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IMPROVING ENVIRONMENTAL PERFORMANCE IMPROVING BUSINESS PROFIT



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IMPROVING ENVIRONMENTAL PERFORMANCE

IMPROVING BUSINESS PROFIT

**A Businessperson's Guide to Profiting from Environmental
Performance Improvement**



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PREFACE

Small and medium sized enterprises (SMEs) like yours face a variety of challenges on the road to becoming stable and profitable. Southeast Europe Enterprise Development (SEED) is a multi-donor initiative managed by the World Bank Group's International Finance Corporation (IFC) to strengthen small and medium enterprises in FYR Macedonia, Albania, Bosnia and Herzegovina and FR Yugoslavia. The five-year, \$ 24 million effort offers a variety of services both to local SMEs directly and to local organizations that support them. In addition, SEED strives to improve the difficult operating environment for small business in the four target economies. Headquartered in Sarajevo with offices in Banja Luka, Beograd, Pristina, Skopje and Tirana, SEED is funded by Austria, Canada, Greece, the Netherlands, Norway, Slovenia, Sweden, Switzerland, the United Kingdom, and the IFC.

This booklet presents practical approaches to improve the stability and profitability of small businesses in FYR Macedonia through improved environmental management.

"The role of SMEs in protecting and improving the environment, through their production and marketing of environmentally sound technologies (energy efficiency, waste minimization, renewable energy, etc.) is likely to be significant. Also, the future contribution of SMEs to improving society's "eco-efficiency", through innovation, is also likely to be substantial, given the leading role of SMEs in general innovation and their flexibility."

Domingo Jiménez-Beltrán

Executive Director of the European Environment Agency (EEA), 1998

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Introduction

For the business community, sustainability is more than mere window-dressing. By adopting sustainable practices, companies can gain a competitive edge, increase their market share, and boost shareholder value.

What's more, the growing demand for "green" products has created major new markets in which sharp-eyed eco-entrepreneurs are reaping rewards. Implementation of a management system-based approach will help companies focus attention on environmental issues, and bring them into the main stream of decision-making.

To achieve more sustainable patterns of economic development in the 21st century, private-sector firms must greatly improve their environmental performance by more effectively integrating environmental considerations into their strategic planning activities, as well as into their everyday business practices and decisions.

Small and Medium Enterprises (SMEs) are set to become an engine of economic growth and job creation in our country. Sustaining and enhancing the growth of these enterprises is a main priority.

This booklet, *Improving Environmental Performance = Improving Business Profits*, is designed to alert local SMEs to the potential for reducing costs and boosting productivity by integrating sustainable environmental practices into everyday operations. It outlines the reasons for and the ways in which SMEs can improve their environmental performance and legislative compliance, as well as where they can find assistance in order to realize these types of efforts.

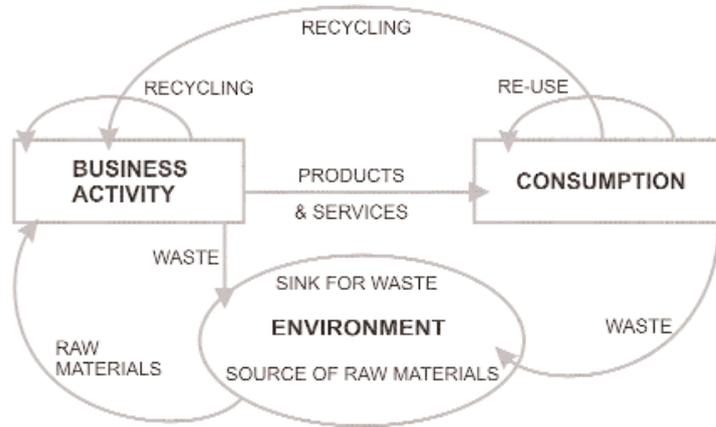
Consumers, suppliers, governments and markets at large are increasingly demanding environmental responsibility from the business community. Should businesses choose to reject this opportunity to improve their environmental performance, they may find themselves left behind in the highly competitive global marketplace.

Most SMEs perceive environmental improvements as an unnecessary luxury and a costly burden. Since they have not dealt with this significant issue in the past why should they pay attention now? The main concern of SME managers is day-to-day survival, dealing with issues such as paying bills, providing salaries, production problems, access to capital and keeping orders coming. We all want a clean environment, but many have neither the time nor the money to do something about it. The experiences of those SMEs who have adopted "cleaner production technology/techniques" show that such a move can lead to improved market share and profitability.

This booklet intends to demonstrate that there are many opportunities for environmental improvements where the benefits substantially outweigh the costs.

WHAT CAN YOU DO TO INCREASE PROFITS THROUGH IMPROVING THE ENVIRONMENTAL PERFORMANCE OF YOUR BUSINESS?

Figure 1: Business interaction with the environment



Source: European Environmental Agency,
Environmental Management Tools for SMEs: A Handbook, March 1998

Business activities have a substantial impact on the environment:

- Manufacturing involves extracting raw materials from the environment and processing them to produce saleable items. As a result of the production process, various forms of waste (solid, liquid and gas) enter the environment.
- The activities surrounding the manufacturing process - such as plant and infrastructure maintenance, and the packaging and transport of goods - all impact the environment.
- Products eventually require disposal and become waste.
- Services also impact the environment significantly. Service companies use various products, as well as energy, both of which result in waste entering the environment.

Simply stated, the environment acts as the source of raw material in the beginning, and as the dumping ground in the end.

Without a sufficient quantity and quality of raw materials, businesses are unable to survive and grow; the environment is also the recipient of the waste created by businesses. While the environment has a natural ability to absorb many types of waste, excess volume and high toxicity may lead to environmental degradation. If this occurs, the environment's ability to provide raw materials for economic development suffers.

A polluted environment also adversely affects the health of workers and the public.

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WHAT IS CLEANER PRODUCTION (CP)?

Over the years, industrialized nations have progressively taken different approaches to dealing with environmental and pollution problems, by:

- Ignoring the problems;
- Diluting or dispersing the pollution so that its effects are less harmful or apparent;
- Controlling pollution, "end-of-pipe" technologies;
- Preventing pollution and waste at the source through Cleaner Production approaches.

The gradual progression from "ignore" to "prevent" has culminated in the realization that it is possible to achieve financial savings for businesses, as well as improve the environment for society. This is essentially the goal of cleaner production.

Cleaner Production is defined as the continuous application of an integrated preventive environmental strategy applied to processes, products, and services to increase overall efficiency and reduce risks to humans and the environment.

Table 1. Difference between the two approaches

	END OF PIPE	CLEANER PRODUCTION
Methodology	Reactive	Proactive
Scope	Piecemeal	Integrated
Solution	Media specific	Multi media
Economics	Add on cost	Economic savings
Engineering	Static	Dynamic

*Source: European Environmental Agency;
Concept, definitions and strategies of cleaner production*

This does not mean that end-of-pipe technologies will never be required. By using a cleaner production philosophy, the dependence on "end-of-pipe" solutions may be reduced, or in some cases eliminated altogether.

Cleaner production depends only partly on new technologies. It can also be achieved through improved management techniques, a change in work practices, and many other soft approaches. A change in attitude on the part of company directors, managers, and employees is crucial to gaining the most from cleaner production.

Environmental issues are complex, numerous, and continually evolving, and an ad hoc approach to solving environmental problems is no longer appropriate. Companies are therefore adopting a more systematic approach to environmental management, sometimes through a formalized Environmental Management System (EMS).

