UNEP
United Nations Environment Programme

The Efficient Entrepreneur Calendar

Assistant

UNEP · WUPPERTAL INSTITUTE

Measure and improve your business performance month by month

Science Centre North Rhine-Westphalia
Institute of Work and Technology

Institute for Culture Studies
Wuppertal Institute for Climate, Environment and Energy

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your business performance
month by month

UNEP
Wuppertal Institute

Acknowledgement

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RÉPUBLIQUE FRANÇAISE

MINISTÈRE
DE L'AMÉNAGEMENT
DU TERRITOIRE ET
DE L'ENVIRONNEMENT

Cover illustration
shows mixing bowl into which water
is being poured to produce dough.

For more information about the Efficient Entrepreneur Programme visit
www.efficient-entrepreneur.net.

Foreword

No matter the size of your company, its location or annual financial return, the challenge to integrate environmental considerations into your daily decision making remains important. The impact of your activities on society may well be much larger than you think. You are probably a customer of or a supplier to larger companies, confirming that you are an essential link in daily market activity.

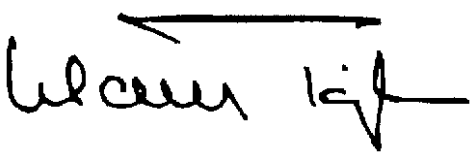
As an advocate of global environmental concerns, one of the key objectives of the United Nations Environment Programme (UNEP) is to encourage decision-makers such as yourself to adapt their policies and practices to sustainable development. The aim is to bring about economic activity that is cleaner, safer and more efficient, and to reduce risk to humans and the environment.

Your company and fellow small- or medium-sized enterprises world-wide account for a large percentage of economic activity. Companies such as yours are a key part of the life blood of the market economy. But as with any organization, your survival also depends on the health of the whole system. The Efficient Entrepreneur Calendar and its Assistant therefore helps you take some basic practical steps to contribute to the health of the whole system. The good news is that you will also find that it helps your own company improve its overall performance. It is this kind of good business sense that will make you an Efficient Entrepreneur.

Smaller enterprises often have limited access to the information needed and limited infrastructure to address environmental issues. Your company may also have inadequate resources to develop and implement environmental strategies. A proactive and preventative approach to environmental issues may not be at the top of your manager's list of priorities. Yet through the learning experience of following the month-by-month advice of The Efficient Entrepreneur, you will discover the rewards of becoming a leader, rather than merely being compliance-driven and reactive.

If we look at the outcome of the Rio Earth Summit of almost a decade ago, we see in Chapter 30 of Agenda 21 recognition of the role of small and medium-sized entrepreneurs in the social and economic development of any country. Chapter 30 also confirms that responsible entrepreneurship can play a major role in improving the efficiency of resource use, reducing risks and hazards, minimizing wastes and safeguarding the environment. The Efficient Entrepreneur will help you play such a role, from appointing a team coordinator to finally reporting the good news.

Congratulations for taking on this challenge. We look forward to hearing from you.



Klaus Töpfer, Executive Director
United Nations Environment Programme

About the authors

UNEP's Division of Technology, Industry and Economics (DTIE), with its Division Office in Paris, consists of one Centre and four Units. They are the International Environmental Technology Centre (Osaka), the Production and Consumption Unit (Paris), the Chemicals Unit (Geneva), the Energy and OzonAction Unit (Paris), and the Economics and Trade Unit (Geneva). The mission of the DTIE is to encourage decision makers in government, industry and business to develop and adopt policies, strategies and practices that are cleaner and safer, use natural resources more efficiently, and reduce pollution risks to human beings and the environment.

The address of the DTIE in Paris is
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fax: +33 1 44 371474, web site: www.uneptie.org, email: unep.tie@unep.fr

The interdisciplinary **"Eco-Efficiency and Sustainable Enterprise" Group at the Wuppertal Institute for Climate, Environment and Energy** attaches top priority to the development of tools and the formulation of guidelines to help companies analyse and improve products and services in-house and along the value chain, improve internal and external communication and networking activities, and increase employee and customer satisfaction. Working in close cooperation with around 200 SMEs and multinational companies from all economic branches, the team develops and implements new concepts for sustainable enterprise management. Furthermore, the team works on national and international level with trade unions, industry associations, financial institutions and public bodies to support initiatives towards sustainable development in different industry sectors.

The address of the Wuppertal Institute – Eco-Efficiency and Sustainable Enterprise Group is Doeppersberg 19, 42103 Wuppertal, Germany, tel: +49 202 2492 241,
fax: +49 202 2492 138, web sites: www.wupperinst.org and
www.eco-efficiency.de, email: efficient-entrepreneur@wupperinst.org

About the sponsor

The mission of the French Ministry of the Environment is to monitor the quality of the environment, protect nature, prevent, reduce or totally eliminate pollution and other nuisances, and enhance the quality of life. Most importantly, the Minister has to ensure that the environment is taken into account when policies are being defined.

The address of the Ministère de l'Aménagement du Territoire
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website: www.environnement.gouv.fr

Table of Content

What's in it for us?

This Assistant to The Efficient Enterprise Calendar is designed to provide you with practical information on how to execute the actions suggested in the Calendar itself. The Assistant — like the Calendar — will also help you to identify opportunities for reducing expenditures and improving environmental performance in your company. This can be achieved through energy and water savings, reductions in raw materials, improved waste management, reduced pollution, reduced fees and penalties, and improved worker health and safety.

How can we measure our company's environmental performance ?

The Assistant provides checklists, forms and management information to measure your performance step by step and to find opportunities for improvement.

How can we improve our company's environmental performance ?

The Assistant will help you to begin planning and to take simple practical actions straightaway.

What benefits can we expect ?

For the company:

- ✓ financial savings
  - improved efficiency through a better understanding of company's processes and activities
  - reduced risks mean lower financial costs — such as lower insurance premiums
- ✓ reduced risk
  - reduced risks of non-compliance
  - reduced future liability
- ✓ a better public image/better relations through communication of results
  - with customers and contractors
  - with suppliers
  - with authorities
  - with investors
  - among neighbours
  - with the public at large

For the employees:

- ✓ safer conditions for workers
- ✓ transparency about environmental and health hazards
- ✓ reduced risks in case of an accident or exceptional circumstances
- ✓ increased motivation

For the environment:

- ✓ better protection of the environment
- ✓ reduced environmental risks in case of an accident
- ✓ continuous improvement in environmental performance at the site and of products

Moreover, the Assistant

- ✓ provides you with guidance on interpreting and reporting your results, and setting targets for improvement.
- ✓ stresses the internal and external communication of your performance results. You will be able to demonstrate how you are improving your performance and tackling the issue over time. But how you communicate your achievements is up to you: annual reports, environmental reports, web sites or even simple fact sheets are useful ways of publicizing your results.
- ✓ lists useful sources of further information.

Aren't you adding to my costs ?

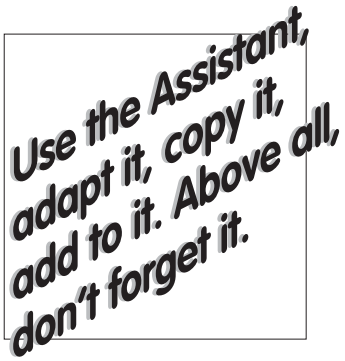
Environmental performance improvements can save you money. It may be difficult to cut other costs, such as staff costs, without serious repercussions. Focus on areas of environmental concern where you can take action — energy, materials and water consumption, non-product outputs (solid waste, emissions and effluents) and risk management and preparedness. For example, using energy more efficiently can reduce expenditures without directly influencing your output or the services you provide. You can save 20 percent of your energy and fuel bills by adopting energy efficiency measures which are cost-effective.

What can be done if we are already planning to carry out formally recognized environmental management schemes such as ISO 14000 and the Eco Management and Audit Scheme (EMAS) ?

This Calendar can help you to prepare your environmental review for ISO 14000 or EMAS. It helps you to assess and analyse environmental performance related to your company's products and activities.

So what can I do next ?

The next months explain the steps your company needs to take in starting a programme of continuous improvement.



February


March


April


May


June

January Assistant

What will you achieve this year?

a cleaner production programme that will earn you money and recognition

Start the year by setting up a Calendar Team. Scan the content of the Calendar to see what the year will bring: in February you will get an overall picture of current environmental performance; from March to September you will learn in more detail how to measure and improve your performance in the areas of energy, water, materials, non-product output, risk prevention, product stewardship and community integration; in October, the first achievements and problems will be reviewed and evaluated; in November the achievements are communicated inside and outside the company; in December you should reward your success while at the same time preparing for the next year. This month, designate a team coordinator and team members who will go through the Calendar and Assistant and measure and improve the company's performance.


July


August


October


September


November


December

Appoint a team coordinator

From the outset you will need a person to take responsibility for coordinating and implementing the programme. The coordinator is the most important person behind a successful programme, and will ultimately be responsible for making sure the company is making progress towards its goals.

Name of the team coordinator	Tasks and responsibilities of the team coordinator
.....	• he or she must be committed to the programme and capable of motivating people
.....	• taking care the overall coordination of the project
	• managing communication between team members
	• taking care of documentation of results
	• communicating regularly with the management about progress and results

Appoint a Calendar Team

A Calendar Team needs to be organized early on. Tell people in the company that you will start the Efficient Entrepreneur Programme. Involve employees from different company units to get their commitment to the programme. Ideally, each business unit should be represented in the team. For a small business, the team could be just the owner/operator and one employee. In a larger business, representatives from different departments — such as maintenance, production, environment, health and safety, purchasing and transportation — as well as plant and executive managers, should be included in the team. The advantage of doing this is that different experience and technical expertise will provide a wider range of inputs and ideas on how to measure and improve your performance. To make it attractive for employees to join the team think about ways to reward them.

➜ List names, position, locations (business unit) and special skills of the Calendar team members. Since teamwork is so important for the environmental performance process, team-building activities might help in building up cohesiveness within the group.

Team members (name)	**Position**	**Location**	**Special skills**

What will you achieve this year?

■ Divide the work by month

In some months, all team members should be involved because you are gathering information for the whole year (February), reviewing previous work (October) or communicating your results (November). In March to September — the "measure months" — the team might consider splitting up the work. If team members have official responsibilities for the month's topic, have worked on the topic before or have a special interest in it — they could be appointed leader for this month. A task of the month leader could be to prepare the topic and to look for additional information if needed.

➜ List the names of the month leader in the table below. Provide all the team members with a copy so that the overall structure of the year is clear to everyone. Furthermore write their name on the Calendar pages (there is a space in the bottom left corner) — so that other staff members will know to whom to talk if they have suggestions and ideas on the topic of the month.

Month	**Topic of the month**	**Month leader** (name)
February	Getting started, get an overall picture	Team coordinator All team members should be involved
March	Energy consumption	
April	Materials consumption	
May	Water consumption	
June	Non-product outputs (waste, wastewater and emissions)	
July	Risk prevention	
August	Product stewardship	
September	Community integration	
October	Review of progress	Team coordinator All team members should be involved
November	Internal and external communication	Team coordinator All team members should be involved
December	Getting recognition, planning for the next year	Team coordinator All team members should be involved

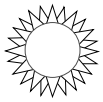
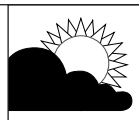
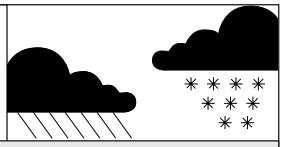
What will you achieve this year?

