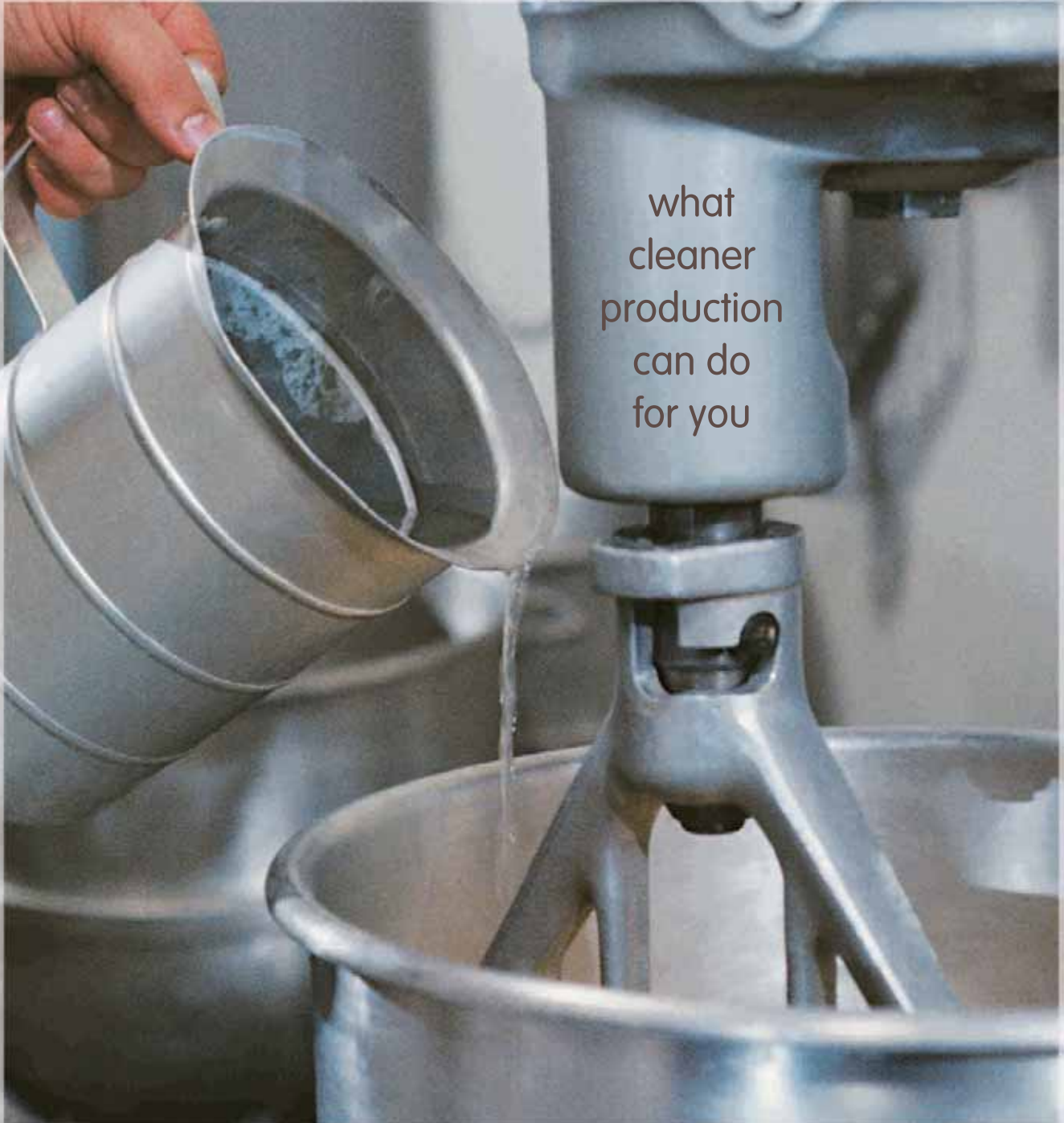


# The Efficient Entrepreneur

A calendar for small and medium-sized enterprises



what  
cleaner  
production  
can do  
for you

a month-by-month guide to increasing  
profits and improving the environment



United Nations Environment Programme

Science Centre  
North Rhine-Westphalia  
Institute of Work  
and Technology



Institut für  
Culture Studies  
Wuppertal Institute for  
Climate, Environment,  
Energy

Sponsored by:

# What will you achieve this year?

a cleaner production programme that will earn you money and recognition

## Are you interested in ...

- reducing costs
- increasing productivity
- improving your company image
- keeping your customers satisfied
- having happy and motivated employees
- reducing risks
- protecting the environment