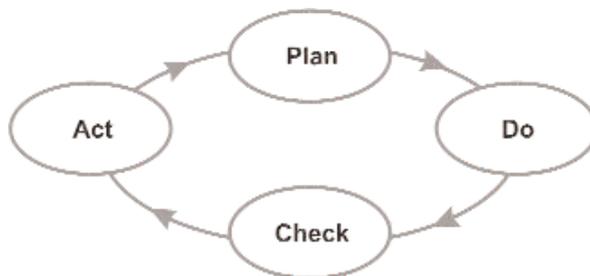
WHAT IS AN ENVIRONMENTAL MANAGEMENT SYSTEM (EMS)?

We view the establishment of an EMS as a process that forces us to better organize our priorities and projects to identify problems and exposures before they occur. Any organization that has more than a few employees needs to have a management system in order to conduct its affairs rationally. Organizations have financial systems, human resources departments, sales and marketing functions, and manufacturing or production units - all with a management system through which decisions are made and day-to-day activities are directed. Just as all of these are complex and require planned and systematic approaches, so too do environmental and sustainable development issues.

Environmental management is the management of those activities of an entity that has or can have an impact on the environment. Environmental management is beneficial because it:

- Serves as a tool to improve environmental performance;
- Provides a systematic way of managing an organization's environmental affairs;
- Is a part of the organization's overall management structure that addresses the immediate and long-term impact of its production, products, and services on the environment;
- Provides order and consistency that enables organizations to address environmental concerns through the allocation of resources, assignment of responsibility, and ongoing evaluation of practices, procedures and processes;
- Focuses on continual improvements of the system.

Figure 2: Plan-Do-Check-Act model



Source: Deming Cycle

Most EMS models are built on the "Plan, Do, Check, Act" (PDCA) Deming model. This model endorses the concept of continual improvement. The concept of continual improvement recognizes that problems will, however, occur. Committed organizations learn from their mistakes and prevent similar problems from occurring in the future.

Quite simply, an Environmental Management System (EMS) is just a part of good business management.

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SMEs often have some advantages over larger organizations in ensuring effective environmental management. In smaller organizations, lines of communication are generally shorter and organizational structures are less complex. People usually perform multiple functions and access to management is more readily available.

Environmental Management Systems have received significant attention over the last few years due to international standardization. Initially BS 7750, developed by the British Standards Institute and published in 1994, led the way. The European Eco-management and Audit Scheme (EMAS) followed on the European level. Finally, ISO 14001 was introduced on a global scale. All have led to a very high level of interest, which has by far exceeded the initial interest that ISO 9000 was given in its early days.

WHAT IS THE ECO-MANAGEMENT AND AUDIT SCHEME (EMAS)?

EMAS was adopted by the European Council in June 1993, and allowed for voluntary participation in an environmental management scheme based on harmonized lines and principles throughout the EU.

The overall objective of the scheme is to promote on-going improvements in environmental performance. The scheme obliges organizations to evaluate and improve their environmental performance and provide relevant information to the public. The scheme was originally open to companies in the industrial sector operating in the EU and the European Economic Area (EEA), but later, in March 2001, was revised with an extended scope for all sectors of economic activity including local authorities. The revised EMAS regulations have adopted ISO 14001 as the environmental management system for EMAS.

Because EMAS is specific to the EU and since our country has signed the Stabilization and Association Agreement with the EU, EMAS is particularly relevant to Macedonian businesses. We have, however, focused on ISO 14001 because it is an internationally accepted standard and local companies are already familiar with ISO 9001.

WHAT IS ISO 14001?

The International Organization for Standardization (ISO) sets the ISO standards. The ISO 14001 standard has been designed to help an organization implement or improve its environmental management system.

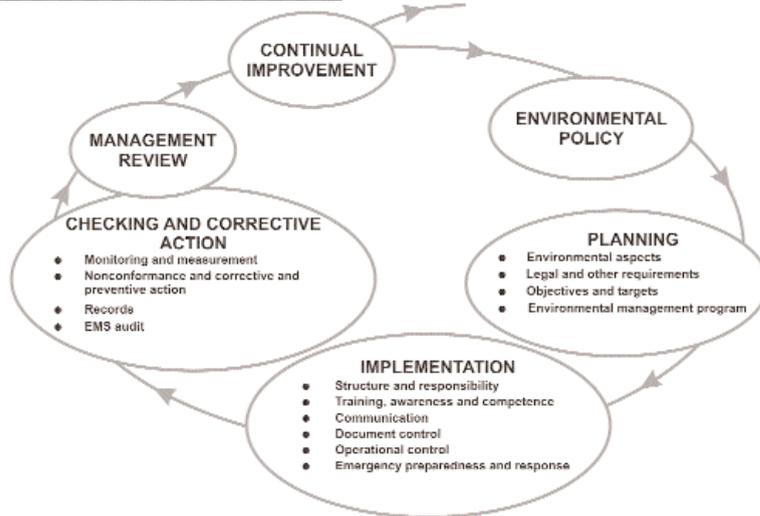
The standard recognizes that organizations can be concerned about both their profitability and managing environmental impacts. ISO14001 integrates these two motives and provides a refreshingly workable methodology to achieve an effective Environmental Management System. In practice, the standard offers a management methodology for the use of resources and their disposal. It is recognized worldwide as a means to control costs, reduce risks, and improve performance.

The standard does not set performance values. It provides a way of systematically setting and managing performance commitments. In other words, it is concerned with establishing "how to" achieve a goal, not "what" the goal should be.

The key characteristic of these standards is their voluntary nature. Voluntary in this case means that there is no legal requirement to abide by them. This is not to say that an organization may not require its suppliers to meet the requirements of its EMS, thus creating a de facto requirement.

The structure of the ISO 14001 standard reflects the Plan, Do, Check, Act (PDCA) Deming cycle. An interpretation of this model is shown next:

ISO 14001- Plan-Do-Check-Act Model



Source: International Organization for Standardization (ISO)

ISO 14001 also adds four focuses for an EMS, one for each element of the PDCA model:

1. The first is "commitment" expressed through environmental policy and planning, and relates to the **plan** in the PDCA model. Making a decision to use an EMS is a big step. This commitment must come from senior management.



Policy For Quality And Environmental Protection Konti Hidroplast - Gevgelija

Konti Hidroplast of Gevgelija has implemented a policy for quality and environmental protection to design, produce and mount their own products and services whilst ensuring the following:

- Clean and healthy drinking water,
- The safest and most reliable systems for usage,
- Unlimited corrosion warranty,
- Less maintenance and longer use periods.

We are managing quality and the environment without creating an unacceptable risk for the health and safety of people and their environment. The quality of production, the final products, and their continual improvement is the responsibility of all employees. The quality of raw materials and environmental protection are the basic principles that need to be respected throughout the whole supply chain. Each employee is trained and motivated to do their job with respect to the environment and quality requirements. Each new product will have a positive impact on the environment.

Dimitar Madzunkov, General Manager - Konti Hidroplast

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2. In the **DO** stage, expressed through Implementation, the focus is on "prevention". We need to prevent rather than correct.
3. "Reasonable care and regulatory compliance" is the third focus expressed through **Checking** and Corrective action. We must not only comply with the regulations, we need a system that ensures that we can recognize when we are at risk of failing to comply, or are already out of compliance, and can also demonstrate a resolution to the situation.
4. The fourth focus is "continual improvement" or management review leading to continual improvement and relates to **ACT**. The Environmental Management System is designed to achieve continual improvement. As a result, the organization constantly evolves becoming better, stronger, leaner and more efficient.

WHAT IS THE RELATION BETWEEN ISO 14001 AND ISO 9001:2000?

Companies that have implemented ISO 9001:2000 already have done 70% of the work for the implementation of ISO 14001.