Further issues to consider	Tick when done
plan monthly informal meetings — for instance the team can meet at the end of each month to discuss the activities, achievements and problems of the past month and issues for the following month	
inform all employees about the team and the programme — let them know that you might need their help with the review process	
keep people involved during the project by informing them about the results achieved during the different stages of the programme	
agree on the frequency and the form of communication to be used to publicize your work and achievements (such as summaries on a public notice board)	
start networking: find out what other industries in your area are doing, get involved in local and national initiatives, attend events, look for networks that address environmental issues	
Others (define)	

February Assistant

a clean finish for your business and for the environment

By now you should have the Calendar Team in place. Before you start in March on your monthly measurements, get an overall view of current performance. The following table helps to provide this overall picture. Copy the table and ask your team members to give their opinion. Collect the copies and discuss the differences.

How do you view the overall performance in your company ? Tick a box.			
Energy			
Amount of energy consumed			
Measures taken to save energy			
Materials			
Amount of materials consumed			
Storage of raw materials			
Storage of products			
Measures taken to reduce materials consumption			
Water			
Amount of water used			
Measures taken to save water			
Non-product output			
Aamount of solid waste			
Treatment of solid waste			
Amount of wastewater			
Treatment of wastewater			
Amount of emissions and effluents			
Treatment of emissions and effluents			
Risk management and prevention			
Health and safety in the workplace			
Amount of chemicals used			
Measures taken to protect workers and the environment			
Product stewardship			
Environmental information about raw materials and product life cycle			
Communication with contractors and suppliers about environmental issues			
Community integration			
Reduction and control of noise and smell			
Neighbourhood impression of your company			

■ Get an overview on what to do the rest of the year:

March – September: Measure and improve your performance in each area

During March to September, identify opportunities to improve environmental performance —the Assistant provides many ideas for doing so. Add or change lines, or develop your own table if this one does not suit you.

Each month includes steps to help you to:

- **review your current situation and identify opportunities**
  Get a more detailed picture of one performance issue each month — for example in March about 'energy consumption'. Review your process and activities, and identify opportunities for improvement. The questions presented in the form of checklists provides a format to review the most important issues; the questions answered with "no" should be considered as priorities for action, and evaluated in the following steps.
  Best practice:
  - Do not exclude any proposal or idea at this stage; collect ideas not only from the team members but also from other employees.
  - Don't get bogged down in detail! Identify each month cost-effective approaches for gathering data — for example, small adjustments in accounting systems may produce energy consumption data at very low cost.
  - Do not try to make it perfect! Identify where action is most needed and will be most beneficial.
- **determine which opportunities should be given priority**
  Rank your identified opportunities for improvement by identifying their technical, economic and environmental feasibility. The forms ①, ② and ③ presented this month will help you do so. After filling in the forms, count the yes-answers to obtain a technical, economic and environmental feasibility score and list them in the priority finder (form ④). Compare the total scores of the action in consideration and select the most feasible ones for further elaboration.
- **prepare an implementation plan and take action**
  Make it happen — list the actions that have come out as the most feasible (form ⑤). Details of the actions, along with budgets and benefits, should be presented to management. When an action is approved, it should be adequately funded. Once an action begins, it should be carried out like any other company project. Personnel directly affected should be involved from the start. All employees should receive progress information about each action and should be encouraged to provide suggestions for improvement. Once an action plan is set up, good monitoring procedures are needed to know that your plan is working and achieving its objectives. The action plan should be evaluated and updated on an ongoing basis.
  Best practice:
  - Keep the action list simple and publicize it on a staff notice board. At the next staff meeting, tell staff about the new actions they need to take.
  - Provide support to staff with their action plan. This may take the form of an on-the-job training session for staff on the monthly issues, for example on energy management or the provision of technical information.
  - Remember to congratulate success, and consider rewarding individuals or departments that have done well.

October:

Review progress — Evaluate your projects and the programme

Use the checklists presented in October to summarize your achievements and the problems you faced throughout the year so far. For each month, add a short description of the factors that led to success and to failure.

November:

Tell your story — to those inside the company and those outside it, such as your customers, suppliers, insurers and bankers

Prepare a communication plan to target the audience you want to reach. An environmental report may be a helpful tool.

December:

Get recognition and maintain the programme from December on — keep it going!

Maintain the environmental performance programme so it will continue to grow and benefit the company.

Promote your achievements and seek out awards that will give you recognition. Think about follow-up activities for the next year.

FORMS to be used from March to September

The following forms will help in evaluating the technical, economic and environmental feasibility of the opportunities identified in the review. Add other questions that you would like to include in the feasibility check. However, make sure that they are formulated so that the answer is "yes/probably" if they are technically, economically and environmentally feasible.

After filling in the forms count the yes-answers you entered to obtain the technical, economic and environmental feasibility score, and list them in the priority finder (form ④). Compare the total scores (the sum of the single scores) for each of the identified opportunities and select the most feasible ones for further elaboration (form ⑤).

TECHNICAL FEASIBILITY EVALUATION

FORM ①

Questions	Yes / probably	No / don't know	Not applicable
1 Can your company realize this option ?			
2 Can this option be implemented without substantial changes in the existing plant infrastructure ?			
3 Are the needed materials and parts available ?			
4 Do the employees have enough knowledge and/or experience to carry out this option ?			
5 Does this option maintain product quality ?			
6			
7			
8			
9			
Total "Yes" scores			

ECONOMIC FEASIBILITY EVALUATION

FORM ②

Questions		Yes / prob-ably	No / don't know	Not applic-able
1	Is this option in accordance with your company's policy on investment expenditure ?			
2	Does this option have an acceptable payback period ?			
3	Does this option reduce your expenditure on energy ?			
4	Does this option reduce your expenditure on raw materials ?			
5	Does this option reduce expenditure on additional materials (such as cleaning agents) ?			
6	Does this option reduce expenditure on water ?			
7	Does this option reduce expenditure on waste disposal ?			
8	Does this option reduce expenditure on controlling effluents and air emissions ?			
9	Does this option reduce expenditure on wastewater treatment ?			
10	Does this option reduce expenditure on waste storage ?			
11	Does this option reduce your insurance premium ?			
12				
13				
14				
15				
Total "Yes" scores				

ENVIRONMENTAL FEASIBILITY EVALUATION

FORM ③

Questions		Yes / prob-ably	No / don't know	Not applic-able
1	Does this option reduce your energy consumption?			
2	Does this option reduce the amount of water used?			
3	Does this option reduce the amount of raw materials used?			
4	Does this option minimize the amount of contaminated water?			
5	Does this option minimize effluents and air emissions?			
6	Does this option minimize hazardous waste?			
7	Does this option minimize the amount of solid waste?			
8	Does this option reduce the number of work-related accidents?			
9				
10				
11				
12				
Total "Yes" scores				

PRIORITY FINDER

FORM ④

Action in consideration	Technical feasibility (total "yes" scores)	Economic feasibility (total "yes" scores)	Environmental feasibility (total "yes" scores)	Total score of technical, environmental and economic feasibility (sum of single scores)

ACTION TABLE

FORM ⑤

In this form you can list the most feasible options.
Determine who is responsible for coordinating the action and set a target date for implementation.

Action to take	Comments (such as budget needed, benefits)	Individual responsibility	Target date

March Assistant

Energy consumption

Saving energy is in your hands !

Step 1 — review your production processes to find out where you can save energy.

Every company is different, and every industry has its own unique technologies and processes. Therefore the focus will be on the three main energy-consuming processes in your company. The following table can be used to record the available figures and comments.

Process name	Energy source	Amount/unit	Comments

For each of these processes, answer the following questions. They will help you find opportunities to save energy. The questions answered with "no" should be considered as priorities for action. If the answer is "don't know", try to get more information this month so that you can answer either yes or no.

Process: _____

Processes-related questions	**Yes**	**No**	**Don't know**
Do you check periodically whether hot and cold water pipes are insulated ?			
Do you install a heat exchanger if temperatures differ more than 50°C in any of the production processes ?			
Does your company re-use energy generated by this process ?			
Does your company re-use radiant heat from machines and processes ?			
Does your company try to reduce preheating periods for machinery used in this process ?			
Are you adjusting the working time of machines in the production process to avoid their remaining idle ?			
Does your company encourage employees to make suggestions that could lead to a reduction in energy consumption ?			
Have you tried to shift the high energy-consuming production steps to off-peak tariff rates ?			

Step 2 — review your company's other activities to find out where you can save energy.

Typically, the main energy-consuming activities in business are: lighting, running office equipment, fan systems, ventilation and air conditioning, heating, cooling and transportation. Find out which of these activities are the major contributors to your energy bill and enter them in the following table. If you think there are others than those listed, add them.

Activities	**Is this one of the most energy-consuming activities in your company ?**		
	Yes	**No**	**Don't know**
Lighting			
Running office equipment			
Ventilation and air conditioning			
Heating and cooling			
Transportation			
Others			

Where the answer is "yes" or "don't know", answer the questions in the table below. Where the answer is "no", skip the following questions.

Energy consumption

Activities-related questions	Yes	No	Don't know
Ligthing			
Are you using daylight in administration buildings and production sites ?			
Do you normally switch lamps off after work ?			
Do you use energy-saving bulbs or fluorescent tubes and avoid conventional light bulbs ?			
Running office equipment			
Do you know the energy consumed by office equipment such as computers, printers, refrigerators and transformers ?			
Do you normally switch off office equipment after work ?			
Ventilation and air conditioning			
Does your company avoid unnecessary air conditioning ?			
Does your company use a heat exchanger to maximize ventilation ?			
Heating and cooling			
Have temperature settings have been adjusted to ensure minimum energy use for a given comfort level ?			
Do you close windows while heaters are switched on ?			
Can your company use district heating ?			
Does your company use wind- or solar-power as a substitute for non-renewable energy sources when possible ?			
Have refrigerators and freezers been placed in locations that avoid exposure to heat (from ovens, heaters or sunlight, for example) ?			
Transportation			
Do you regularly check the catalyst in your vehicles ?			
Does your company consider fuel type when purchasing a new means of transport ?			
Does your company consider distance when choosing suppliers ?			
Other activities			

The questions answered with "no" should be considered as priorities for action. If the answer is "don't know", try to get more information this month so that you can answer either yes or no.

Step 3 — review your company's total energy use.

Answer the following questions:

Total enery use Do you know how much energy (including electricity, gas, fuel oil, petrol, diesel) is consumed overall (including vehicles fuel), and how much is consumed in specific production areas and/or single manufacturing steps ?	**Yes**	**No**	**Don't know**
Do you know how much you pay per month for each energy source ?			
Do you consider energy-consumption characteristics when buying new equipment ?			

The questions answered with "no" should be considered as priorities for action and measurement. If the answer is "don't know", try to get more information this month so that you can answer either yes or no. Start by making step by step an overall energy balance and work out how much energy you use for each energy source. Look at your monthly energy bills and list your consumption and expenditures in the tables below.

Electricity	**Total amount** kWh/year	**Total expenditure** per year
Amount purchased		
Amount self-generated		
Amount co-generated		
Total (kWh/year)		
Total (MJ/year) *		

* The values are to be entered in the Efficient Entrepreneur Performance Report (see November).

Vehicle fuel	**Total amount** MJ/year	**Total expenditure** per year
Gasoline		
Diesel		
Natural gas		
Total *		

* The values are to be entered in the Efficient Entrepreneur Performance Report (see November).