January



February



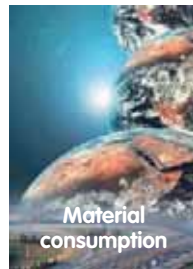
March

## ... this is the programme for you.

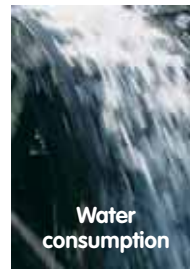
Learn how to measure and improve your environmental performance month by month,

from March to September, by:

- reducing your consumption of energy, materials and water
- cutting out waste
- improving health and safety
- understanding the life cycle of your products
- integrating better with your local community



April



May



June

In October, assess your progress

In November, report on your achievements internally, and to your customers, investors, insurers and bankers

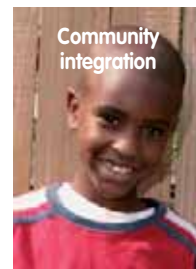
In December, keep the ball rolling — prepare for 2002



July



August



September

## Getting started

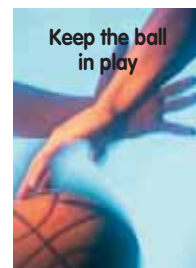
- build a team — look in the Assistant for help
- tell people in your company that you will start the environmental performance programme
- start networking — find out what other people in your area and organizations are doing



October



November



December



**January**  
The Efficient Entrepreneur



# A clean finish...



... for your business  
and for the environment

■ Your business faces the same challenges as other businesses in a changing world — how to use limited resources (such as money and staff) to maximize returns. Improving environmental performance will help you identify new opportunities and devise creative strategies to optimize your resources.

Improving environmental performance can save money — sometimes a lot of money. Many such improvements make substantial returns on investment and have short payback periods. Savings come mainly from reducing the costs of waste disposal, cutting bills for materials and improving operating efficiency. To increase your profits and improve your environmental performance, use this calendar as a guide.

**February:** get the overall picture — this will give you an idea of the environmental issues that affect your business and what is your current environmental performance

**March to September:** measure and improve your environmental performance in each area — learn how to:

- review your current situation and identify opportunities
- determine which opportunities should be given priority
- prepare an implementation plan and take action

**October:** review progress — evaluate your projects and the programme

**November:** tell your story — to those inside the company and those outside it, such as your customers, suppliers, insurers and bankers

**December:** keep the ball rolling — maintain the environmental performance programme so it will continue to grow and benefit the company



**February**  
The Efficient Entrepreneur



# Saving energy is in your hands

■ Light bulbs waste energy — only five percent of their energy input is converted to light. Many companies work the same way. How about yours? Production processes often generate a lot of heat that could easily be rechannelled into the production process and put to good use. That makes sense — and it pays off, too, both for your business and for the environment.

## What you should know about energy consumption

Energy is a major expense for nearly all companies. One reason is that you pay for it twice: first, when you buy electricity or fuel; and secondly when you have to pay for the cost of dealing with emissions released into the air. Take a good look at your electricity and fuel bills. You can easily cut them by 10 percent without any major investment. All it takes is efficient energy management.

## Measure and improve your performance

- Step 1 review your production processes to find out where you can save energy
- Step 2 review your company's other activities to find out where you can save energy
- Step 3 review your company's total energy use
- Step 4 determine which opportunities should be given priority
- Step 5 prepare an implementation plan and take action

## Actions to take

- see to it that machines and equipment are turned off when not in use
- check the insulation of your company buildings
- find out whether your company can recover heat from production or cooling for heating or other purposes
- keep transport use to a minimum

Responsible person:

Energy Consumption



**March**  
The Efficient Entrepreneur



# Making do with one planet —

## save on raw materials

■ Modern, industrial economies use up to 85 tonnes of natural resources per person per year — the equivalent of 300 filled grocery bags per person per week. If everyone in the world did the same, we would need four planets, not just one. Obviously, things can't go on like that. And your company can help see to it that they don't by conserving materials and resources.

### What you should know about material consumption

You have to know what you're consuming before you can start using raw materials more efficiently and cutting costs. Routine maintenance can reduce loss of raw materials through leaks and spills — often a small improvement can increase product yield and improve quality. By reducing wasteful use, and by steering production toward durable goods that are easy to reuse, remanufacture or recycle, companies like yours can do the environment a lot of good.