Ms. Evdokija Soleva, Alkaloid AD Skopje

An effective EMS is built on Total Quality Management concepts. ISO 9000 (ISO 9001:1994, ISO 9002:1994, ISO 9003:1994) international quality management standards were created to promote consistent quality practices and to facilitate international trade. In essence, an EMS is the application of quality management principles to the management of environmental affairs. While ISO 9000 and ISO 14001 have different focuses, they share similar requirements. Therefore, if your organization already has or is considering a quality management system (such as the ISO 9000 standards), you will discover that there are considerable synergies between the prerequisites for quality and environmental management.

Organizations implementing both Quality Management Systems (QMS) and Environmental Management Systems (EMS) will benefit from the ability to create a coordinated management process that will maximize the benefits and minimize the redundancy of the two separate systems.

ISO has recognized the similarities between the EMS and QMS standards and has directed their technical committees to coordinate their plans and activities in order to harmonize these standards to the greatest extent possible. ISO 9001:2000 is the latest version of the quality management standard. One of the major reasons for the year 2000 revisions of the standard was the enhancement of their compatibility with ISO 14001, particularly with regard to terminology and content. The old standards ISO 9001:1994, ISO 9002:1994, ISO 9003:1994 have been superseded but shall be valid until the end of 2003. The companies certified for the obsolete standards have a three-year transitional period to consider the implications of the new standard and amend the necessary systems before the cut-off date.

In line with the changes, a new single standard for the auditing activities of both quality and environmental management system will be introduced as ISO 19001. The planned publication of this standard is the third quarter of 2002.

Macedonia has 50 companies that have implemented quality management standards, most of them according to ISO 9000:1994. They should consider the possibility of using this period of transition to ISO 9001:2000 to implement ISO 14001.

Adoption of ISO 14001 along with ISO 9001:2000 should be a relatively easy and inexpensive process.

WHY SHOULD YOU TAKE ACTION NOW?

For most companies, the decision of whether or not to set up an EMS will be based on an evaluation of associated economic costs and benefits.

Table 2. Some motives for SMEs to implement their own EMS are the following:

COSTS	BENEFITS
<ul style="list-style-type: none"> • Staff/ employee time • Possible consulting assistance • Training of personnel • Meeting company-determinant performance goals 	<p>Financial</p> <ol style="list-style-type: none"> 1. Reduced costs 2. Improved legislative compliance 3. Anticipating future legislation 4. New customers/ markets 5. Better credibility vis-à-vis the banks and insurance companies 6. Increased stakeholder value <p>Environmental</p> <ol style="list-style-type: none"> 7. Reduced environmental risks <p>Social</p> <ol style="list-style-type: none"> 8. Improving public image by demonstrating environmental responsibility 9. Improving staff morale and service

Source: Authors

The benefits of an EMS:

1. Reduced costs

Most people, if not all, wish to protect the environment. Many SMEs, however, fear that protecting the environment by improving their environmental performance will cost money. Many companies have found that it is possible to save money, sometimes large sums of money, by improving their environmental performance.

Figure 2. Material and energy flow

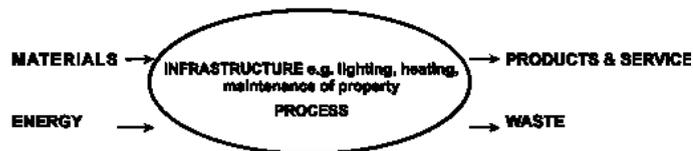


Figure 2 shows the material and energy flow through a firm. Cost savings within the firm can be achieved through changes in areas such as:

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1.1. Production Efficiency

- *Improving the efficiency of existing production methods* while optimizing the performance of existing production methods minimizes the use of raw materials and energy and the reduces production of waste, which are all good for the environment. Reduced resource costs and waste disposal costs are good for business.

Case Study 1

Teteks AD

Company and background: Teteks AD is the largest textile producer in Macedonia. As a result of its CP (cleaner production) program in its knitted fabrics division, they have developed a project for decreasing solid waste from fabrics. Successful waste reduction depends on the fabrics used. The amount of waste is 6% to 28% and comes mainly from the tailoring division.

CP Solution: Three CP solutions have been introduced:

	CP solution	Environmental benefits	Economic benefits
1.	Changes in work policies - increasing the standards for the preparation of tailoring models	2% less waste	Investment MKD 0
			Annual savings MKD 996.404
2.	Buying a scale and weighing how much material is wasted by each worker	3% less waste	Investment MKD 82.000
			Annual savings MKD 1.611.372
			Payback period less than 1 month
3.	Procurement of CAD/CAM system for the computerized tailoring of the fabrics	10% less waste	Investment MKD 8.200.000
			Annual savings MKD 5.481.240
			Payback period less than 2 month

Status: Activities 1 and 2 have been implemented.

Source: National Cleaner Production Center - Fund for Environment

- *Introducing new and more efficient production methods* also reduces the use of resources and waste production. Many companies have been able to make large cost savings by reducing the amount of raw materials, energy, and water that they use.

Energy

Case Study 2

Makedonijapat - Veles branch

Company and background: Makedonijapat - Veles branch. The Company is state owned, and has a role in the management and upkeep of public roads. Their asphalt production unit emits a heavy quantity of smoke and gases with a high content of carbon dioxide and dust. Although they have installed bag filters, the concentration of dust is above the maximum allowable limits. An assessment process determined that the gases have high concentrations of carbon dioxide as a result of inadequate burning.

CP Solution: To exchange an old burner with a new more efficient one.

Environmental benefit: Because of reduced oil consumption the emissions of carbon dioxide have decreased.

Economic benefit: The total investments amounted to nearly EUR 20,000. The savings take the form of decreased oil consumption of about 57,000 liters per year or EUR 20,000. The investment return period is 1 year.

Status: Implemented

Source: Regional Cleaner Production Center - Veles



Water

Case Study 3

DOOEL Konti Hidroplast - Gevgelija

Company and background: DOOEL Konti Hidroplast is a privately owned company which designs, develops and produces polyethylene, polypropylene and polyamide pipes, and mountings for transmission systems. For its production needs, Konti Hidroplast uses 35,593 m³ of drinking water valued at EUR 12,700 annually. In addition, extra effort and money was needed to clean the calcified water pipes. The untreated wastewater was then discharged into the sewage system.

CP Solution: In December 2000 a "closed circulation system" for water was installed alongside a pool and cooling system. The problem of water pipe calcification has also been resolved by using the process of ionization. Now the wastewater is reused.

Environmental benefit:

1. Decreased consumption of drinking water for industrial purposes by approximately 90%.
2. Less polluted water has been discharged in the river Vardar by approximately 90%.

Economic benefit: Annual expenditures for used water in the year 2000 were EUR 12,700. After the installation of the closed circulation system, expenditures for 2001 have decreased to EUR 1,580. Total investment was around EUR 49,000. The investment return period is 3.5 years.

Status: Implemented

Source: Gordana Manoleva, Konti Hidroplast Gevgelija



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1.2. Product design

It may be possible to redesign a product in order to reduce the amount of resources needed for its production, while still maintaining the level of quality service it provides.

1.3. Waste disposal - making money from waste

Once waste has been generated it is often possible to reuse or sell it for use by other companies. This avoids waste disposal costs.

Case Study 4

DOOEL Konti Hidroplast - Gevgelija

Company and background: DOOEL Konti Hidroplast is a privately owned company which designs, develops and produces polyethylene, polypropylene and polyamide pipes, and mountings for transmission systems. DOOEL Konti Hidroplast's production methods generate approximately 16,000 kg of solid plastic waste in the form of polyethylene yearly. Disposal of this waste can severely pollute the environment.