Energy consumption

Non-vehicle fuel	**Total amount** MJ/year	**Total expenditure** per year
Fuel oil		
Coal		
Natural gas		
Hydropower		
Wood		
Charcoal		
Solar		
Wind		
Total *		

* The values are to be entered in the Efficient Entrepreneur Performance Report (see November).

Others	**Total amount** MJ/year	**Total expenditure** per year
Total *		

* The values are to be entered in the Efficient Entrepreneur Performance Report (see November).

How to convert units ?

This list should help you to convert energy units.

Resources consumed	**Energy generated (kWh)**
fuel oil: 1 litre (36 MJ)	10
gas: 1 m^3 (40.6 MJ)	11.28
propane: 1 tonne (46.4 GJ)	12880
coal: 1 tonne (30.6 GJ)	8500

Step 4 — determine which opportunities should be given priority.

In the first three steps you have identified opportunities to save energy. Now you have to home in on those that are easy to implement and which are likely to be the most cost-effective. Use the technical, economical and environmental feasibility forms ①, ② and ③, and the priority finder (form ④) presented in February to determine which opportunities should be given priority.

Step 5 — prepare an implementation plan and take action.

Use form ⑤ presented in February to list the actions you want to take, allocate responsibilities and set target dates for action. Do not forget to plan monitoring on a daily, weekly, monthly or quarterly basis, as appropriate.

April Assistant

Materials consumption

Making do with one planet – save on raw materials

Step 1 — review your production processes to find out where you can save raw materials.

Materials can be saved by collecting information on production processes and operating conditions. The focus will be on the three most important materials-consuming processes in your company. The following table can be used to record the available figures and comments.

Process name	**Materials input** (name)	**Amount/unit**	**Comments**

Answer for each of these three most important materials-consuming processes the following questions. They are helpful in identifying opportunities to save materials. The questions answered with "no" should be considered as priorities for action. If the answer is "don't know", try to get more information this month so that you can answer either yes or no.

Materials consumption

Process: _____

Processes-related questions Are the input raw materials used in the exact amounts needed for this process ?	**Yes**	**No**	**Don't know**
Is the process regularly maintained — for example by visual assessment of all pipes, ducts and equipment to identify leakage ?			
Has your company tried to identify and install different procedures for materials processing in the past ?			
Does your company take back used products or parts and integrate them in the production process again ?			
Do you keep only the quantities needed for daily or batch use at the workplace to avoid, for example, the contamination or loss of large amounts of materials ?			
Does your company use raw materials that require less frequent equipment cleaning ?			
Does your company encourage employees to make suggestions that could lead to a reduction in materials consumption ?			
Does your company provide employees with regular training to ensure that manufacturer recommendations in relation to materials input are followed ?			

Step 2 — review your company's other activities to find out where you can save raw materials.

There are many activities where materials consumption increases because materials are bought in the wrong quantify, lost, wasted or even damaged. This can happen because of the way the purchasing procedure is set up, during transportation or movement from storage to production sites, or during storage. Find out where you can make improvements. The questions answered with "no" should be considered as a priority for action. If the answer is "don't know", try to get more information this month so that you can answer either yes or no.

Materials consumption

Processes-related questions	Yes	No	Don't know
Purchasing			
Does the company register dates and quantities of all purchases ? Does your company purchase raw materials in the quantities needed for immediate usage ? Does your company compare different materials for their environmental impact before purchasing them (renewable materials, recycled materials, recyclability of the materials) ?			
Transportation			
Is the packaging of raw materials checked for damage on arrival to ensure that the contents have not leaked ? Does your company return materials that have been damaged in transit immediately ? Does your company take measures to ensure that the packaging of your products cannot be damaged during storage and transportation ?			
Materials storage			
Are materials in store inspected visually to ensure that they are not contaminated by other materials in store ? Do you place all raw materials packaged in paper in production areas on wooden or plastic pallets to protect them from floor water or humidity ? Does your company have a regular checking procedure for the expiry dates of raw materials ? Does your company keep stocks at levels based on actual production needs ?			
Movement from storage to the production site			
Do you avoid the manual handling or carrying of materials in open containers ? Are carts, trolleys and other simple transport devices available to move materials to avoid accident and spillage ? Have you repaired uneven or damaged floor areas to ensure easy and fast transport of materials ? Have you instructed employees not to use the same tools such as scoops, cups and buckets for measuring and removing different materials in order to avoid contamination ?			
Other activities			

Step 3 — review your company's use of raw materials.

Answer the following questions:

Materials consumption	Yes	No	Don't know
Do you know how much raw materials are consumed overall, and how much is consumed in specific production areas and/or single manufacturing steps ? Do you know how much you pay on a monthly basis for different raw materials ? Do you consider environmental materials characteristics (such as recycling content) when buying raw materials ?			

The questions answered with "no" should be considered as priorities for action. If the answer is "don't know", try to get more information this month so that you can answer either yes or no.

Materials consumption

Identify the top ten materials and products (according to cost and volume) your company purchased last year. Review your company's purchasing invoices for last year. Break down the information from the invoices according to types of materials, amount and expenditure. If you're not sure about quantities, ask your suppliers for the necessary information or determine the quantities yourself. Distinguish between materials and products which are mainly based on non-renewable sources and those which are mainly based on renewable or recycled materials.

Material/ Product (name)	**Material-Composition** (names)	**Total amount** (tonne/ year)	**Expen-ditures** (per year)	**Includes more than 50% of renewable materials** (yes/no)	**Includes more than 50% of recycled materials** (yes/no)
Total*	—	*		—	—
Share (1)*	—	—	—	*	—
Share (2)*	—	—	—	—	*
Share (1) = Share materials/products with more than 50% renewable materials (percentage of total amount) Share (2) = Share materials/products with more than 50% recycled materials (percentage of total amount)					

* The values are to be entered in the Efficient Entrepreneur Performance Report (see November).

Step 4 — determine which opportunities should be given priority.

In the first three steps you have identified opportunities to save materials. Now you have to home in on those that are easy to implement and which are likely to be the most cost-effective. Use the technical, economical and environmental feasibility forms ①, ② and ③, and the priority finder (form ④) presented in February to determine which opportunities should be given priority.

Step 5 — prepare an implementation plan and take action.

Use form ⑤ presented in February to list the actions you want to take, allocate responsibilities and set target dates for action. Do not forget to plan monitoring on a daily, weekly, monthly or quarterly basis, as appropriate.

May Assistant

Water consumption

Water works for you !

Step 1 — review your production processes to find out where you can save water.

Water can be saved with a few simple changes. To do this, information is needed about production processes and operating conditions. The focus will be on the main water-consuming processes in your company. The following table can be used to record available figures and comments.

Water source	Amount/unit	Comments

For each of these three main water-consuming processes, answer the following questions. They will help identify opportunities to save water. The questions answered with "no" should be considered as priorities for action. If the answer is "don't know", try to get more information this month so that you can answer either yes or no.

Process: _____

Processes-related questions Is water consumption adjusted to specific production needs ?	**Yes**	**No**	**Don't know**
Does your company eliminate all excessive washing and rinsing between process steps ?			
Does your company measure water consumption to improve the efficiency with which water is used ?			
Does your company systematically maintain process equipment — for example by examining water pipes for holes and making the necessary repairs) ?			
Does your company have water treatment facilities connected to the production process ?			
Does your company use positive shut-off valves to minimize water consumption ?			
Does your company try to use the most appropriate water source (for example, rainwater instead of drinking water) in the production process ?			
Does your company encourage employees to make suggestions that could lead to a reduction in water consumption ?			
Are water tanks used in the production process visually monitored on a regular basis to avoid spillage ?			
Has your company considered the possibility of rinsing in still baths to reduce water flow ?			

Step 2 — review your company's other activities to find out where you can save water.

Many activities in the company can be water consuming, and many places can be monitored with a view to making changes. These places include heating and cooling systems, industrial sanitation, human sanitation and exterior uses. Find out which of these activities consume the most water in your company by answering the following questions. If you think other activities are relevant, add them.

Where the answer is "yes" or "don't know", answer the questions in the table below. Where the answer is "no", skip the following questions.

Activities	**Is this one of the most water-consuming activities in your company ?**		
	Yes	**No**	**Don't know**
Heating and cooling			
Industrial sanitation			
Human sanitation			
Exterior			
Others			

Water consumption

The questions answered with "no" should be considered as priorities for action. If the answer is "don't know", try to get more information this month so that you can answer either yes or no.

Activities-related questions	Yes	No	Don't know
Heating and cooling			
Does your company collect and reuse condensed water ?			
Does the company have closed-loop cooling systems ?			
Does your company minimize blow down in boiler and cooling tower operations ?			
Industrial sanitation			
Does your company sweep floors where feasible rather than hose them clean ?			
Does your company use secondary water for preliminary cleaning tasks where appropriate ?			
Has your company taken measures to avoid blockages of the wastewater system ?			
Human sanitation			
Has your company installed low-flush toilets or retrofitted existing toilets to reduce water use ?			
Does your company install spring-loaded valves, timers or sensors on all taps ?			
Exteroir			
Does your company use secondary water instead of freshwater for irrigation ?			
Does your company design its landscaping using native plants with low water requirements ?			
Other activities			

Step 3 — review your company's total water consumption.

Answer the following questions:

Total water use Do you know the quantity of water consumed per month ?	**Yes**	**No**	**Don't know**
Do you know the quantity and composition of wastewater generated by your company each month ?			
Does your company regularly check the water system ?			
Are there water meters in areas where large amounts of water are used ?			
Has your company tried to use the most appropriate water source for each use ?			

The questions answered with "no" should be considered as priorities for actions and measurements such as those described in the table below. If the answer is "don't know", try to get more information this month so that you can answer either yes or no.

Review the water sources used in your company and the total amount of water used from each source. Have a look to your monthly bill, and estimate how much water costs you. Use the tables below to list the sources of the water you use — wells, rivers, lakes or rainwater. Then determine how much you use from each of the various sources and its cost.

Water sources	**Estimated consumption** m^3/year	**Expenditure** per year
Use of drinking water (from public supply)		
Use of rainwater		
Use of water from lakes		
Use of water from rivers		
Others (define)		

Water consumption

In addition, how much water goes into actual production and how much is used for other purposes such as cooling or washing. Calculate the total use of water.

Water sources	**Consumption** m^3/year	**Expenditure** per year
Amount of cooling water		
Amount of water going into production		
Amount of water used for washing		
Total use of water *		

* The values are to be entered in the Efficient Entrepreneur Performance Report (see November).

Finally, how much of the total water use is directly reused , how much is contaminated and how much is treated and used again.

Total water use (m^3/year)	**Direct reuse** (m^3/year)	**Contaminated** (m^3/year)	**Treated and used again** (m^3/year)

Step 4 — determine which opportunities should be given priority.