### Measure and improve your performance

- Step 1 review your production processes to find out where you can save raw materials
- Step 2 review your company's other activities to find out where you can save raw materials
- Step 3 review your company's total use of raw materials
- Step 4 determine which opportunities should be given priority
- Step 5 prepare an implementation plan and take action

### Actions to take

- consider environmental aspects when choosing and buying raw materials
- ensure that all materials are handled and stored correctly
- review production processes regularly to avoid raw material losses
- take back used products and parts so that they can be re-integrated in the production process



Responsible person:

Material Consumption



April

The Efficient Entrepreneur



# Water works for you

- Without water, there would be no life. And the same applies to most companies. Take the textile industry. It takes about 10 000 litres of water to produce a pair of jeans. That's roughly how much water it takes to grow the cotton, to make the fibre, the zip and the buttons plus the water used in actual production.

## What you should know about water consumption

Water is not available in unlimited quantities. That's why it's important to pay attention to water consumption. And companies can save a lot of money by conserving water. For example, a company that produces office furniture saved US\$ 20,000 a year by investing only US\$ 15,000 in equipment to treat the water it used for production.

## Measure and improve your performance

- Step 1 review your production processes to find out where you can save water
- Step 2 review your company's other activities to find out where you can save water
- Step 3 review your company's total water consumption
- Step 4 determine which opportunities should be given priority
- Step 5 prepare an implementation plan and take action

## Actions to take

- check pipes, valves and taps regularly for leaks and make necessary replacements or repairs
- look for ways to reduce water consumption by reusing water
- check production processes that use substantial quantities of water and find out whether you could achieve the same results with less water
- if possible, adapt your plant to use rainwater

Responsible person:

Water Consumption



May

The Efficient Entrepreneur



# You pay at least 3 times

## for waste products

■ Everything from scrap and solid waste to contaminants in wastewater and emissions to the air are non-product outputs — or NPO — and they cost you dearly. First you pay for the raw materials of which they are made. Then you pay for the processing which provides you with both products and NPO. Then you have to pay a third time for disposing of your NPO.

### What you should know about NPO

You may find it hard to believe but NPO typically adds up to 30–50 percent of total industrial output by weight. That means that 30–50 percent of your output doesn't earn you a thing. In fact, NPO usually represents 5–15 percent of a company's total operating costs. So it makes good business sense to take a hard look at NPO.



#### Measure and improve your performance

- Step 1 pin-point those areas where waste is produced – it's often a good idea to make a map that shows all sources of waste
- Step 2 pin-point those areas where effluents and emissions are released on the map made in Step 1
- Step 3 identify the NPO generated by your company

- Step 4 review possibilities for reducing, reusing and recycling NPO in your company
- Step 5 determine which opportunities should be given priority
- Step 6 prepare an implementation plan and take action

#### Actions to take

- buy components that minimize waste
- avoid NPOs by redesigning production processes
- sort waste according to its nature and toxicity, for reuse or recycling
- make sure that packaging received from suppliers is returned or reused

Responsible person:

Non-Product Output



June

The Efficient Entrepreneur



# It's the dose that makes the poison



■ Without proper safeguards, toxic substances can affect the health of your employees or the public at large, and damage the environment. How much do you know about the dangerous goods and toxic substances used by your company?

## What you should know about toxic chemicals

Some chemicals are acute poisons. Others have insidious, chronic effects when ingested for long periods in small doses. Some are destroyed in the environment almost immediately. Others, such as heavy metals and the persistent organic pollutants (POPs), can linger for years and travel thousands of kilometres.

Using fewer toxic materials is a first priority. Fewer leaks and spills will reduce exposure for workers, visitors and contractors, and decrease the need to wear protective equipment. Better worker safety means improved labour relations and reduced insurance rates. Fewer releases outside the factory reduces risks to the public and the environment.

## Measure and improve your performance

- Step 1 on a map of your company site, identify areas where risks of accidents and pollution could occur
- Step 2 list accidents and pollution releases that happened in the past
- Step 3 make a list of the chemicals your company uses, and make sure you understand the warnings on the packaging
- Step 4 review company efforts to minimize risks to employees and the environment
- Step 5 determine which opportunities should be given priority
- Step 6 prepare an implementation plan and take action

## Actions to take

- set company goals to reduce and eliminate the use and release of potentially harmful chemicals
- prevent hazards by effective design of job or job site
- where prevention is not feasible, control hazards to minimize exposure and protect employees
- develop an emergency response plan

Responsible person:

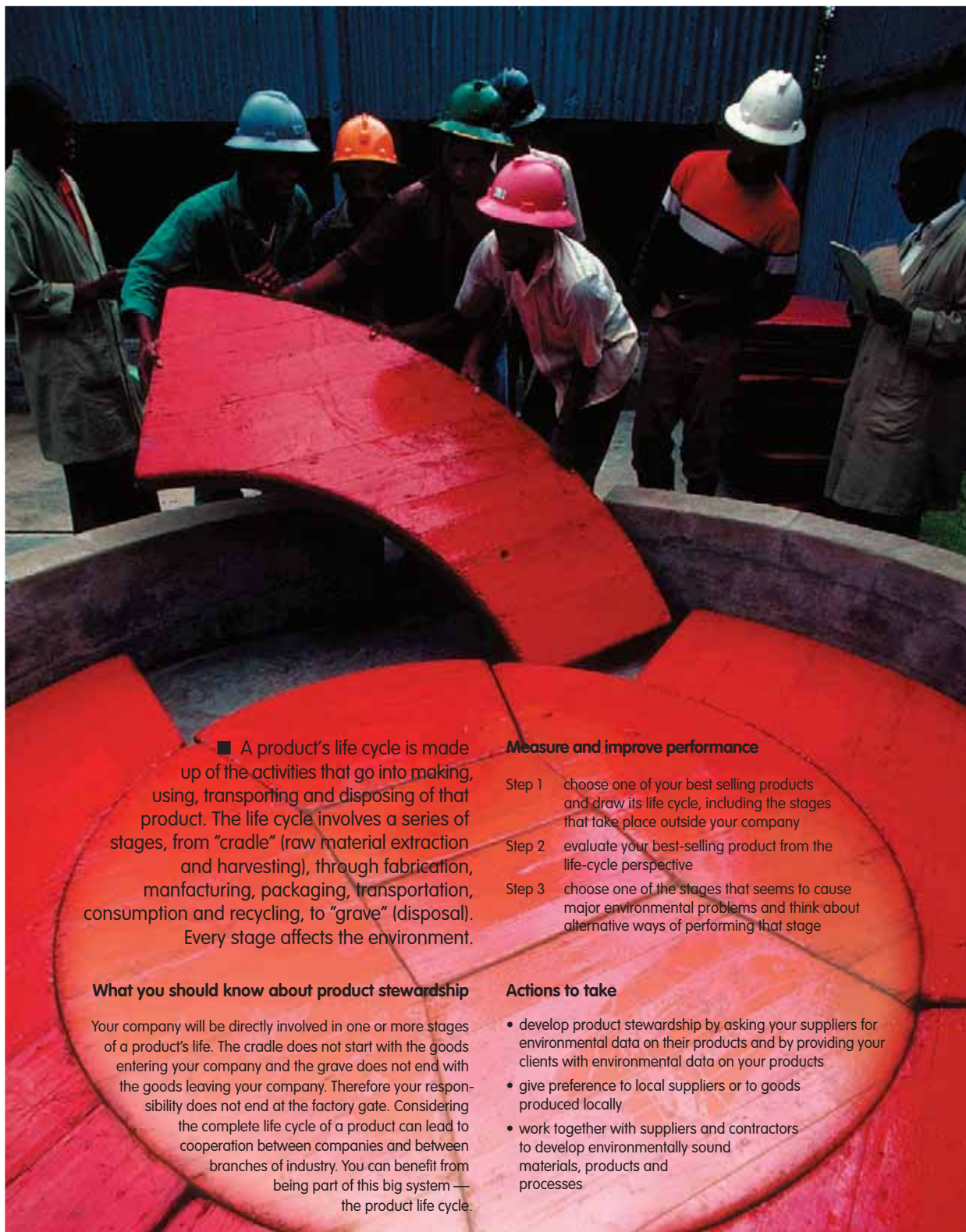
Risk Management and Prevention



**July**  
The Efficient Entrepreneur



# You're part of the big system



■ A product's life cycle is made up of the activities that go into making, using, transporting and disposing of that product. The life cycle involves a series of stages, from "cradle" (raw material extraction and harvesting), through fabrication, manufacturing, packaging, transportation, consumption and recycling, to "grave" (disposal). Every stage affects the environment.

#### What you should know about product stewardship

Your company will be directly involved in one or more stages of a product's life. The cradle does not start with the goods entering your company and the grave does not end with the goods leaving your company. Therefore your responsibility does not end at the factory gate. Considering the complete life cycle of a product can lead to cooperation between companies and between branches of industry. You can benefit from being part of this big system — the product life cycle.