CP Solution: Polyethylene as a raw material is 100% recyclable. An agreement has been signed with a local company for the polyethylene waste to be recycled into polyethylene granulates which in turn are reused in production.

Environmental benefit: Annually the environment is being protected from 16,000 kg of waste in the form of polyethylene.

Economic benefit: Annual savings for not having to buy a new raw material is EUR 7,500.

Status: Implemented

Source: Gordana Manoleva, Konti Hidoplast Gevgelija

1.4. Source of raw materials

The careful selection of raw materials can significantly decrease generated waste and in turn decrease waste disposal costs.

1.5. Infrastructure

It is possible to create savings through efficient changes to infrastructure, e.g. installing energy efficient lighting, insulating buildings, improving the efficiency of heating systems.

1.6. Packing and transport

Once goods have been manufactured, they require packaging and transportation. It is possible to create cost savings in these areas and at the same time improve environmental performance.

2. Improved legislative compliance

By ensuring that it complies with relevant environmental legislation, a firm can avoid the chance of being fined by regulatory authorities for non-compliance and the adverse media publicity that can accompany such fines.

3. Anticipating future legislation

Developing an awareness of likely changes in environmental legislation allows firms to plan for these changes and make appropriate investment decisions. If a firm is not aware of proposed legislation, it may make inappropriate investments.

4. New customers/ markets

After the breakup of the ex-Yugoslavia, most local companies lost their traditional market. These companies cannot survive by being limited only to the local market. They must now face competition and the rules of international markets.

In such a situation, an EMS can serve as a valuable promotional tool and can improve a company's competitive advantage. Companies without sound environmental practices may not be able to take advantage of new commercial opportunities, while companies with an EMS are more competitive in the global marketplace.

Environmentally friendly goods and services represents a rapidly expanding sector in the world marketplace. A recent study in the EU concluded that environmental responsibility is the most important factor affecting buying patterns after price and quality. A similar report by an American consultant showed that when the price and quality of competing products is similar, 76% of Americans are willing to switch to a product that is associated with a good cause, like environmental protection.

A recent UNIDO survey shows that over 70% of companies in developing countries and countries with economies in transition perceive that compliance with ISO 14001 could open new trading opportunities and/or strengthen market position. At the same time, the survey shows that 60% of companies believe that ISO 14001 may result in technical barriers to trade.

Major multi-national corporations have already begun requiring or strongly recommending that their suppliers conform to the ISO 14001 standard. Such market pressure may promote better environmental practices generally and may address non-regulated environmental policies on an international scale.

The sudden growth of ISO certified companies in the US could be attributed to the rising number of companies in the automotive industry who are getting ISO 14001 certified. Ford, GM, Volvo, Jaguar, and Daimler-Chrysler have all required their suppliers to become certified by 2001 or 2002. Because of these requirements, the automotive industry will likely see the largest growth in ISO 14001 registrations during the year 2001.

The environmental benefit of an EMS can be translated into market opportunities for "greener products". The food markets in developed countries are very sensitive to environmental issues and the origins of imported foods. ISO 14001 standard is an opportunity for companies to demonstrate their environmental performance. Local companies can use ISO 14001 as a tool to demonstrate their environmental readiness and to use their comparative advantages in the agricultural sector. Companies that factor environmental considerations into the design stage of their product will be well placed to benefit from the marketing advantages of any future eco-labeling scheme.

Certain types of tea from Macedonia's Alkaloid A.D. have been certified by the International Inspection Organization as meeting the requirements in sourcing and processing of the organic raw material according to the standards of IFOAM (International Federation of Organic Agriculture Movements) and have earned the internationally recognized eco-label, SKAL.

Source: Alkaloid AD Skopje



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5. Better credibility vis-a-vis banks and insurance companies

Banks, insurance companies, and investors all base their decisions on risk. The higher the risk, the less likely a bank is to lend, the less likely investors are to invest, and the higher insurance premiums are likely to be. Therefore, a reduction in environmental risks is likely to be viewed favorably by all these parties, putting a firm in a better position to obtain financing and insurance coverage. (Please see the EIA part of this booklet)

6. Increased shareholder value

An EMS and certification may also increase shareholder value. This is one reason why some companies in the process of privatization are interested in EMS.

7. Reduced environmental risks

Environmental risk is the single largest hidden risk for many companies. By undertaking environmental risk assessment as a part of an environmental management process, it is possible to reduce the occurrence of events that could have adverse environmental consequences.

8. Improving public image by demonstrating environmental responsibility

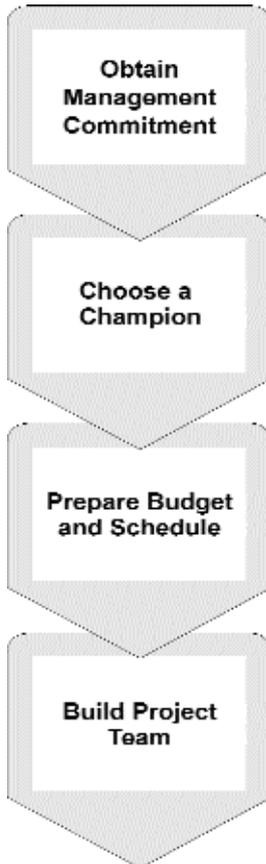
By publicizing efforts made to improve environmental performance, a firm can improve its public image, thereby enhancing its position in the market place. Also, by demonstrating sound environmental management, a firm can reassure the local community about its activities and thus build strong community ties.

9. Improving staff morale and service

Employees' skills, morale, and management effectiveness are enhanced by an EMS. An EMS improves efficiency and can create a safer and healthier workplace. In addition, an EMS can help build awareness about production methods by encouraging employee involvement in identifying problem areas.

HOW TO IMPLEMENT AN EMS

Building an EMS might sound like an overwhelming task for small organizations, but it does not need to be. Time and other resources are limited in any small organization, so it is important that your resources are used wisely. One way to do this is by following a simple, effective plan. You can build upon the experiences of other organizations that have already implemented an EMS. Examples are provided throughout this guide.



Obtain Management Commitment

The first step in the EMS-building process is gaining top management's commitment and support. Management must understand the benefits of an EMS and what it will take to put an EMS in place. Management commitment and vision should be clear and communicated across the organization.

Choose a Champion

Not all SMEs have the luxury of choosing among multiple candidates, but the choice of project champion is critical. The champion should have the necessary authority, project management skills, and have an understanding of the organization as well. The champion should be a "system thinker" (some ISO 9000 experience would be a plus, but not necessary), and must have the time to commit to the EMS building process.

Prepare Budget and Schedule

The project Champion should prepare a preliminary budget and schedule for developing the EMS. Costs will likely include staff and employee time, training, some consulting assistance, material, and possibly a computer.

Build Project Team

A team with representation from key management functions and production or service areas can identify and assess issues and existing opportunities. You may want to consider including contractors, suppliers and other external parties to be part of the project team where appropriate. This team will need to meet frequently, especially in the early stages of the project. The cross-functional team can help to ensure that procedures are reasonable and will build commitment to the EMS.

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Involve Employees

Employees are a great source of knowledge about the environment. They also can provide key input to health and safety issues and the effectiveness of current methods and procedures. They can help the project team in drafting procedures. Employee ownership of the EMS will be greatly enhanced by meaningful employee involvement in the development process.

Conduct Preliminary Review

Conduct a preliminary review of your current environmental programs and system and compare these against the criteria for your EMS (such as ISO 14001). Evaluate your organization's structure and its procedures, policies, environmental impact, training programs, and other factors. Determine which elements of your current system are in good shape and which need additional work.