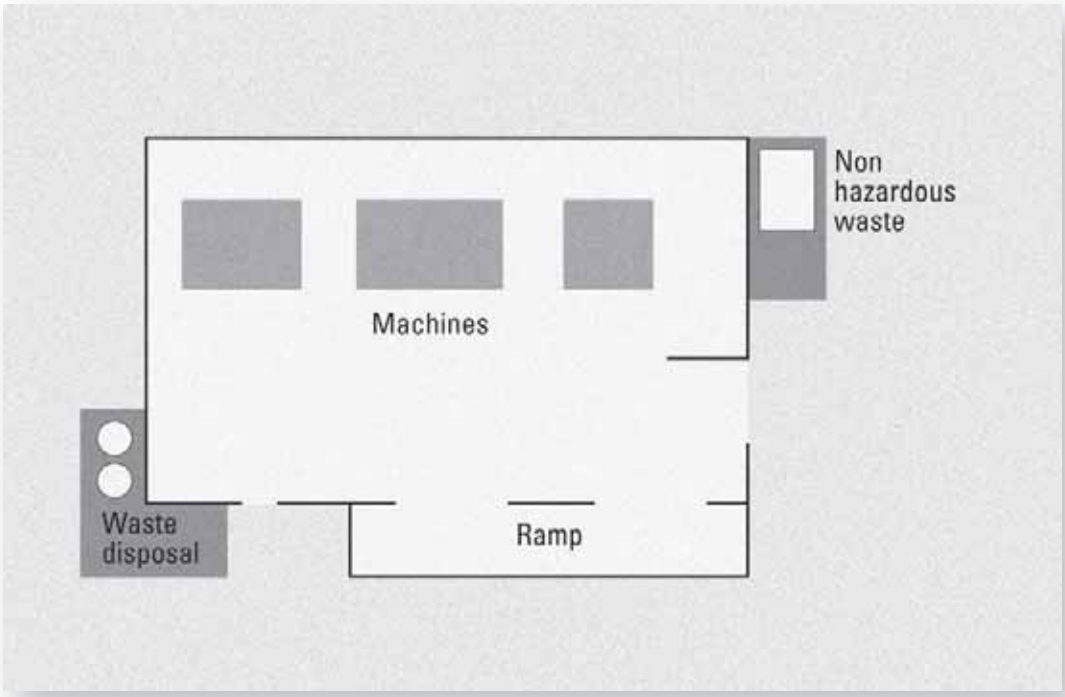
In the first three steps you have collected opportunities where you can save water. Now you have to home in on those that are easy to implement and which are likely to be the most cost-effective. Use the technical, economical and environmental feasibility forms ①, ② and ③, and the priority finder (form ④) presented in February to determine which opportunities should be given priority.

Step 5 — prepare an implementation plan and take action.

Use form ⑤ presented in February to list the actions you want to take, allocate responsibilities and set target dates for action. Do not forget to plan monitoring on a daily, weekly, monthly or quarterly basis, as appropriate.

Non-product output

- Example of a map of your company site that shows waste areas.



June Assistant

Non-product output

You pay at least three times for waste products !

Step 1 — pin-point those areas where solid waste is produced — it's often a good idea to draw a map that shows all sources of waste.

Step 2 — pin-point those areas where effluents and emissions are released in your map.

Step 3 — identify the non-product output generated by your company.

Your company is likely to generate three types of non-product: solid waste, wastewater and effluent/emissions to air.

Solid Waste

An audit of solid waste enables you to distinguish between waste that is hazardous and waste that can be recycled or used for landfill purposes. In addition, an audit will also make it easier for you to implement changes in your operations whenever regulations change, and you will also be able to assess the impact of regulations more easily.

Solid Waste Item (name)	**Major Source** (place)	**Approx. Amount** (tonnes/ year)	**Back to Market** (tonnes/ year)	**Not back to Market** (tonnes/ year)	**Hazardous** yes/no don't know	**Current Expenditure**	**Reduction Target**
Total* (tonnes/year)	—	*	*	*	—	—	—

* The values are to be entered in the Efficient Entrepreneur Performance Report (see November).

■ Wastewater

Specify the wastewater streams generated by the production processes in your company. This will give a clear picture of possible treatment options such as re-use in the same process or other processes, or possible uses in other places.

Wastewater Stream (name)	**Major source and pollutant** (place/ pollutant)	**Approx. Amount** (m^3/ year)	**Hazardous** (yes/no/ don't know)	**Treatment Cost**	**Treated at site** (m^3/ year)	**Reduction/ Target**
Total	—	*	*		*	—

* The values are to be entered in the Efficient Entrepreneur Performance Report (see November).

■ Effluent/emissions to air

Specify the sources of effluent and emissions to air, and the amount if known, generated by your company. Identify possible treatment options.

Effluent/ Emission (name)	**Source** (process, activity)	**Amount** (tonnes /year)	**Current expenditure**	**Reduction Programme / Target**
Total amount	—	*		—

* The values are to be entered in the Efficient Entrepreneur Performance Report (see November).

Step 4 — review possibilities for reducing, reusing and recycling NPO in your company.

Non-product outputs usually have a value. Identifying problematic areas will help you take the right actions in the right places. Start by answering the questions listed in the following table. The questions are related to solid waste, wastewater and emissions. The questions answered with "no" should be considered as priorities for action. If the answer is "don't know", try to get more information this month so that you can answer either yes or no.

Non-product outputs	**Yes**	**No**	**Don't know**
Are the types and amount of solid waste generated by your company monitored (the quantity produced by each process) ?			
Are the types and amount of wastewater generated by your company monitored (the quantity produced by each process) ?			
Are the emissions and effluents generated by your company monitored (the quantity produced by each process) ?			
Does your company characterise the NPO generates in items of composition and quantity ?			
Does your company segregate and separately store the solid waste materials in designated containers for appropriate disposal and possible reuse ?			
Does your company have a system to reduce, recycle and reuse the solid waste and wastewater generated ?			
Are all drums and containers thoroughly emptied before cleaning or disposal ?			
Do you charge NPO handling expenditure directly to the process generating this NPO ?			
Does your company encourage employees to make suggestions that could lead to a reduction in NPO ?			
Does your company control its emissions by specific technologies ?			

Step5 — determine which opportunities should be given priority.

In the fourth step you identified opportunities where you can reduce NPO. Now you have to home in on those that are easy to implement and which are likely to be the most cost-effective. Use the technical, economical and environmental feasibility forms ①, ② and ③, and the priority finder (form ④) presented in February to determine which opportunities should be given priority.

Step 6 — prepare an implementation plan and take action.

Use form ④ presented in February to list the actions you want to take, allocate responsibilities and set target dates for action. Do not forget to plan monitoring on a daily, weekly, monthly or quarterly basis, as appropriate.

July Assistant

Risk management and prevention

It's the dose that makes the poison !

Step 1 — on a map of your company site, identify areas where risks of accidents and pollution could occur.

Mark on the map emergency exits, fire extinguishers, stores of hazardous materials, places where emergency procedures are in force and areas where worker health and safety could be affected. If you identify a problematic area, consider it as a priority for action.

Risk management and prevention

Step 2 — list accidents and pollution releases that happened in the past.

List past accidents and accidental releases of chemicals. If they were related to a specific process or activity, record the process or activity name in the following table. The reasons for the accidents and accidental releases should be addressed by taking action.

Accident and accidental release	Date	Process/ activity involved	Chemicals involved	Reason

List the names of employees who have been absent from work because of work-related health problems during the past six months. The reasons for work-related health problems should be treated by taking action.

Employee (name)	Position/Location	Number of days absent	Reason for absence

Risk management and prevention

Step 3 — make a list of the chemicals your company uses, and make sure you understand the warnings on the packaging.

The labels of dangerous substances and their meanings are listed in Annex 1.

Chemical	**Amount used** (tonnes/year)	**Labels on the packaging**	**Toxicity of the substance** Toxic	non-toxic
Total amount	*	—		
Amount toxic		—	*	
Amount non-toxic		—		*

* The values are to be entered in the Efficient Entrepreneur Performance Report (see November).

Risk management and prevention

List the chemicals identified in the previous table as toxic compounds in the following table, and find out if non-toxic compounds can be used instead.

■ If you don't know if a substitution is possible, get in touch with environmental chemistry experts, contact your regional cleaner production centre or do a search on the Internet. For further information, see references at the end of the Assistant.

Toxic chemicals	**Reason for choice**	**Possibility of substitution**			
		yes	by which substance?	no	don't know

Step 4 — review company efforts to minimize risks to employees and the environment.

Many efforts have been made all over the world to prevent accidents and reduce chemical risks. You should be part of these efforts! The important thing is to understand the causes of accidents and make the right measurements. Answer the following questions. The questions answered with "no" should be considered as priorities for action. If the answer is "don't know", try to get more information this month so that you can answer either yes or no.

Risk management and prevention

Risk prevention	Yes	No	Don't know
Does your company use water-based materials rather than solvent-based materials ?			
Do you make sure that all containers that house hazardous materials are labelled with the full chemical name (no abbreviations) ?			
Does your company restrict traffic through the chemical storage area in order to reduce spillage and waste ?			
Does your company adopt procedures for mixing chemicals that reduce "drag out" losses ?			
Can materials in store be inspected visually for corrosion or leaks ?			
Does your company regularly eliminate outdated stock or materials in storage ?			
Does your company maintain a history of spills, leaks and accidents ?			
Do employees have trouble locating emergency equipment ?			
Does your company have trained personnel and equipment capable of handling chemical emergencies that your plants might experience ?			
Does your company designate specific and trained persons to handle and mix chemicals ?			
Do people who work with harmful materials wear personal protective equipment ?			
Is the floor of areas where hazardous chemicals are stored made of non-permeable materials to prevent the contamination of soil and groundwater in case of a spill ?			
Do you try to select products that are biodegradable when choosing detergents and cleaners ?			
Does your company encourage employees to make suggestions that could minimize risks ?			
Do you completely avoid the use of banned substances, replacing these with more environmentally friendly alternatives ?			

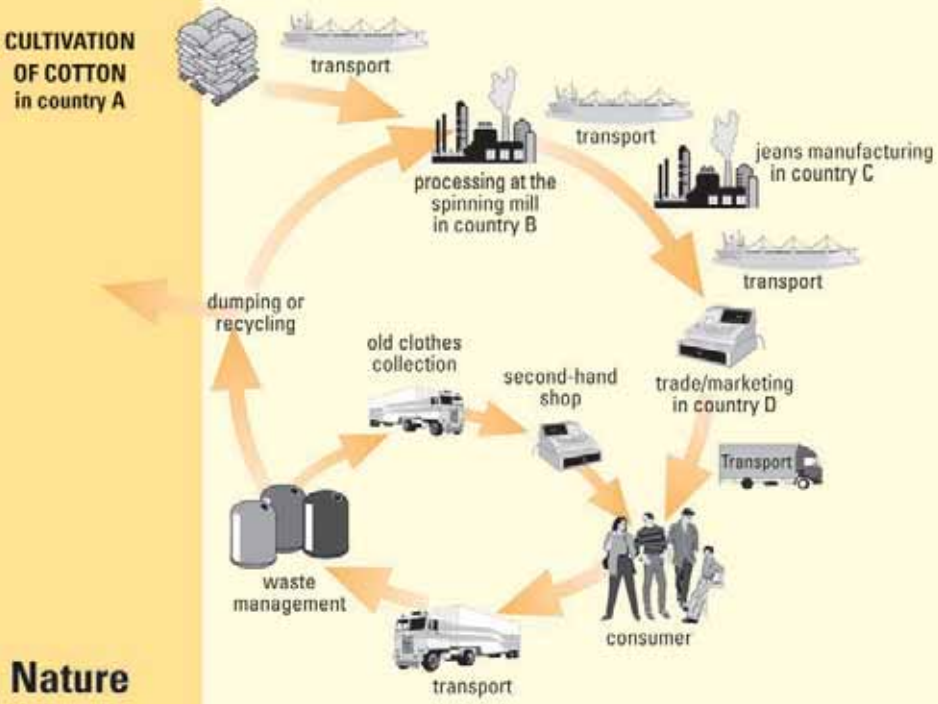
Step 5 — determine which opportunities should be given priority.