#### Measure and improve performance

- Step 1 choose one of your best selling products and draw its life cycle, including the stages that take place outside your company
- Step 2 evaluate your best-selling product from the life-cycle perspective
- Step 3 choose one of the stages that seems to cause major environmental problems and think about alternative ways of performing that stage

#### Actions to take

- develop product stewardship by asking your suppliers for environmental data on their products and by providing your clients with environmental data on your products
- give preference to local suppliers or to goods produced locally
- work together with suppliers and contractors to develop environmentally sound materials, products and processes

Responsible person:

Products Stewardship



## August

The Efficient Entrepreneur



# Do you still get a smile

from your neighbours?



■ Once you have a good overview of your company site, you'll be able to determine how well your company is integrated with the community. Take a hard look at the effect your company activities have on your immediate neighbourhood and your residential neighbours.

### What you should know about community integration

A precise description of your site in terms of noise, smell and the traffic generated by your activities will let you determine the impact your company has on the environment in general and your immediate neighbourhood in particular. All these factors represent expenses that can be reduced and in many cases even avoided entirely.

### Measure and improve your performance

- 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
- Step 2 describe the way your neighbours react to your activities and list any complaints that may have occurred in recent years.
- Step 3 review your supply and delivery system for one of your top-selling products
- Step 4 determine which opportunities should be given priority
- Step 5 prepare an implementation plan and take action

### Actions to take

- prepare an emergency response plan for and with the community
- reduce noise levels inside and outside your company
- describe your actions to your neighbours and get their feedback
- reduce dependence on distant suppliers

Responsible person:

Community Integration



**September**  
The Efficient Entrepreneur



# Find out where you stand

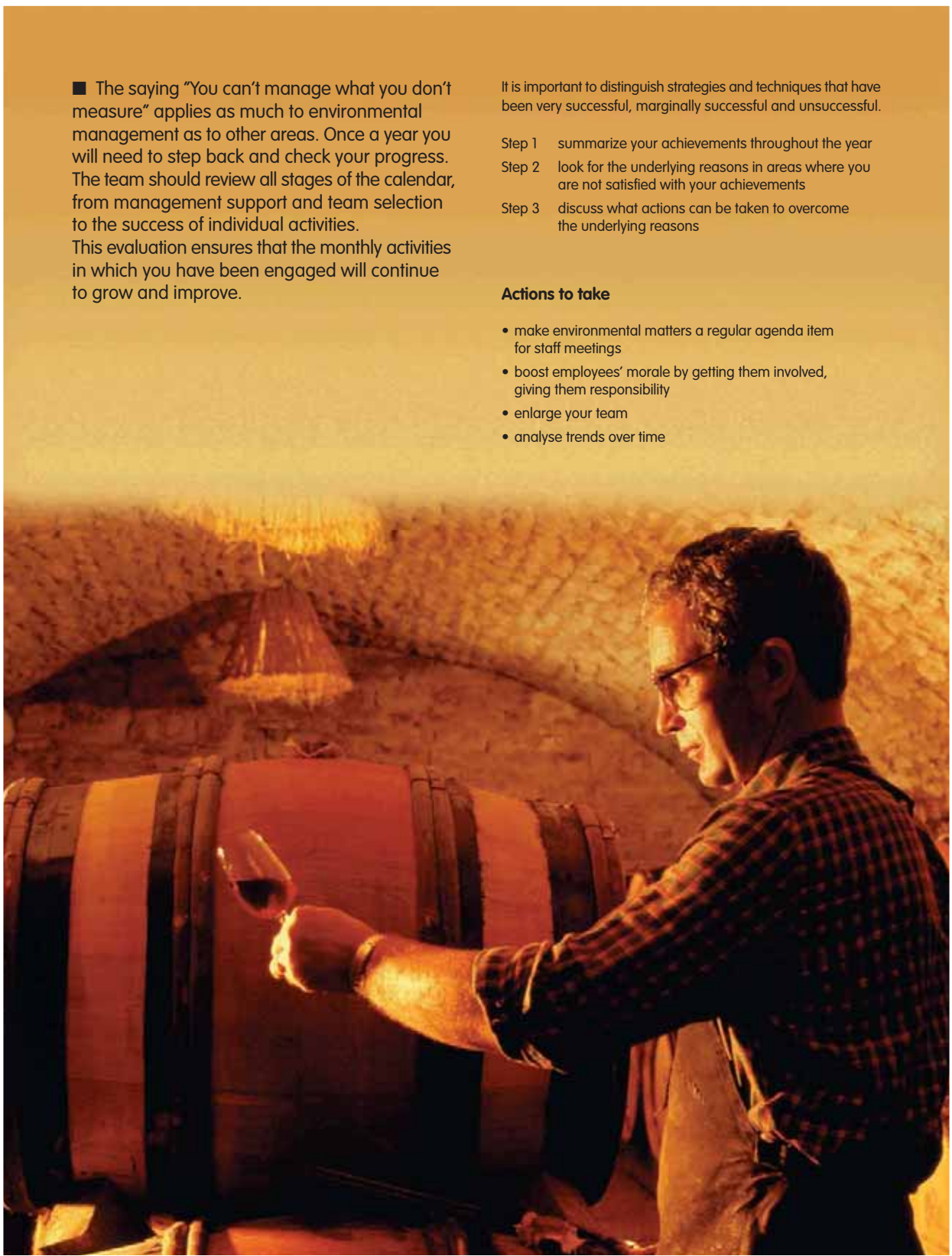
■ The saying “You can’t manage what you don’t measure” applies as much to environmental management as to other areas. Once a year you will need to step back and check your progress. The team should review all stages of the calendar, from management support and team selection to the success of individual activities. This evaluation ensures that the monthly activities in which you have been engaged will continue to grow and improve.