Modify Plan

The project plan might need to be modified based on results of the preliminary review. The modified plan should describe in detail the key actions needed, who will be responsible, what resources are needed, and when the work will be completed.

Prepare Procedures and Documents

Now you are ready to develop procedures and other system requirements. In some cases, this might involve modifying existing environmental procedures or adapting other business procedures (such as quality or health and safety management procedures) for EMS purposes. In some cases, you might need to develop new procedures. Get input from employees.

Plan for Change

In building your EMS, make sure that the system is sufficiently flexible. While you will likely need to modify your EMS over time, try to avoid making your EMS so rigid that you must change it frequently to reflect the realities of your operation.

Train Employees

Once the procedures and other documents have been prepared, you are ready to implement the EMS. As a first step, train your employees about the EMS. Special attention should be given to the environmental impact of their activities, new/modified procedures and any new responsibilities.

Assess EMS Performance

After the EMS is up and running, be sure to assess system performance. This will be accomplished through periodic EMS audits and on-going monitoring and measurement. Assessment of EMS performance provides the opportunity to improve your system and environmental performance over time.

HOW TO CERTIFY THE COMPANY FOR ISO 14001

The ISO 14001 Standard does not require third party certification, but market forces strongly encourage the certification process.

EMS certification is the process whereby a non-biased third-party attests that an organization's EMS conforms to the requirements of an EMS standard, such as ISO 14001. The third party organization that performs the certification service is called a Certification Body and is selected by the organization that desires certification services. The type of certification services that will be offered for ISO 14001 will be similar to those offered for the ISO 9000 series.

ISO 14001 does not require that an organization implement the standard for the entire organization. An organization can select to certify the entire organization, a division, selected facilities, or selected operations within a facility.

The ISO 14001 Certification Process

- Step 1: Informational discussion
- Step 2: Preliminary discussion
- Step 3: Short audit (optional)
- Step 4: Document review
- Step 5: Pre-audit (optional)
- Step 6: Certification audit
- Step 7: First issuing of the certificate
- Step 8: Surveillance or Re-certification

Source: Vele Temelkovski, MQS - Macedonian Organization for Certification and Assessment

Surveillance audits are typically performed semi-annually to verify continued compliance with ISO 14001. During the surveillance audits, the audit team may only audit certain elements of the EMS. Over a three-year period, all the elements of the EMS must be reviewed to ensure continued compliance with ISO 14001.



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A SUMMARY OF THE MACEDONIAN ENVIRONMENTAL LEGAL AND REGULATORY FRAMEWORK

"The road to full environmental approximation might seem to be a long and thorny one for most of the candidate countries. I am convinced, however, that the benefits for public health, for the environment - and for the economies of the candidate countries - will, by far, outweigh the efforts, which have to be made in order to reach the goal."

Ritt Bjerregaard, Member of the EU Commission

To achieve more sustainable patterns of economic development, SMEs must improve their environmental performance by integrating environmental considerations more effectively into their strategic planning activities, as well as their everyday business practices and decisions.

Environmental laws are designed, at least in large part, to minimize the negative affects of human activities on the environment, workers, and public health and safety. These negative effects can create liabilities, costs and lost profits for businesses. An SME can minimize liabilities and costs by obtaining all required permits and keeping operations in compliance with regulations. If a company does not have the required permits, they are not operating their business legally and have not taken the basic steps to minimize their risks (fines, penalties, or even closure), including some that relate to the environment and worker safety.

New environmental legislation that incorporates the more comprehensive principles of environmental protection and health now used in the EU will be completed in 2002 under the PHARE SOP99 project. This new legislation will be the basis for full environmental approximation with the EU, within the EU integration process agreed under the **Stabilization and Association Agreement (SAA)**, signed between the EU and Macedonia.

Businesses in Macedonia must be directed and become compliant with an extensive set of environmental laws and regulations. The key legislation, the **Law on Environment and Nature Protection and Promotion (The Act on Environment)**, is under the supervision of the Ministry of Environment and Physical Planning (MEPP). The MEPP was created in 1998 as an independent Ministry. Other ministries and state institutions with important responsibilities in the field of the environment are:

- the Ministry of Agriculture, Forestry and Water Economics (MAFWE),
- the Ministry of Transport and Communications (MTC),
- the Ministry of Health (MoH),
- the Republic Institute for Health Protection,
- Hydrometeorological Administration (HMA).

A GENERAL OVERVIEW OF THE PRINCIPAL ENVIRONMENTAL LEGISLATION

The Act On Environment = Key Environmental Legislation

As previously stated, the key environmental legislation is the Act on Environment and Nature Protection and Promotion (hereinafter referred to as the Act on Environment). Adopted in December 1996, the Act on Environment was modeled on the Council of Europe's "Model Act on the Protection of the Environment", and has recently been modified (July 2000, "The Official Gazette of RM" No. 51/00). We strongly recommend that each SME have a copy in hand.

Below you will find the main aspects of the Act on Environment. This also includes the rights and obligations of individuals and entities.

This should be understood only as an interpretation that will help Macedonian SMEs to comprehend their environmental obligations, and to ensure more orderly compliance. By complying with environmental regulation, SMEs will reduce the chance of being held liable for non-compliance.

SMEs might suffer financial and legal repercussions for failure to comply. This could create social and economic instability, loss of market position, loss of profits, and the default on loans received from financial institutions, or even ineligibility for future loans.

Simply stated, if an SME pollutes a river, land, or air, it can be fined and its production stopped until the problem is solved. Furthermore, its market share could be reduced and it might face legal charges. All of this costs money. Legal penalties, such as fines or work seizures for violating environmental laws, are likely to get stronger. Costs to solve environmental problems are increasing. Financial institutions may not provide loans/credits to an SME if there is a risk that environmental problems could result in costs that hinder their ability to repay.

In addition, it would pay for SMEs to become familiar with the recently released Aarhus Convention. This document contains a clear description of the public's right to access environmental information, the public's right to participation in environmental decision-making, and the right to legal recourse in environmental matters.

One of the key pieces of environmental legislation to be enacted, in order to start legislative approximation with the EU, is the **Environmental Impact Assessment (EIA)**.

This Brochure also contains a section where Environmental Assessment (EA/EIA) is described as one of the leading criteria when applying for a loan/credit with Financial Institutions. We will examine the procedures for three EAs requested by international credit lines in Macedonia:

- a. World Bank EA for Private Sector Development,
- b. German KfW Bank EA,
- c. Commodity Aid Program from the Republic of Italy.

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Correlations Between The Aarhus Convention And The Environmental Statement

In 1999, the Macedonian Government adopted the **Aarhus Convention**, which aims to provide citizens with the right to live in a clean environment, and an obligation to ensure a clean environment for future generations. The convention spells out three substantive sets of rights:

1. The rights of citizens to have access to environmental information;
2. The rights of citizens to participate in environmental policy making;
3. The rights of citizens to environmental justice (although this provision means little more than in instances where the first two rights are abrogated, citizens have the right to seek judicial redress. There are no provisions granting citizens the right to sue polluters).

The Aarhus Convention is the first of its kind in the field of global environment and it became binding on 31 October 2001. In plain words, the Aarhus Convention gives the public the right to be informed about the status of the environment, to take part in environmental decision-making (be it on the local, national, or international level), and to have access to justice when the previous two rights have been violated.

Increased awareness combined with the rights acknowledged by the Aarhus Convention means that local SMEs must be prepared to take responsibility for these issues. One of the commonly accepted ways is by preparing an **Environmental Statement**. An environmental statement can be seen as a way for a company to make information publicly available regarding its environmental performance. It can be used to communicate successes, problems, and objectives in the field of environmental management. It can also be used to motivate employees to get involved actively in environmental protection measures, document environmental activities and performance, reinforce commitment to the on-going implementation of environmental management, monitor success, and aid in planning.