In the previous steps you have identified opportunities where you can minimize risks. Now you have to home in on those that are easy to implement and which are likely to be the most cost-effective. Use the technical, economical and environmental feasibility forms ①, ② and ③, and the priority finder (form ④) presented in February to determine which opportunities should be given priority.

Step 6 — prepare an implementation plan and take action.

Use form ⑤ presented in February to list the actions you want to take, allocate responsibilities and set target dates for action. Do not forget to plan monitoring on a daily, weekly, monthly or quarterly basis, as appropriate.

The life cycle of a pair of jeans



August Assistant

Product stewardship

You're a part of the big system !

Step 1 — choose one of your best selling products and draw its life cycle, including the stages that take place outside your company.

An example of a product life cycle (jeans) appears on the opposite page.

Step 2 — evaluate your best-selling product from the life-cycle perspective.

Over the past months you have focused on the environmental aspects related to your company's production processes and activities. You have investigated environmental issues that are related to the manufacture of your products, their packaging and their distribution. However, as you are — as explained in the Calendar — part of a bigger system, it is important to look also at environmental issues in other stages of your product life cycles. Where do you think the main environmental problems associated with your products occur — in stages where you are the main actor or in other stages such as resource extraction or final disposal? Mark these life cycle stages with a cross. If you do not have sufficient information to do this, insert a question mark. Maybe with time you can find out more …

Product Life Cycle Mapping — Product Name: _____

Life cycle stages / Environ-mental aspects	**Raw materials Extraction**	**Manu-facturing**	**Packaging**	**Distribution**	**Use**	**Disposal**	**Other** (define)
Low energy efficiency							
Low materials efficiency							
High water Use							
Hazardous materials in product							
High generation of waste							
High generation of effluents and emission							
High chemical use							
Other (please specify)							

Step 3 — choose one of the stages that seems to cause major environmental problems and think about alternative ways of performing that stage.

Your company can make decisions that influence the inputs and outputs of upstream and downstream stages of the life cycle. Examples of such decisions include:

- ✓ which product(s) to manufacture
- ✓ design of the product(s)
- ✓ types of feedstock to be used
- ✓ sources of supply of the feedstock
- ✓ sources of energy to be used
- ✓ type and amount of packaging
- ✓ management of manufacturing wastes
- ✓ instructions given to users
- ✓ take back or re-use.

Choose one of the stages that seems to cause major environmental problems and list the issues you have marked. Think about possible ways of overcoming the problem or reducing its impact. Informing your suppliers of your environmental concern will also encourage them to find environmentally friendlier alternatives, and so extend the benefits of your initiative up to the supply chain.

Product stewardship

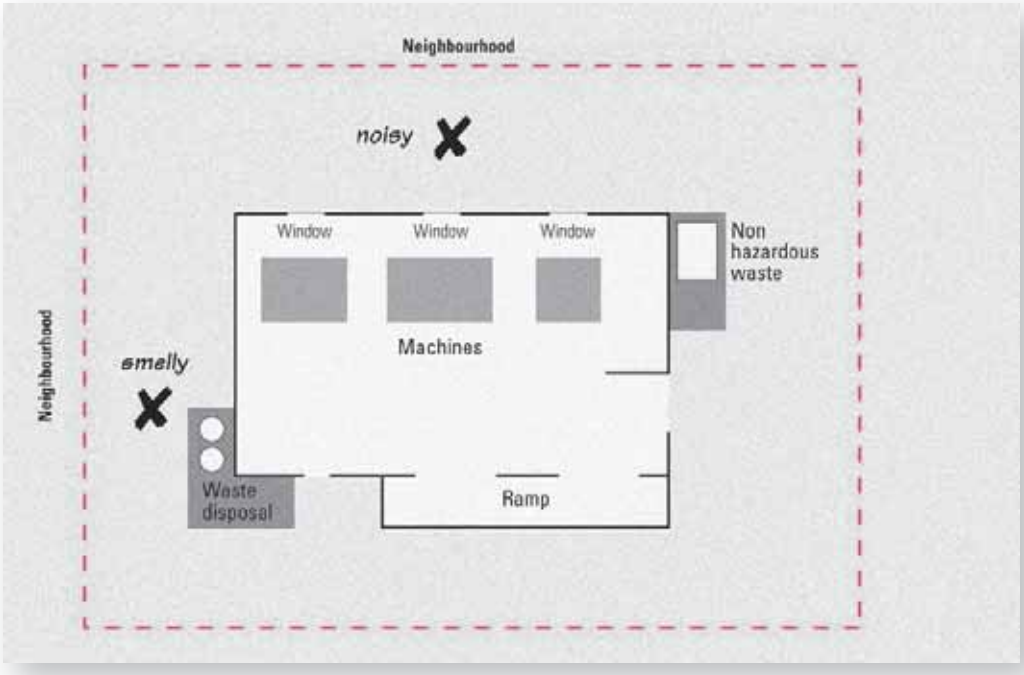
Environmental issues	Action to take

You might also encourage your suppliers to report their environmental impacts in your terms.

■ To do this, pass the Efficient Entrepreneur-Calendar and Assistant on to them !

You will find an order form in the appendix to this handbook (page 68).
Future information is also available on the Internet:
www.efficient-entrepreneur.net

■ Example of a map of your company site with marks indicating neighbourhood impacts.



September Assistant

Community integration

Do you still get a smile from your neighbours ?

Step 1 — draw a map of your company site, extending it 50 metres outside the site itself and mark on it noisy and smelly places.

Answer the following questions related to noise and smell. The questions answered with "no" should be considered as priorities for action. If the answer is "don't know", try to get more information this month so that you can answer either yes or no.

Community integration

Community integration (1) Does your company measure noise levels inside and outside the company ?	**Yes**	**No**	**Don't know**
Are noise protection measures carried out to reduce noise inside and outside your site ?			
Does your company have a programme for identifying smelly places ?			
Are protection measures being carried out to come over the smell inside and outside the location ?			

Step 2 — describe the way your neighbours react to your activities and list any complaints that may have occurred in recent years. In addition, write down the main processes and activities that cause the problems and which action to take to solved it.

Complaints/ Problems	**Processes/activities that cause the problems**	**Possible action to solved the problem**

The following questions will help you to take action to prevent future complaints. The questions answered with "no" should be considered as priorities for action. If the answer is "don't know", try to get more information this month so that you can answer either yes or no.

Community integration (2) Does your company have policies and procedures related to the impacts it makes on the local community ?	**Yes**	**No**	**Don't know**
Does your company invite the local community to visit the plant ?			
Does your company actively seek out to the opinions and activities of environmental groups ?			
Are your neighbours informed of the existence of procedures and evacuation plans that may be needed in case of an incident ?			
Does your company encourage employees to make suggestions that could lead to better relations with the community ?			
Does your company take into account laws on protection of the neighbourhood from such things as waste, noise, radiation and dangerous substances ?			

Step 3 — review your supply and delivery system for one of your top-selling products.

A review of the distance between you and your suppliers and customers will help you quantify the vehicular traffic generated by your activities. The noise and emissions caused by vehicular traffic have an impact on the environment in general and your immediate neighbourhood in particular.

Product name: _____

Input materials (name)	**Origin** (place)	**Distance** (km)	**Means of transport**
Total*			

* The values are to be entered in the Efficient Entrepreneur Performance Report (see November).

List the destination or destinations for one of your top-selling products and note their distances from you as well as the means of transport used.

Product name: _____

Destination (name)	**Distance** (km)	**Means of transport**
Total*		

* The values are to be entered in the Efficient Entrepreneur Performance Report (see November).

Community integration

Answer the following questions to find out if you can reduce vehicular traffic. The questions answered with "no" should be considered as priorities for action. If the answer is "don't know", try to get more information this month so that you can answer either yes or no.

Community integration (3) Are your vehicles equipped with pollution and noise-control devices ?	**Yes**	**No**	**Don't know**
Do you maintain your vehicles regularly ?			
Do you optimize the use of vehicles by combined transport (rail/road; waterways/road)?			
Do you optimize the use of vehicles by selecting the best routes ?			
Do you optimize the use of vehicles by careful loading ?			
Do you avoid delivery trucks returning empty to the production site ?			
Does your company favour locally-produced products ?			
Do you have incentives to encourage employees to use public transport or bicycles ?			

Step 4 — determine which opportunities should be given priority.

You have now identified opportunities for improving your relations with your local community . Now you have to home in on those that are easy to implement and which are likely to be the most cost-effective. Use the technical, economical and environmental feasibility forms ①, ② and ③, and the priority finder (form ④) presented in February to determine which opportunities should be given priority.

Step 5 — prepare an implementation plan and take action.

Use form ⑤ presented in February to list the actions you want to take, allocate responsibilities and set target dates for action. Do not forget to plan monitoring on a daily, weekly, monthly or quarterly basis, as appropriate.

October Assistant

Reviewing progress

Find out where you stand !

Step 1 — summarize your achievements throughout the year.

It is now time to review the success or failure of all the actions you have implemented during the months March to September. The following table will help you evaluate these actions.

Reviewing progress

Month: _____

Actions carried out	**Successful**			
	yes	a little	no	don't know yet

Step 2 — look for the underlying reasons in areas where you are not satisfied with your achievements.

List the actions that have not yet been realized or which were unsuccessful, and record the underlying reasons.

Month: _____

Actions not realized / unsuccessful actions	**Reasons**

Step 3 — discuss what actions can be taken to overcome the underlying reasons.

Choose unrealized or unsuccessful actions that your company would like to implement and identify the additional conditions or actions that are needed to make them successful. Ask around within the company for suggestions !

Actions to realize or be made successful	Conditions needed	Actions to take	Target date

Up to now the evaluation has been focused primarily on company results. It is also important to review the team activities in working with the Calendar and the Assistant. Take some time within the team to discuss the different questions listed below and complete the following form.

Questions related to the Calendar Team activities	Yes	No	If no, why not and how can improvements be made ?
Were the tasks and responsibilities of the team members clearly formulated by the team coordinator ?			
Were different team members able to fulfil their tasks properly ?			
Was the team coordinator able to fulfil his/her tasks properly ?			
Are you satisfied with the communication between the team and management ?			
Did the team get support from management ?			
Are you satisfied with communication between the team coordinator and team members ?			
Are you satisfied with communication between team members ?			
Did the team get support from other employees ?			
The team approach: does it fit in with your company's general management policy ?			

■ General remark: Don't put the results of this evaluation aside !
In December, work for the following year has to be planned,
and the conclusions of this evaluation will be a useful input !

November Assistant

Internal and external communication

Tell everyone the good news

Step 1 — prepare a communication plan that targets the audience you want to reach and the media you want to use.

The primary goal of the Calendar and its Assistant is to help you to identify opportunities for reducing expenditures and improving environmental performance in your company. The primary audiences are thus management and employees. However, customers, authorities, NGOs, investors also have a legitimate interest in your company's performance. Your local community may want the information to reassure itself about the safety of your activities and potential investors may want the information to assure themselves that your firm is a sound investment. Businesses such as yours are facing increasing pressure to act responsibly. Increasingly, stakeholders (your internal and external audience) want companies to provide information about their environmental performance. You can now generate the information you need to satisfy your stakeholders:

Internal and external communication

- Show your lenders, investors and insurers that you have your house in order, and that your business will prosper by reducing risks and minimizing future liabilities;
- Keep your customers' loyalty by showing them you are listening and responding to their concerns and needs;
- Build up the trust of the local community and neighbours, non-governmental organizations, making it easier for you to operate;
- Demonstrate to regulators and the government that you are complying with the law;
- Inform employees about company performance and let them know how they can help improve it; and
- Inform journalists and pressure groups — 'Demonstrate your willingness to communciate and show that you have nothing to hide'.

