the Benefit-Cost worksheet in Step 3. Here you will rank each action in your list according to the ratio of their respective benefits and costs to determine which are most suitable for implementation.

ECO-EFFICIENCY PROFILE

Transfer your scores from the individual worksheets from Step 1 and shade in the bar graphs below to the appropriate level.



ECO-EFFICIENCY STRATEGIES

Score = 0 - 33%

Score = 34- 66%

Score = 67 - 100%

COPING	INFORMED	PROACTIVE
<p>Possible Internal Drivers:</p> <ul style="list-style-type: none"> - Cost Reduction - Health and Safety of Employees - Productivity Concerns <p>Possible External Drivers:</p> <ul style="list-style-type: none"> - Reduce Liability - Regulations / Legislation - Financial Performance 	<p>Possible Internal Drivers:</p> <ul style="list-style-type: none"> - Product Quality - Material and Energy Efficiency - Standards <p>Possible External Drivers:</p> <ul style="list-style-type: none"> - Activities of Industry and Trade Organizations - Customer Demands - Product, Corporate & Brand Image 	<p>Possible Internal Drivers:</p> <ul style="list-style-type: none"> - Employee Morale and Relations - Stimulate Innovation - Long-Term Profitability <p>Possible External Drivers:</p> <ul style="list-style-type: none"> - Supplier Activities / Demands - Gaining Competitive Advantage - Establishing New Markets - Long-Term Access to Capital and Financing - Changing Social Attitudes
<p>Pros:</p> <ul style="list-style-type: none"> • Focused on optimizing costs and in complying with environmental regulations (in areas such as reporting, permitting and auditing). • React and change quickly to crises concerning the bottom line. • Compliance costs are incorporated into strategic business plans. • Exploit obvious opportunities for productivity improvements. <p>Cons:</p> <ul style="list-style-type: none"> • Vulnerable to changes in legislation, customer requirements, market trends or competitor tactics. • Minimal engagement with stakeholders, external organizations and suppliers. • Changes are motivated by the desire to manage risks and reduce costs. • Limited environmental functions or personnel. • Informal management systems, procedures and internal communication of productivity and innovative improvements. 	<p>Pros:</p> <ul style="list-style-type: none"> • Track and plan for regulatory, legislative and standardization trends. • Active participation in industry and trade associations. • Quick to react to demands from customers, actions of competitors and other trends. • Implementation of programs for the efficient use of materials and/or energy. • Actively improving products, processes and operations to meet evolving customer needs. <p>Cons:</p> <ul style="list-style-type: none"> • Limited integration of environmental management and other business programs. • Limited engagement with suppliers and stakeholders. • Limited activities to train, motivate and support employees. 	<p>Pros:</p> <ul style="list-style-type: none"> • Eco-efficiency provides means to stimulate innovation and realize competitive advantage and enter or maintain presence in certain marketplaces. • Active engagement with stakeholders, insurers, investors, suppliers and customers to seek productivity and environmental improvements. • Actively involved in employee training, by providing incentives and ongoing development. • Full integration of environmental considerations into management systems, product development and other business functions. • Actively exploring service and product alternatives. • Aggressive implementation of cost saving opportunities through resource and energy efficiency improvements. <p>Cons:</p> <ul style="list-style-type: none"> • Extensive internal and external efforts and resources needed to maintain leadership position.

STEP 3: BENEFIT-COST ANALYSIS

3.1 - Purpose

In Step 2 you undertook a strategic planning exercise designed to provide a focus for your action on eco-efficiency. Through Step 2 you will have identified the most important internal and external drivers that are affecting your company, your goals for addressing these drivers, and a number of potential eco-efficiency actions for supporting your goals. The purpose of Step 3 is to determine which of these potential actions can provide your company with the greatest benefit for the least cost.

3.2 - Benefit – Cost Analysis

Transfer your list of potential actions to the attached Benefit-Cost Analysis worksheet. With input from team members and management, identify all foreseeable costs and benefits associated with each action. Aspects of costs and benefits can include, but are not limited to the following:

- Monetary
 - investment requirements, operating costs, revenue streams, accurate cost allocation
- Personnel
 - training, knowledge, morale, employee retention, health and safety, absenteeism
- Production
 - re-tooling, efficiency, inventory, equipment, input costs
- Environmental
 - toxic emissions, waste management costs, legal liability, fines
- Customers and investors
 - new markets, information needs, corporate image, marketplace differentiation, pricing, competing products
- Product
 - durability, energy requirements, serviceability, user operating costs

After listing the costs and benefits for an action, assign a numerical ranking of **3, 2, or 1 (high, medium, or low)** to describe that action's total benefits and costs. Lastly, calculate the Benefit-Cost ratio using the formula on the attached worksheet. The result will be either:

greater than 1: benefits are greater than costs; action should be given a high priority;

equal to 1: benefits are equal to costs; action should be given a lower priority; or,

less than 1: costs are greater than benefits; actions should only be implemented on compelling, non-financial grounds.

3.3 - Next Steps

Once your ranking is complete, you may wish to examine the higher ranking options in more detail. Implementation of the actions with the highest benefit/cost ratios is the next step toward increasing your company's eco-efficiency. It is important to keep in mind that tracking the progress of your actions by establishing targets, and measuring impacts are also important considerations for achieving your eco-efficiency goals.

BENEFIT-COST ANALYSIS

Driver: _____

Goal: _____

Potential Action	Benefits	Benefits High=3 Med=2 Low=1	Costs	Costs High=3 Med=2 Low=1	Ratio Benefits / Costs	Rank

EXAMPLE: BENEFIT-COST ANALYSIS

Driver: Increasing energy costs to ourselves and our clients

Goal: Minimize our energy inputs and the energy consumed by our products

Potential Action	Benefits	Benefits High=3 Med=2 Low=1	Costs	Costs High=3 Med=2 Low=1	Ratio Benefits / Costs	Rank
[Facilities Management] Undertake an energy audit of production facility	<ul style="list-style-type: none"> identification of energy efficiency opportunities 	2	<ul style="list-style-type: none"> audit costs implementation costs of individual efficiency measures 	2	1	4
[Product Design] Provide Design for Environment (DfE) training for engineers involved with product design	<ul style="list-style-type: none"> decreased energy costs for manufacturing processes decreased product energy costs for customers better product differentiation 	3	<ul style="list-style-type: none"> training costs 	1	3	1
[Management] Establish incentive program for energy efficiency	<ul style="list-style-type: none"> actively involves all employees in corporate goals energy savings from suggestions 	2	<ul style="list-style-type: none"> cost of rewards (minimal if based on a percentage of energy savings) administrative cost 	1	2	2
[Purchasing] Integrate energy use requirements into purchasing decisions	<ul style="list-style-type: none"> lower energy requirements for equipment and machinery 	1	<ul style="list-style-type: none"> research possible relationship costs associated with changing suppliers administrative costs 	2	.5	5
[Accounting] Reallocate energy costs to the departments in which consumption occurs	<ul style="list-style-type: none"> better cost accounting better focus for energy efficiency efforts 	3	<ul style="list-style-type: none"> audit to properly allocated costs administrative costs 	2	1.5	3
[Facilities Management] Establish vehicle maintenance and driver training program to maximize fuel efficiency of fleet.	<ul style="list-style-type: none"> decreased fuel costs 	1	<ul style="list-style-type: none"> administrative costs parts costs labour costs equipment costs 	3	.33	6

NOTE: After a preliminary analysis, it is recommended that a more detailed, quantitative study of the costs and benefits of the higher ranking options be undertaken prior to implementation.