It is important to distinguish strategies and techniques that have been very successful, marginally successful and unsuccessful.

- Step 1 summarize your achievements throughout the year
- Step 2 look for the underlying reasons in areas where you are not satisfied with your achievements
- Step 3 discuss what actions can be taken to overcome the underlying reasons

#### Actions to take

- make environmental matters a regular agenda item for staff meetings
- boost employees’ morale by getting them involved, giving them responsibility
- enlarge your team
- analyse trends over time



**October**

The Efficient Entrepreneur



# Tell everyone the good news

■ Your “month by month” improvements are important information to people both inside and outside your company. Any reduction in energy, materials or water consumption is a gain to your employees, your customers, the community and the environment — and this news should be publicized. Cost savings, waste reductions and improved health and safety conditions also make good news.

Communicate that you have your house in order, that you are fit for ISO 14 000, that you are an environmental leader in the supply chain. Tell people that you are environmentally responsible, that you take your liabilities seriously.

Bulletin boards, newsletters and memos can help you to communicate your achievements. An environmental report can be an excellent public relations tool. News releases, printed shopping bags, posters, conferences and demonstrations are also effective tools.

- Step 1 prepare a communication plan that targets the audience you want to reach and the media you want to use
- Step 2 produce an environmental performance report — a report form is included in the Assistant.
- Step 3 spread the good news inside and outside your company

#### Actions to take

- identify the information you want to communicate
- set a timetable for your communication activities



# Keep the ball in play

## ■ Congratulations!

You've completed the steps in the calendar and made many improvements. Don't stop now. Increasing profits and improving the environment is an on-going process. Keep it up.

## Celebrate and reward success

To motivate yourself for the next year, celebrate and reward your success. Look for award programmes at local, regional and national levels. Industry associations and other organizations also recognize significant contributions. Part of the calendar team's responsibilities should be to pursue these awards. Ceremonies and incentive awards for individuals, teams and departments help to motivate your employees to start again with renewed enthusiasm next year.

- Step 1 find out which organizations make relevant awards and apply for them
- Step 2 celebrate your success within the company
- 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.

## Actions to take

UNEP invites you to join the Global Compact — a team effort on the part of business to address three areas of shared international concern: human rights, labour standards and environmental protection. The Assistant provides full details of the Global Compact and how to join it. Provide feedback on the calendar by completing the questionnaire and sending it to UNEP.



**December**  
The Efficient Entrepreneur



## About the Calendar

This Calendar is designed to help you increase profits and improve the environment.

To do it efficiently you need to know:

- how much energy, water and raw materials you consume, and how much pollution (such as wastes, air and water emissions, and noise) you are producing
- where costs can be reduced and customer satisfaction improved

Then you can:

- see where the most important problems are
- make decisions
- communicate your achievements (in the form of an environmental report, for example)

Without knowing your company performance on these issues, you cannot measure progress. The first step is therefore to collect data and assess them from an environmental and management perspective. During this year, month by month, you will learn where the problems are, where the environment is costing you most and where you can make simple and effective improvements. Many possible actions are highlighted in the Calendar.

## 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 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 inhouse 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.

## 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.

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