To reach your stakeholders, make a communication plan so that you inform them in a reliable and consistent way. The communication plan should not be lengthy or complicated but should be based on the considerations listed below. The team coordinator should take responsibility for drafting the plan with the help of the team members.

Issues to consider in the communication plan	**Tick when considered**
Identify your target audience, their needs and expectations.	
Identify the goals you want to achieve by communicating your performance (for example informing employees, build up trust, improving the company image).	
Identify the information you want to communicate.	
Agree upon an internal means of communication (public notice board, staff newsletter, memos).	
Identify the information you need to communicate externally (see step 2 for an example).	
Agree upon an external means of communication (such as an Efficient Entrepreneur Performance Report, information on a web site or leaflets).	
Find out if these communications could contain potentially confidential business information or other sensitive materials, and how these concerns could be managed (on the other side make sure that your company doesn't hide bad performance information).	
Ask yourself whether the information you want to communicate should be evaluated and verified by an independent third party to improve its credibility?	
Determine the budget needed for your communication activities.	
Appoint a responsible person for your communication activities.	
Set a timetable for your communication activities.	
Obtain internal approval.	

Step 2 — produce an environmental performance report.*

* a report form is included in the Assistant.

If you have decided within your communication plan to present information using an environmental performance report, this step will help you to prepare for it. An example of an environmental performance report format is included this month. For reporting on your operational performance you can use the information collected from March to September. The information needed is easy to find — just look for the table rows marked with a "*****" in the different months — these values are to be entered in the Efficient Entrepreneur Performance Report. If the infor-

mation is not yet complete, you can complete it this month or state that you are still working on this performance issue. In future reports include past performance information to demonstrate progress towards targets.

Key steps and considerations for preparing an environmental performance report	**Tick when considered**
1. Plan report framework and content. Important elements are (see example for a recommended Efficient Entrepreneur report): • a signed statement of the CEO, or equivalent senior management person (This demonstrates commitment from the top to the programme.) • a profile of the reporting entity (describe the boundaries — what you have counted and what not) • a product profile • an operational and product performance profile • report on the organizational and management profile (additional) • priorities (some information needed here will be prepared in December)	
2. Gather information and data from the previous months (look for table rows marked with a "*" for putting your operational performance data together).	
3. Write an environmental performance report. Some best practice: • Report the good and the bad news. Explain why targets were not met and what you plan to do to meet them in the future. Build your credibility and reputation by being honest and thinking ahead. • Communicate about issues that are influencing your environmental performance. • Data presentations should be designed so that information is presented in a substantive and clear manner that is accurate, not misleading, and consistent with the technical background of the reader. • The use of graphics can improve your report. However, choose axes, units and colours carefully, and use graphics as a supplement to — not a substitute for — text and narrative disclosure of information. Raw data should accompany all graphical presentations, either alongside or in appendices.	
4. Obtain internal approval for the report.	

Step 3 — spread the good news inside and outside your company.

Put your communication plan into practice. Decide on a distribution strategy for your information. Release the Efficient Entrepreneur Performance Report or publish it on a web site. Think about how the results of your communication can be measured. Invite and actively seek feedback.

The Efficient Entrepreneur PERFORMANCE REPORT

recommended structure

■ Signed CEO Statement

_____

_____

■ Profile of the reporting entity

Company information

Name of company _____

Number of employees _____

Business sectors _____

Nature of markets or
customers served _____

Principal industry and business
association memberships _____

Financial information

Net sales _____ Net profit _____

Report information

Coverage of report _____
(countries, products, divisions, facilities)

_____

Reporting period _____

Significant changes in the reporting time _____
(size, structure, ownership, product/services)

_____

Contact for additional information

Tel/Fax _____

Mail Address _____

E-mail/Internet Address _____

■ Product Profile

Major products/services _____

Volume of products sold _____

New products developed _____

Operational and Product Performance Profile

Energy consumption

Total energy use	=	_____	joules
• Electricity consumed	=	_____	joules
amount purchased	=	_____	joules
amount self-generated	=	_____	joules
• Total fuel use	=	_____	joules
vehicle fuel	=	_____	joules
non-vehicle fuel	=	_____	joules
• Other energy consumed	=	_____	joules

Objectives, programmes and targets regarding energy consumption and progress achieved.

Materials consumption (top 10 materials and products used)

Materials consumption (other than fuel)	=	_____	tonnes or kilograms
• share materials/products which includes more than 50% renewable materials (if known)	=	_____	%
• share materials/products which includes more than 50% recycled materials (if known)	=	_____	%

Objectives, programmes and targets regarding materials consumption and progress achieved.

Water consumption

Total water consumption	=	_____	m^3 or litres
• water for cooling	=	_____	m^3 or litres
• water for production	=	_____	m^3 or litres
• water for cleaning	=	_____	m^3 or litres

Objectives, programmes and targets regarding water consumption and progress achieved.

… Operational and Product Performance Profile

Non-product output (waste, wastewater, emissions)

Total non-product output	=	_____	tonnes or kilograms
• Solid waste	=	_____	tonnes or kilograms
solid waste returned to market	=	_____	tonnes or kilograms
solid waste not returned to market	=	_____	tonnes or kilograms
hazardous waste	=	_____	tonnes or kilograms
• Wastewater			
total amount of wastewater	=	_____	m^3 or litres
hazardous wastewater	=	_____	m^3 or litres
amount of treated wastewater	=	_____	m^3 or litres
• Emissions to air, by type			
(e.g. SO_2, NO_2, NO_x, HCL, CO_2)	=	_____	tonnes or kilograms

Objectives, programmes and targets regarding non product outputs and progress achieved.

Risk management and prevention

List the past accidents and accidental releases where chemicals were involved.

Total chemical consumption	=	_____	tonnes or kilograms
• amount toxic chemicals	=	_____	tonnes or kilograms
• amount non-toxic chemicals	=	_____	tonnes or kilograms

Objectives, programmes and targets to protect workers and the environment and progress achieved.

Product stewardship

Describe major environmental impacts associated with the life cycle of a top-selling product.

_____

_____

_____

_____

Objectives, programmes and targets to extend product stewardship.

... Operational and Product Performance Profile

Community integration

Situation in the neighbourhood _____
list main complaints

_____

Traffic generated to supply input materials

for top-selling product = _____ km driven

Traffic generated
to deliver top-selling product = _____ km driven

Objectives, programmes and targets to improve community integration.

Organzational and Management Profile

In addition, you might include information on, for example:

- organizational structure and responsibilities set up for measuring and improving environmental performance (describe the Calendar team)
- internal communications process about environmental issues
- employee awareness and training programmes launched to improve company performance
- environmental selection criteria for supplier

Priorities

- Give examples of three key accomplishments your company has achieved due the "Efficient Entrepreneur Programme" over the past year (awards, favourable publicity, outside ratings, successful implementation of goals)
- What do you believe are your company's three most important environmental priorities for the next year?

December Assistant

Getting recognition

Keep the ball in play

Step 1 — find out which organizations make relevant awards and apply for them.

Publicity is one of the most effective means of keeping an Efficient Entrepreneur Programme going. Public awareness is being improved through award programmes at local, regional, national and international level. Special awards exist for both environmental performance improvements and for environmental reporting. Part of the Calendar team's responsibilities should include the pursuit of these awards. Local chambers of commerce, governmental environmental departments, energy and water companies, banks and environmental organizations are good sources of further information. Some examples of awards can be found in the references and at www.efficient-entrepereneur.net.

Try to find out which awards fit your achievements … and apply for them.

Step 2 — celebrate your success within the company.

Once you reach the end of the first round of the Efficient Entrepreneur Programme, celebrate, acknowledge and reward those who worked on it. Ceremonies and incentive awards for individuals, teams and departments help motivate those who were involved.

Step 3 — look back at the evaluation results of October and make a list of follow-up activities. Think about how these activities can be implemented in next year's programme.

Take a look at your evaluation results in October. Which of the unrealized or unsuccessful actions do you wish to address next year? Record them in the following list. List other activities that you would like to launch next year to improve your company's environmental performance.

Follow-up activities for the next year	Action to take	Target date

When doing this, you can start to think about goals for the next year. This year, you have had a 'guided tour' along a number of business and environmental issues. If you wish to continue improving performance, you need to set goals. Once you have set your goals, you have a target to reach, and you can work to realize the conditions needed to reach these targets. Goals can be set for one year or over a longer term. They can be specific to a particular environmental issue, such as replacing toxic substances with non-toxic ones, or they can focus on more general items such as improving worker health and safety or improving the company's image among investors.

Discuss within the team and with management possible goals for 2003 and list them, copy the table and provide a copy to every staff member.

Goals for 2003

Congratulations!

You've completed the steps in this booklet and you should now have an Efficient Entrepreneur Programme in place. Don't stop. Stay motivated. Increasing profits and improving the environment is an on-going process. Keep it up!

A Compact for the New Century

At the World Economic Forum, Davos, on 31 January 1999, UN Secretary-General Kofi A. Annan challenged world business leaders to „embrace and enact" the Global Compact, both in their individual corporate practices and by supporting appropriate public policies. This Compact aims to engage the business community in an effort to advance basic values in the fields of human rights, labour and environment.

The Global Compact challenges individual corporations and representative business associations to support and enact a set of nine core values within their sphere of influence and to advocate for a stronger UN organisation in the areas involved. The nine core values are widely accepted in already-existing international agreements. The three environment-related principles of the Global Compact have been taken from the Rio Declaration of the 1992 United Nations Conference on Environment and Development (UNCED). They require business to:

- support a precautionary approach to environmental challenges;
- undertake initiatives to promote greater environmental responsibility; and
- encourage the development and diffusion of environmentally friendly technologies.

UNEP is one of the three key UN agencies involved in the Global Compact, along with the International Labour Organisation (ILO) and the Office of the High Commissioner for Human Rights (OHCHR). UNEP has a tradition of working closely with non-governmental organisations and partners from the private sector. It is doing this with the objective of Agenda 21 and to ensure that they are fully involved in the preparation and implementation of international environmental agreements.

The UN recognises that there is no one way for a company to incorporate the Global Compact principles into its business activities. Rather there are a variety of approaches that can be used, a selection of which are outlined in the Global Compact website, which can be found at www.unglobalcompact.org. Some of the approaches listed on the website represent tools that can be applied to a specific part of a company's activities. Others outline methods that can be applied across a company as a whole. How a company decides which approach to take depends on for example the business sector in which the company is located, its management structure, its outputs, and its stakeholders. The website provides examples of how companies are currently incorporating aspects of the nine principles into their daily business practices.

The Efficient Entrepreneur Calendar for 2003

Herewith I would like to order _____ copies of The Efficient Entrepreneur 2003 in

- ☐ English
- ☐ French
- ☐ Spanish
- ☐ _____ (please check price and available languages on the internet: www.efficient-entreprener.net or email, call or send a fax to the distributer.

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Dear Efficient Entrepreneur user,

Please use the questions and the form below to evaluate the Calendar and its Assistant and to provide us feedback. Be clear and frank , and don't hesitate to suggest improvements.

1. Usefulness of the Calendar and Assistant

a) Did the Calendar and Assistant provide you new ideas for improvements in your company? Yes ☐ No ☐ Don't know yet ☐

Comments: _____

_____

b) Did you improve your environmental performance (e.g. by saving energy, materials or water)? Yes ☐ No ☐ Don't know yet ☐

Comments: _____

_____

c) Did you also manage to reduce expenditures? Yes ☐ No ☐ Don't know yet ☐

Comments: _____

_____

2. Quality of the Calendar and Assistant

How do you rate the quality (understandability) of the Calendar and the Assistant ?