Important Factors To Have In Mind

An SME must be aware that "the public", individuals, environmental NGOs etc., are entitled to receive environmental information from SMEs should it be requested. Common questions asked are: "How does the SME pollute the environment? Does the SME have environmentally sound management? Are their products "environmentally friendly?"

What Is An Environmental Impact Assessment (EIA)?

The EU Environmental Impact Assessment (EIA) Directive sets out the requirements for undertaking environmental impact assessments before development consent is granted for public and private projects, which are likely to have a significant impact on the environment. Projects are classified into two groups:

1. Projects that are subject to compulsory EIA;
2. Projects for which the assessment is discretionary.

The Environmental Impact Assessment covers the direct and indirect effects of a project on humans, wildlife, plant life, soil, water, air, climate, the landscape, material assets and cultural heritage, as well as the interactions between these factors.

It is important that authorities with environmental responsibilities and the public, in case of projects with trans-boundary effects, are informed properly and in a timely manner as to have the possibility to give their opinion. Finally, all these elements are to be taken into account in the final decision on the authorization of the project. The public and the environmental authorities shall be informed of the decision and the results of the assessment process.

The Present EIA/EA Situation

Although at present a specific EIA Act does not exist, requirements for such an assessment exist in various other regulations.

For example, an EIA is mandatory under Article 15 of the Act on the Environment. All investors are bound, when preparing and actualizing technical documentation for planned activities, to secure the protection and promotion of the environment. In addition, the Minister of the MEPP regulates the types of investment assets for which an EIA should be prepared.

The EIA is also enforced by legislation covered by the Ministry of Transport and Communications. The Regulation on Standards and Norms for Building, under Article 15 of the Law on Investment Structure Construction calls for an EIA. Articles 107 and 56 of the regulation also state that when planning structures an EIA must be prepared. Further, it is explained in Article 108 that this EIA is part of the technical documentation for construction. (See Box 1 and Table 3).

Box 1

Contents of the EIA (Article 108 of the Regulation on Standards and Norms for Structures):

- Description of location and activities to be conducted on that location.
- Main characteristics of the production and the quantity of the materials used.
- Physical and chemical characteristics of the materials used in production.
- Physical and chemical characteristics of the final products and of the waste materials created in the production and their impact on the environment.
- Impact on the Environment
- Assessment by type and quantity of the expected waste and emissions (water pollution, air pollution, soil pollution, noise pollution, temperature oscillations, radiation, etc.).
- Measures for decreasing the negative impacts on the environment caused by activities.
- Steps for hazard protection (accidents).
- Impacts from sun radiation, photochemical reaction of emitted harmful materials in the air, water and soil, and new photochemical composites created, and their negative impacts together with protection measures.
- Adequate graphic annexes.

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Table 3 . Simplified overview of the contents of the EIA

QUESTIONS	ANSWERS
Where?	- Location description
Describe what will happen	<ul style="list-style-type: none"> - Activities to be conducted. - Characteristics of the production. - The quantity of the materials used. - Physical and chemical characteristics of the input materials used in the production. - Physical and chemical characteristics of the final products. - Waste materials created.
Assess what will happen	<ul style="list-style-type: none"> - Impact on the environment. - Assessment by type and quantity of the expected leftovers and emissions (water pollution, air pollution, soil pollution, noise pollution, temperature oscillations, radiation, etc.).
What will be done?	<p>Mitigation measures, for decreasing the negative impacts on the environment caused by activities, according the standards and norms defined within the regulations for:</p> <ul style="list-style-type: none"> - air protection, - water protection, - soil protection, - noise protection, and - protection from ionizing radiation
Need for Hazard Protection?	- Steps for protection from hazards (accidents).
Predict the negative impacts on environment! Protect from negative impacts on environment!	- Impact on environment from sun radiation, photochemical reaction of emitted harmful materials in the air, water and soil, and new photochemical composites created, and their negative impacts on environment together with protection measures.
Show!	- Adequate graphical annexes.

Source: Article 108 of the Regulation on Standards and Norms for Structures

Macedonian Financial Institutions require some or full Environmental Assessment (EA) on activities they are willing to finance. It is important to note that all financial institutions request valid permits and/or positive recommendations from the appropriate governmental (local or national) bodies. Along with this, some financial institutions have their own requirements for an EA/EIA, which follow their own formatted guidelines. For some financial institutions, the results of the EAs might be prime selection criteria for approving or denying a financial request. For others, the prime criterion is the permit and/or the positive recommendation of the Ministry of Environment and Physical Planning. The SMEs should have this in mind prior to requesting a loan. Further information can be obtained from the relevant financial institutions locally.

Any SME planning new activities, or expanding their present ones, should be aware of these EIA/EA legal obligations, whether for compliance or financing purposes. For further information please contact the Ministry of Environment and Physical Planning or Ministry of Transport and Communication.

EIA/EA Requirements Of The International Financial Institutions In The Country

Globally, a growing group of investors, banks, and insurance companies are showing interest in the environmental strategy and performance of organizations. Specific interest is to be expected in:

- the environmental strategy and performance of an organization at the management level;
- the relationship between environmental and financial information;
- the compliance behavior of the organization and the quality of its environmental management;
- possible environmental risks related to (new) production methods, products, or services.

All international financial institutions present in the country require some sort of environmental assessment on the activities they are willing to finance. Different institutions have different EA/EIA procedures. Regardless of the financier's procedures, which are mandatory when requesting a loan/credit, an SME must comply (as stated before), with Macedonian Environmental Regulations. Current SMEs, as well as those that plan to expand and become present/future borrowers, should focus on the EA prior to requesting a loan/credit.

Experience has shown that communicating with the local and/or wider public is of crucial importance when planning and performing certain activities. Irrespective of whether or not an EIA/EA is prepared, evidence shows that where the public was not informed about planned activities major protests occurred. Protests obstruct construction and threaten regular operations, which lead to a loss of time and money.

It is advisable to notify the local public and neighboring residents that all permits have been obtained, the EIA/EA will be conducted, and to communicate that their opinion is valid and will be taken into consideration in the mitigation stage. By doing so, the planned activities will not be unfamiliar and hostile resistance by the public can be reduced.

Here are the procedures for Environmental Assessments requested by three international credit lines in Macedonia:

1. World Bank EA for Private Sector Development,
2. German KfW Bank EA,
3. Commodity Aid Program from the Republic of Italy.

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In Box 2 some facts are presented on EA, as per World Bank Financed Projects:

Box 2

Who Prepares the EA:

1. Responsibility (and expense) of the borrower;
2. Category A project borrower retains independent experts.

Conclusions:

1. The borrower shall integrate EA with other planning processes at the earliest possible time;
2. The financier should not commit resources for the project in a way that would prejudice the selection of alternatives before the EA process is completed.

Public Consultation:

The borrower consults the project-affected groups and local NGOs about the project's environmental aspects and takes their views into account. This should happen as early as possible.

The Basic Message of Environmental Policy:

1. Do no harm;
2. Enhance the environmental quality of bank operations;
3. EA shall be used proactively in project preparation and implementation.

Typical Areas Addressed in the EA:

1. Agrochemical - purchase and use
2. Biodiversity
3. Cultural property
4. Global issues (ozone depletion/ global warming)
5. Hazardous and toxic chemicals
6. Indigenous people
7. Socio-cultural aspects
8. Industrial hazards and pollution
9. International treaties and agreements
10. International waterways
11. Involuntary resettlements
12. Natural habitats
13. Natural hazards
14. Occupational health and safety

Environmental Screening

Four categories of projects eligible for financing:

Category A The project is likely to have significant adverse environmental impacts that are sensitive, diverse or unprecedented.