Month	Topic of the month	Calendar page understandability		Assistant section understandability	
January	Introduction, team set up	poor ☐ limited ☐	good ☐ high ☐	poor ☐ limited ☐	good ☐ high ☐
February	Getting started, get an overall picture	poor ☐ limited ☐	good ☐ high ☐	poor ☐ limited ☐	good ☐ high ☐
March	Energy consumption	poor ☐ limited ☐	good ☐ high ☐	poor ☐ limited ☐	good ☐ high ☐
April	Materials consumption	poor ☐ limited ☐	good ☐ high ☐	poor ☐ limited ☐	good ☐ high ☐
May	Water consumption	poor ☐ limited ☐	good ☐ high ☐	poor ☐ limited ☐	good ☐ high ☐
June	Non-product outputs (waste, wastewater emissions)	poor ☐ limited ☐	good ☐ high ☐	poor ☐ limited ☐	good ☐ high ☐
July	Risk management and prevention	poor ☐ limited ☐	good ☐ high ☐	poor ☐ limited ☐	good ☐ high ☐
August	Product stewardship	poor ☐ limited ☐	good ☐ high ☐	poor ☐ limited ☐	good ☐ high ☐
September	Community integration	poor ☐ limited ☐	good ☐ high ☐	poor ☐ limited ☐	good ☐ high ☐
October	Progress review	poor ☐ limited ☐	good ☐ high ☐	poor ☐ limited ☐	good ☐ high ☐
November	Internal and external communication	poor ☐ limited ☐	good ☐ high ☐	poor ☐ limited ☐	good ☐ high ☐
December	Getting recognition, planing for the next year	poor ☐ limited ☐	good ☐ high ☐	poor ☐ limited ☐	good ☐ high ☐

Feedback Form

Your additional comments to the Calendar are welcome: _____

_____

_____

Your additional comments to the Assistant are welcome: _____

_____

_____

3. Your proposals for improvement

What do you miss in the Calendar/Assistant? _____

_____

_____

_____

Where do you need further help? _____

_____

_____

_____

Use additional sheets for additional comments if needed.

Name of company: _____

Products/Services or Sector: _____

Contact address: Internet/E-mail address _____

Tel/Fax _____

Mail address _____

Please send the feedback sheet to:

Michael Kuhndt, Wuppertal Institute, Eco-Efficiency and Sustainable Enterprise Group,
Doeppersberg 19, 42103 Wuppertal, Germany
Fax: +49 202 2492 138 · E-mail: efficient-entrepeneur@wupperinst.org

For more information about the next Calendar and online feedback visit
www.efficient-entrepreneur.net

Labelling of Dangerous Substances

DANGEROUS CHARACTERISTICS	SYMBOL	MEANING
Extremely Flammable (F+)		May readily catch fire after contact with a source of ignition • flash point < 0°C • boiling point < 35°C
Highly Flammable (F)		May readily catch fire after contact with a source of ignition • flash point < 21°C
Flammable		May catch fire after contact with a source of ignition • 21°C < flash point < 55°C
Oxidizing (O)		Increases the intensity of the reaction in the event of a fire and also results in fire spreading very fast; can react very violently with other stored dangerous substances including packing materials and thus trigger spontaneous fire
Very Toxic (T+)		Even in small amounts may cause very serious effects on health or may result in death
Toxic (T)		May cause very serious effects on health or may result in death
Harmful (Xn)		May cause effects on health
Irritant (Xi)		In contact with the skin, eyes, or mucous membranes can give rise to reddening or inflammation
Corrosive (C)		Can lead to pronounced damage to the skin, eyes, and mucous membranes
Dangerous for the environment		Can cause damage to fauna or flora or can cause pollution in natural waters
Explosive		May explode under the effect of heat, shock, friction, or ignition

Source: Occupational Safety and Health Aspects of Leather Manufacture, UNIDO Regional Programme Office, 1999

List of awards

(check www.efficient–entrepreneur.net for updates)

General Environmental Awards

UNEP/ICC Business Award

The Millennium Business Award for Environmental Achievement of the ICC and UNEP was presented the first time in 2000. Entries world-wide are received by ICC national committees, who select two finalists for each country following agreed selection criteria. No type or size of companies are excluded from entering, but the international Selection Committee wishes to recognise companies that are less well known on the international stage. Introducing a broader scope, the 2002 version of the Award will be called "The World Summit Business Awards for Sustainable Development Partnerships".

➜ http://www.icc-environment.org · http://www.iccwbo.org · http://www.uneptie.org

American Marketing Association's Edison Award

Awarded for environmental achievement in reducing environmental impact. Typical strategies include energy efficiency, recyclability, use of recycled content, source reduction, low toxins, reusability and use of renewable resources.

➜ http://www.greenmarketing.com

The Euan P. McFarlane Environmental Leadership Award

Established in 1987 to provide recognition for persons demonstrating initiative, resourcefulness and leadership in promoting conservation and enhancement of the environment in the Caribbean.

➜ http://www.irf.org

The Zayed Prize

To recognize and promote pioneering contributions in the field of the environment. It is presented every two years to individuals, groups of individuals, institutions, organizations, institutes, unions, societies, agencies, private companies and governmental and non-governmental organizations which have found a permanent solution to a specified environmental problem.

➜ Zayed International Prize for the Environment, 504 API World Tower, Sheikh Zayed Road,
P.O. Box 28399, Dubai, United Arab Emirates
Tel: + 971 4 3326666
Fax: + 971 4 3326777
E-mail:zayedprz@emirates.net.ae
http://zayedprize.org.ae

Environmental Reporting Award

The ACCA Environmental Reporting Award Scheme (United Kingdom)

The Association of Chartered Certified Accountants (ACCA) set up the UK Environmental Reporting Awards (ERA) in 1991. Now in its ninth cycle, the Awards aim to support the development of corporate environmental reporting techniques. The ERA has become a major national initiative, reflecting the growth in corporate environmental reporting and increased demand from stakeholders for corporate environmental accountability.

➜ Rachel Jackson, Environmental and Social Issues Manager, ACCA.
29 Lincoln's Inn Fields, London WC2A 3EE
E-mail: rachel.jackson@acca.org.uk
Or Roger Adams
Tel: +44 171 396 5971
Fax: + 44 171 396 5730
http://www.acca.org.uk/res_env_frame.html

The European Environmental Reporting Awards scheme (10 European countries)

The European Environmental Reporting Awards are organized and run by professional accountancy bodies in the United Kingdom, Belgium, Netherlands, Denmark, Germany, France, Finland, Switzerland, Italy and Portugal. The objectives of all the schemes are broadly similar: to identify and reward innovative examples of corporate environmental reporting. By doing so the sponsoring bodies seek to popularize and improve the practice of environmental reporting. The national schemes are open to all organizations — public or private sector — and the winners of the national schemes are automatically entered for the European award.

➜ Rachel Jackson, Environmental and Social Issues Manager, ACCA.
29 Lincoln's Inn Fields, London WC2A 3EE
E-mail: rachel.jackson@acca.org.uk
or Roger Adams
Tel: +44 171 396 5971
Fax: + 44 171 396 5730
http://www.acca.org.uk/res_env_frame.html

AMEEF Excellence Award — Project (Small/Medium Company) for the Australian Minerals and Energy Industries

Awarded for excellence in environmental management in relation to a specific project or programme. Corporations with an average annual sales or turnover of less than US$200 million over the past three years are eligible for this Award.

➜ Elaine Henderson, Executive and Office Assistant, AMEEF, 9th Floor, 128 Exhibition St, Melbourne VIC 3000, Australia
Tel: +61 3 9679 9911
Fax: +61 3 9679 9916
E-mail: elaine@ameef.com.au
http://www.ameef.com.au

The Financial Post Annual Report Awards (Canada)

The purpose is to strengthen corporate reporting in Canada by recognizing the finest financial reporting models. The contest also recognizes leaders in the areas of environmental reporting and corporate governance disclosure. Contestants are drawn from the Financial Post 500 listing.

➜ For more information, contact ellen.cogen@cica.ca.
http://www.cica.ca

The green reporting award (Japan)

The award is dedicated to the best environmental report which clarifies measures taken to reduce environmental impacts and serves as a good communication tool.

➜ For more information, contact ad-dept@toypkeizai.co.jp
http://www.enviroreporting.com

WWF Annual Environmental Report Award (South Africa)

The aim is to recognize the highest commitment to environmental conservation as reflected by the corporate environmental report produced each year, and thus set a standard of excellence for others to follow.

➜ Research Facilitation Services, P.O. Box 24022, Claremont 7735
Tel/Fax: +021 762 7581
E-mail: lys@iafrica.com
http://www.saep.org/subject/business/1997_Env_Report_Award.html

References

(check www.efficient –entrepreneur.net for updates)

Environmental Guides for SMEs

Good Housekeeping Guide for Small and Medium-Sized Enterprises

The Good Housekeeping Guide is part of P3U, a Pilot programme for the Promotion on environmental management in the Private sector of developing countries. Complete checklists are included on energy, waste, materials storage and handling, water, wastewater, and working place safety and health protection.

➜ P3U - Dr Edith Kürzinger, Project leader, GTZ Dag-Hammarskjöld-Weg 1-5, 65760 Eschborn, Germany
Tel: +49 228 60 47 1 13
E-mail: gtzp3u@aol.com
http://www.gtz.de/p3u/english/WorkingPapers2.htm

Eco-efficiency in Small and Medium Enterprises

This is a study that covers research among eight industrial sectors. The research was conducted under the funding and direction of the Asia Pacific Economic Co-operation (APEC). The result is a set of eight manuals and a final report. Each manual provides guidelines for identifying opportunities for reducing expenditures and improving environmental performance.

➜ http://www.ecomz.com/apec/012.html

Eco Management Guide

This guide is targeted at SMEs in the European Union to help them incorporate environmental management into their day-to-day practices. 1995.

➜ Thames Valley European Information Centre, Commerce House, 2-6 Bath Road, Slough Berkshire SL1 3SB, United Kingdom

Environmental Management in Small Scale Industry

This handbook is targeted specifically at SMEs in developing countries, and aims to help them incorporate environmental management into their daily operations. F90-073-4, 1990.

➜ Swedish International Development Authority, S-10525 Stockholm, Sweden
Tel: +46 8 698 5061
Fax: +46 8 204 731

EUROMANAGEMENT-Environment MANUAL

Within the framework of the European Union EMAS project, more than 140 companies all over Europe were guided to a successful validation of their environmental management system by means of a method developed by ZENIT and Yellow Window. The results of this project are described in the Model Manual Eco Audit for Small and Medium-Sized Enterprises. This manual includes a practice-orientated guideline for the implementation of the eco-audit as well as a variety of tested model instruments.

➜ Werner Pfeifenroth
Tel.: +49 208 30004 48
E-mail: pf@zenit.de
http://www.zenit.de/english/emas.html

Environmental Action Pack for Hotels

This UNEP manual (Technical Report No. 31) provides practical guidelines and checklists to improve the environmental performance in the Hotel sector.

➜ United Nations Environment Programme, Division of Technology,- Industry and Economics
39–43, quai André Citroën, 75739 Paris Cedex 15, France
Tel: +33 1 44 37 14 50
Fax: +33 1 44 37 14 74
http://www.unepie.org

Life Cycle Design, A Manual for Small and Medium-sized Enterprises, 1997

This manual provides practical guidelines and checklists for the environmental improvement of products and processes. It gives information at various levels of engagement and for different stages of the product development process.