Category B Potential impacts on human population or environmentally important areas (wetlands, forests, and other natural habitats) are less adverse than those of Category A projects. Impacts are limited in scope, and their effect is largely known.

Category C Project is likely to have minimal or no adverse environmental impacts.

Category FI Involves investment of Bank funds through a financial intermediary in sub-projects that may result in environmental impacts.

Activities not eligible for financing (A.K.A. Black List):

- Tobacco production
- Production of lead paint
- Trade with wildlife products prohibited by CITES convention
- Manufacturing, distribution, and sale of banned pesticides and herbicides
- Radioactive products

Content of EA Report:

- Executive summary
- Policy, legal, administrative framework
- Project description
- Baseline data
- Impacts
- Analysis of alternatives
- Environmental management plan
- Summary of public consultation

Environmental Management Plan:

- Mitigation
- Monitoring
- Institutional development/ technical assistance

Source: Inesis Kiskis, 21 October 1999; Environmental Assessment in WB Financed Projects, Skopje.

Box 3

Facts on EA; World Bank operational policy OP/BP/GP 4.01 Environmental Assessment

Environmental Review Process:

- Step 1: Enterprise prepares initial project concept,
- Step 2: Financial institution performs environmental screening,
- Step 3: Preparation of environmental assessment,
- Step 4: Financial institution reviews audit/provides clearance,
- Step 5: Incorporate EA recommendations into project clearance from authorities,
- Step 6: Review of environmental documentation and approval,
- Step 7: Financial institution monitors implementation activities.

Source: Inesis Kiskis, 21 October 1999. Environmental Assessment in WB Financed Projects, Skopje.

Box 4

Credit line from the German Bank KfW

What documents are needed for loan application:

- Request for the loan according to the form created by Macedonian Bank for Development Promotion (MBDP);
- Business plan with detailed project description, financial plan and financial projection of balance sheet, income statement and cash flow statement for the lifetime of the loan;
- Documents of incorporation - trade registration with all attachments;
- List of real estate owned;

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- Real estate appraisal;
- PDP-2 report issued by the central payment office;
- Financial statements for the last 2 years;
- Written report on the environmental aspects of the investment project according to the form from the MBDP;
- MBPD may ask for additional information if required for processing the application.

Source: MBDP (Macedonian Bank for Development Promotion) on Internet;
<http://www.mbdp.com.mk/english/credit01.html>

Box 5

Commodity Aid Program from the Republic of Italy

Goods Excluded from Financing:

- Goods that are not in accordance with prevailing Macedonian environment regulations,
- Goods for genetic engineering,
- Production, stocking and manufacturing of radioactive products or wastes,
- Goods for production, distribution or sale of internationally forbidden pesticides and herbicides, as well as,
- Goods for stocking, manufacturing, and outgoing waste materials.

Source: Macedonian Bank for Development Promotion - MBDP on Internet;
<http://www.mbdp.com.mk/english/credit02.html> (as of Jan.2002)

If an SME imports equipment for environmental protection, or equipment for pollution treatment, according to the Act on Customs, the importer can be tax-free if a permit is obtained from the Ministry of Environment and Physical Planning (MEPP). The MEPP application form is available on their Internet site at http://www.moe.gov.mk/pdf/Baranje_oslob_carina.pdf (As of Jan. 2002). For further info please contact the MEPP.

"Ecological-Technological Projects" (ETP)

What Are They? Who Should Have One? Why Are They Important?

According to the director of the State Environmental Inspectorate (SEI), the ETP is by far the most important document to have, if the entity has polluting sources. The obligation to have an ETP is threefold:

1. It is an obligation to have an ETP under Article 29 of the Act on the Environment:
"...All entities and individuals that have sources of pollution, are obliged to have and to submit to the MEPP the "Ecological-Technological Projects", that will contain an analysis of the sources of pollution and solutions for mitigation and minimization, so that pollution emission are within the Maximum Allowed Concentration (MAC). The measures and activities described and prescribed in the ETP must be implemented within 5 years after they have been prepared."

2. An SME applies for a permit and approval from the MEPP prior to starting any activity. This is when an SME is starting a completely new project, or when the operational conditions are changing. In this way, according to Article 30 of the Act on Environment, the submitted ETP can become an Integrated Pollution Prevention Control (IPPC). The decision is made by the MEPP.
3. Finally, the ETP must be submitted to the SEI when the SME is applying for a permit and/or approval, which is a requirement for a loan from the financial institutions.

The obligation to have an ETP was introduced by the first Act on Environment in 1997. The deadline for entities that have "polluting sources" was one year after the Act came into force, originally 1998. With the latest amendments to the Act in July 2000, the deadline was shifted to 2001. It is hard to believe that all of the entities that have "polluting sources" were able to meet this deadline and complete an ETP. Those inspected by the State Environmental Inspectorate, who did not have an ETP, received a written order to complete one. If not, they would face court charges and penalties.

Article 12 of the Act on the Environment states that only those institutions/organizations, which are certified by national accreditation agency, can perform specific activities related to the environment, one of which is preparing an ETP. Other activities might be the monitoring of the environment, analyzing environmental media samples, etc.

It must be understood that SMEs/entities that have "polluting sources" must prepare an ETP. Not only because they are legally obliged, but also to find out the potential pollutants and polluting sources of their SMEs.

Monitoring

Monitoring of the state of the Macedonian environment (measuring and monitoring of the condition and changes in the environment), is performed by the Environmental Information Center (EIC), which is part of the MEPP.

In addition, businesses also have reporting requirements. One is the provision under Article 18 of the Act on Environment which states that all entities that impact the environment when operating should record the quantities of pollutant components in the input and the output of their materials, together with the emission of pollutants into the environment. This information must be sent to the MEPP.

Wastewater Management (Water Quality Legislation)

Let's say that in everyday operations your SME produces, or will produce, wastewater. As a manager and/or owner, you should be aware that your SME must comply with the regulations that deal with water. It must not be understood as just another financial burden on your SME, instead it is better to understand that by complying with the wastewater regulations your SME will:

- a. protect the environment;
- b. minimize the possibility of being liable for not complying; and
- c. improve the social and environmental image of your SME.

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The management of water is spread across four ministries:

- The Ministry of Agriculture, Forestry and Water Resource Management controls water supply (including irrigation and flood control), and manages a number of water quality issues.
- The Ministry of Health manages drinking water quality.
- The Ministry of Transport and Communications authorizes the building and operation of industrial premises and determines the need for industrial water treatment systems.
- The MEPP oversees the quality of wastewater effluents.

Each Ministry has its own inspectorates that enforce their legislation concerning water issues.

The general consideration that any SME should have regarding wastewater is that it must not be discharged untreated. According to the Law on Waters, wastewater is a pollutant and is considered to be like all other pollutants.

Waste Legislation and Hazardous Waste Legislation

The general legislation covering the waste issue is covered in these acts:

- Law on Waste,
- Law on Communal Works,
- Law on Public Hygiene, Maintenance and on Communal Solid and Technological Waste Gathering and Transportation,
- The Act on Environment.

The competent authority to contact and to consult regarding waste questions and problems is the State Communal Inspectorate (SCI) within the Ministry of Transport and Communications (MTC). There is also the Communal Inspectorate under the local government authority. So, three bodies on different levels can inspect your SME. This is more than reason enough not to neglect waste liability. Each SME, no matter its activities, needs to comply with the waste acts.