➜ Behrendt, S. et al., 1997, Springer, New York

A Business Guide to Pollution Prevention, 1998

A Business Guide to Pollution Prevention was prepared by the Idaho Division of Environmental Quality to help businesses reduce the waste they produce. This manual is designed to provide technical assistance to businesses seeking ways to reduce all types of waste — including hazardous waste, air emissions, water discharges, and solid waste — whether regulated or not. It is also designed to help identify opportunities to conserve resources such as energy and water.

➜ Phil Bandy, Pollution Prevention Program
Tel: +208 373 0502
E-mail: pbandy@deq.state.id.us
http://www2.state.id.us/deq/ptwo/p2_1.htm

■ Environmental Reporting Information Sources

CERES Report Standard

The Coalition for Environmentally Responsible Economies (CERES) composed this standard report form and a help guide for companies to identify and report significant environmental issues.

➜ CERES, 11 Arlington Street, Boston, MA 02116-3411 United States
ceres@igc.apc.org
Fax: + 1 617 267 5400
http://www.ceres.org/reporting/index.html

Global Reporting Initiative, "Guidelines on Corporate Sustainability Reporting", June 2000

The Global Reporting Initiative guidelines are intended to provide a commonly accepted and harmonized format for corporate sustainability reporting, providing balanced information of a company's environmental, social and economic performance.The Global Reporting Initiative or GRI is convened by CERES and UNEP.

➜ Global Reporting Initiative, 11 Arlington Street, Boston, MA 02116-3411 United States
Fax: + 1 617 267 5400
E-mail: gri@globalreporting.org
http://www.globalreporting.org

Company Environmental Reporting, A measure of the Progress of Business and Industry Towards Sustainable Development, UNEP and SustainAbility 1994

This report demonstrates how companies can use environmental reporting as a tool for building dialogue and cooperation with their various partners, employees, shareholders, bankers, customers, neighbours, environmental groups and governmental officials. The report highlights a number of ingredients for reporting that decision-makers in industry might wish to consider when initiating or pursuing environmental reporting and publishing an environmental report as part of this process.

➜ United Nations Environment Programme, Division of Technology, Industry and Economics
39–43, quai André Citroën, 75739 Paris Cedex 15, France
Tel: +33 (1) 44 37 14 50, Fax: +33 (1) 44 37 14 74
http://www.unepie.org

The International Corporate Environmental Reporting Site

The internet site pays attention to corporate environmental reporting (CER), environmental performance measuring and accounting, and also to issues such as "the relation between financial institutes and the environment" and "the relation between environmental performance and shareholder value/ financial results". The site offers a section with international news, a full Web directory with links to all information related to CER that can be found on the Web, a Gallery of Awards with an overview of all Awards Schemes for CERs all over the world.

➜ email: info@enviroreporting.com
http://www.enviroreporting.com

Eco-efficiency indicators and reporting, WBCSD

The World Business Council for Sustainable Development's working group on eco-efficiency and reporting developed a guideline for eco-efficiency indicators, published in June 2000.

➜ World Business Council for Sustainable Development
Tel: +41 22 839 31 00
Fax: +41 22 839 31 31
E-mail: info@wbcsd.ch
http://www.wbcsd.ch/ecoeff1.htm

■ Further references/SME supporting organizations

Cleaner Production: A Guide to Sources of Information

This UNEP DTIE publication provides an extensive listing of available cleaner production information sources, many of which are specifically targeted at SMEs.

➜ SMI (Distribution Services) P.O. Box 119 Stevenage, Hertfordshire SG1 4TP, United Kingdom
Fax: +44 1438 748844

Resource-productivity in Small and Medium Enterprises

The Factor 10 Institute, the Factor 10 Innovation Network and the Society Factor 4+ provide practical support (guidelines, workshops, conferences) for achieving significant advances in resource productivity in the production and consumption sectors through: 1) the design of eco-efficient logistic systems, processes, and services; 2) the development of dematerialized products, services, buildings, and infrastructures with high resource productivity; 3) appropriate marketing strategies, maintenance, recycling and disposal of goods and 4) enhancing consumer information on the environmental quality of products and services.

➜ Factor 10 Institute, F. Schmidt-Bleek, President, La Rabassière, Carrère des Bravengues, 83660 Carnoules, France
Tel/Fax ++33 494 332458
e-mail: mail@factor10-institute.org, http://www.factor10-institute.org/

➜ Factor 10 Innovation Network, Dr. Willy Bierter, Schulgasse 2, CH-4304 Giebenach, Switzerland
Tel: +41-61-811-4988, Fax: +41-61-811-5144
e-mail: bierter@bluewin.ch

➜ Society Factor 4+, Christopher Manstein, Messeplatz 1, 9021 Klagenfurt, Austria
Tel: ++43-463-56800-35, Fax: ++43-463-56800-29
e-mail: manstein@ktn-messen.co.at, http.//www.faktor4plus.at

Greening of Small and Medium Sized Firms: Government, Industry and NGO Initiatives

This document is a bibliography of available resources on SME targeted initiatives, primarily in the United States though it also covers Europe and Canada.

➜ Massachusetts Toxic Use Reduction Institute, University of Massachusetts, Lowell,
One University Avenue, Lowell Massachusetts 01854-2881, United States
Tel: +1 508 934 3275
Fax: +1 508 934 3050

The International Network for Environmental Management (INEM)

The main task of INEM is the promotion, development, dissemination and application of principles and methods of environmental management, as well as the creation and support of business associations for environmental management worldwide. INEM places special emphasis on SMEs, as well as developing countries and Central and Eastern Europe, and partnerships among business, local authorities and academic/research institutions.

➜ Dr Zadok S. Lempert, Executive Director, Osterstrasse 58, 20259 Hamburg, Germany
Tel.: +49 40 4907 1600
Fax: +49 40 4907 160
e-mail: info@inem.org
http://www.inem.org

EU DGXXIII, The SME Initiative

The page describes a project focused on SMEs to address seven priority areas including promotion of the environment and rational energy use.

➜ http://europa.eu.int/en/comm/dg23/guide_en/smeinit.html

EMAS helpdesk

An initiative of DG Environment of the European Commission. The mission of the helpdesk is to provide you with reliable information on EMAS.

➜ http://europa.eu.int/comm/environment/emas

Solutions to Pollution: An Environmental Review and Education Programme

This report summaries the experiences of a pilot project that was carried out in 12 local areas in Australia and focused on helping SMEs identify and resolve pollution problems within their companies.

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Industrial and Technological Information Bank (INTIB)

INTIB is the United Nations Industry and Development Organization's (UNIDO) clearinghouse. It contains information on cleaner production, clean technology and industrial energy-saving efforts.

➜ http://www.unido.org

■ Others (you might want to add)

Further information on the Internet

(check www.efficient–entrepreneur.net for updates)

March — Energy consumption

■ http://www.eia.doe.gov
The Energy Information Administration provides information on all energy-related activities such as heating systems, heating fuel, air conditioning, appliances and energy consumption in general.

■ http://business.software-directory.com
Energy consumption and economic analysis — EN4M, it provides software that can be used for consumption and economic analysis. The calculations can be based on monthly or yearly consumption for buildings. It is also gives options for saving energy.

■ http://energy.er.usgs.gov
Provides information on some environmental effects of increased energy utilization in the 21st century.

■ http://www.eco-action.org
Provides information on renewable energy alternatives.

■ http://www.ornl.gov
Describes technologies to make buildings, industries and transportation more energy efficient and less harmful to the environment.

April — Materials consumption

■ http://www.nap.edu
This is a complete book on the web, covering many different subjects, one of which is materials consumption.

■ http://jordansystems.com
Provides information on many aspects of the use of materials.

May — Water consumption

■ http://www.ebmud.com
Provides information on water operations, water conservation and water reclamation.

■ http://www.detr.gov.uk
Provides information on the water inspectorate, water conservation, water quality and the water industry in the United Kingdom.

June — Non-product output

■ http://sws-inc.com
Provides information on solid waste management and some ideas about reductions, reuse and recycling.

■ http://www.ces.ncsu.edu
Provides information about water quality and waste management.

■ http://www.rfu.org
Monitoring pulp mill discharges into the air. The site gives information on air emissions and regulating air emissions.

Further information on the Internet

July — Risk prevention

■ http://www.scorecard.org
A scorecard provides detailed information on more than 6800 chemicals. You can search for information by typing in the chemical's name (or any common synonym) or the chemical's standard identification number (Chemical Abstracts Service or CAS registry number).

■ http://prs.us.ohio-state.edu
This Ohio State University site provides information on hazardous materials handling.

■ http://www.pnl.gov
Pacific Northwest National Laboratory site that gives information on the biological effects of chemicals, emergency management and work place hazards.

■ http://www.energyres.com.au
An Energy Resources of Australia Ltd site which gives general information on environment, health and safety, especially on materials handling.

■ http://nattie.eh.doe.gov
Provides general information on environment, health and safety through questions and answers on toxicity and other characteristics. These include identification of hazardous waste and management of waste in storage.

August — Product stewardship

■ http://themes.eea.eu.int follow link "Environmental management and practices"
The downloadable publication Life Cycle Assessment (LCA): Environmental Issues Series No. 6, together with a meta-database containing information sources, is a simple to read and practical guide for businesses and industries.

■ http://www.leidenuniv.nl/interfac/cml/lcanet/hp22.htm
LCANET is the European Network for Strategic Life-Cycle Assessment (LCA) Research and Development.

September — Community integration

■ http://www.env.qld.gov.au
Includes information on environmental planning, policy and economics, sustainable production, clean air and water, minimal noise and waste, conserving all forms of life on land and in the water, nature-based recreation and business, and cultural heritage.

■ http://www.canterbury.gov.uk/environment/quality/noise
Provides information on noise pollution, and how to deal with the noise complaints.
More information is available on domestic, industrial, and construction noise pollution.

■ http://www.epa.nsw.gov.au/soe/97/ch1/15_3.htm
This New South Wales Environmental Protection Authority site provides information on the definition of noise pollution, the effect of noise, the major sources of noise, and noise control measures.

■ http://www.lhh.org/noise/facts/index.htm
Provides information on the relation between noise and health, noise in the work place, and how to handle the noise complaints.

The Assistant to The Efficient Entrepreneur Calendar is designed to provide you with practical information on how to execute the actions suggested in the Calendar itself. The Assistant — like the Calendar — will also help you to identify opportunities for reducing expenditures and improving environmental performance in your company. This can be achieved through energy and water savings, reductions in raw materials, improved waste management, reduced pollution, reduced fees and penalties, and improved worker health and safety.

" … let's choose to unite the powers of markets with the authority of universal ideals. Let us choose the reconcile the creative forces of private entrepreneurship with the needs of the disadvantaged and the requirements of future generations …"

KOFI ANNAN, UN SECRETARY-GENERAL

" It's not just desirable for business to get involved in the quest for sustainability, it is essential… those pioneering the shift to resource productivity and cleaner production today understand that most people around the world want companies to do more to improve the environment …"

KLAUS TÖPFER, UNEP EXECUTIVE DIRECTOR,
WORLD ENVIRONMENT DAY, 5 JUNE 2000

"From a barrel of oil or a ton of soil we want to get at least fourth as much usage. Then we can double wealth and at the same time halve the consumption of nature."

ERNST-ULRICH VON WEIZSÄCKER
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