Everyday waste is known as Communal Waste. The definitions of these types of waste are in the Act on Waste. It is strongly advised that your SME be aware of the type of waste produced during its operation. As elaborated below, if your SME deals with hazardous or radioactive waste, it is advisable to contact the MEPP. We all know that is better to prevent than to cure, so it is better to know the problem in advance.

It is worth noting that Article 23 of the Act on Environment prohibits illegal waste dumping. If this act is abused, then the equipment used in the violation will be seized. Also, Article 24 of the same act prohibits the importing of waste, and prohibits the importing of technologies that are banned in the export country due to environmental reasons.

Since our country does not yet have an Act on Hazardous Waste and an Act on Ionizing Radiation and Radiation Safety, any entity (SME) that performs activities with hazardous waste or any radiation, is advised to contact the SEI for safe and legal instructions.

SOURCES OF ASSISTANCE

Ministry Of Environment And Physical Planning (MEPP)

Macedonian Government has engaged the MEPP to coordinate activities for the establishment of a National Center for Cleaner Production and to develop a strategy for the center's activities.

The Fund for the Environment as an organ of the MEPP has undertaken activities for that purpose.

The Fund for Environment and Nature Protection and Promotion (The Fund for Environment), was established in accordance with the Law on Environment and Nature Protection and Promotion at the end of 1997. The role of the fund is to provide financial resources for encouraging pollution prevention and undertaking rehabilitation measures and activities aimed at protecting and promoting the environment.

In order to stimulate cleaner production technology, as a preventive activity in environmental protection, the Fund for Environment financially and technically supports the establishment and work of the National Cleaner Production Center in Skopje and the Regional Cleaner Production Center in Veles.

The National Center For Cleaner Production (NCCP)

The NCCP is an independent, non-governmental institution with a mission to coordinate cleaner production activities in the country. The principal activities of the NCCP are:

- To involve all interested companies in CP programs by providing support in implementing CP;
- To act as a center for exchange of experience, technical information, and expertise related to CP;
- To organize training courses for experts, managers, and national consultants for the purpose of implementing CP.

UNIDO/UNEP and the Czech Cleaner Production Center support the development of the NCCP.

Currently, the NCCP is conducting a three-year (2001-2003) program for introducing CP projects to Macedonian companies. The program is financed by UNIDO and the Czech Government and has been conducted with the support of the Czech Cleaner Production Center. The program is in its second phase. Czech experts, accompanied by eight national consultants, are providing five one-week training sessions for a period of six months for eight enterprises. The expected outcome of the program is that a trained staff, with the support of national consultants, will develop a CP study and a CP project proposal.

Currently, eight companies have successfully completed the CP program. Some of these SMEs have implemented CP projects in their own companies (case studies are in the brochure).

The Regional Center For Cleaner Production (RCCP) - Veles

The RCCP was established in 1999 through an initiative of the MEPP - Fund for Environment, MHK Zletovo and the Regional Environmental Center. The RCCP is functioning as a non-profit, non-government organization with a mission to help companies and local governments in the region. Activities include planning, development, and implementation of cleaner production practices. The RCCP, with the

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support of UNDP, has realized a one-year project for the introduction of EMS in companies from Veles. They have successfully implemented EMS in five companies. In addition, as an outcome of this project, the companies have developed CP projects.

The members of RCCP are experienced in implementing EMS and CP and can provide valuable support in training, know-how, and technical expertise to companies interested in implementing EMS.

The Bureau Of Standardization And Metrology

The mandate of the Bureau of Standardization and Metrology as the national standards body is to prepare, adopt, and issue Macedonian national standards. At the same time, it should facilitate co-operation and represent the country in international and European organizations for standardization, in accordance with the needs and interests agreed upon at the national level.

The Bureau has started activities for the adoption of ISO 14001 and ISO 14004 as national standards with the MKS label. Until the accomplishment of the formal process, the application of these standards is regulated through a formal decision made by the Government.

MQS - Macedonian Organization For Certification And Assessment

MQS is the Macedonian Certification body. It was established in 2001. The main aims of MQS are to provide assessment and certification services to Macedonian companies by offering a range of internationally recognized and harmonized services.

MQS is providing cost effective assessment and certification services for ISO 9000, ISO 14001, ISO/TS 16949, TL 9000 and TQM - EFQM managements systems. MQS has a contract for cooperation and mutual recognition of certificates with OQS Austria. On this basis, MQS certified companies will also get OQS and IQNet certificates.

Local Consultants

The NCPC through the UNIDO CP program is providing training for national consultants. It is projected that the three-year program will produce trained and experienced consultants for conducting CP programs in local companies.

There are initiatives from a few local consulting companies for promoting ISO 14001 in Macedonian companies. This process is still in its initial phase. It is to be expected that interest will grow as a result of market requirements.

Alkaloid AD Skopje

ALKALOID AD Skopje is the first Macedonian ISO 14001 certified company. The company has about 1,400 employees divided into four profit centers: Pharmaceuticals, Chemicals and Cosmetics, Botanicals and Coatings (Paints and Lacquers).

The product ranges of Pharmaceuticals, Chemicals & Cosmetics and Botanicals are ISO 9001 certified and Botanicals has also been ISO 14001 certified. Certain types of teas have been certified and have earned the internationally recognized SKAL eco-label.

As a company well versed in environmental issues, experts from Alkaloid PC Botanicals can provide know-how support to companies that have the intention to implement EMS and ISO 14001.

Konti Hidroplast Gevgelija

Konti Hidroplast is a privately owned company which designs, develops, and produces polyethylene, polypropylene and polyamide pipes, and mountings for transmission systems. The company has 50 employees. In the 25 years of its existence, the factory has continued to develop as a dynamic and enterprising company.

The main objective of its operations and development is the quality of its products. In that regard, in 1998 the company was certified according to ISO 9001 and from 8 February 2002 has been certificated in ISO 14001. The pipes produced in Konti Hidroplast are high quality products according to the requirements of the ISO 4427 standard for pipes.

The expert team of Konti Hidroplast can provide consulting and know-how support to interested companies for EMS and ISO 14001.

Interdisciplinary Studies In Environmental Engineering

Following world trends and increasing demands for environmental experts, in 1996, 13 faculties from the University of "Kiril and Metodij" established Interdisciplinary Studies in Environmental Engineering. Until now, six classes of 50 students have registered at this faculty and the first graduate engineers have completed their studies. Students attend a one-year course on EMS where they gain knowledge of the ISO 14001 Standard.

The Interdisciplinary Studies in Environmental Engineering can provide these services to SMEs:

- Consulting on EMS, ISO 14000;
- Training, seminars on EMS, ISO 14001;
- Student projects in implementing some elements of ISO 14001 in companies.

Employing pre-graduate students can provide a low cost source of assistance as well as providing valuable work experience for the students involved.

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SUMMARY AND NEXT STEPS

Hopefully this booklet has given you a fundamental sense of why environmental management can be an important tool for your business success. You cannot be expected to take huge leaps in environmental management capability in a short period. Integrating sound environmental practices into Macedonian business culture will take time.

It is important that you now begin to understand the benefits that environmental management can have. Give it some thought. Look at your business and consider the concepts we have discussed. Seek advice or information from experts who can help.

Contact SEED and help us with recommendations for bringing more information and assistance to you on how your business can profit from environmental management. We also would be grateful if you would fill out the survey card attached to the back cover of this booklet.

SEED welcomes your feedback to this brochure and your questions and needs for information and technical assistance to better understand and implement the principles discussed here. Please feel free to contact Samir Beširević, our Environmental Specialist, for further assistance.

Contact Information

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