

Nokia Suppliers and the Environment



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Nokia Environmental Guidelines for Suppliers

The supplier shall

- have a properly documented Environmental Management System (EMS), and/ or a plan for its implementation
- have an environmental policy
- know the environmental legislation and applicable regulations, and comply with them, as well as be aware of draft legislation and prepare for it
- have recognised its environmental aspects, documented and measured the environmental impacts of significant aspects, and have improvement programs for them
- have an appropriate environmental training program and implementation schedule for its employees.
- evaluate its suppliers' environmental performance and set environmental improvement targets as necessary
- take due consideration of environmental issues during research, development, manufacturing process design and production
- upon request, declare the raw material content of its products delivered to Nokia
- upon request, provide end of life treatment recommendations for its products



The complete life cycle

"Commitment to protecting the environment is an integral part of the Nokia corporate culture and it is embedded in our values.
– Life cycle thinking, a concept we are working to embrace, covers all environmental concerns relating to our products. We believe that Nokia's open and ethically sound approach will help us reach the goal of sustainable development"

– *Chairman of the Board and CEO,
Jorma Ollila*

Sustainable development is defined as "meeting the needs of the current generation without compromising the ability of future generations to meet their needs". Environmental protection is not something that can be added on at the end. It comes at the beginning, taking into account all phases of the product life cycle.

In "old school" environmental management a company is responsible only for its own environmental impact. At Nokia, however,

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we have adopted a "life cycle concept" of environmental management. This concept takes into consideration all phases of the product's life cycle, from design and raw materials, to manufacturing and packaging, distribution and use, and finally to end of life treatment.

For this reason, the environmental policies and performance of our suppliers are an important part of our own environmental performance. Hence we take environmental issues into consideration when assessing potential or existing suppliers.

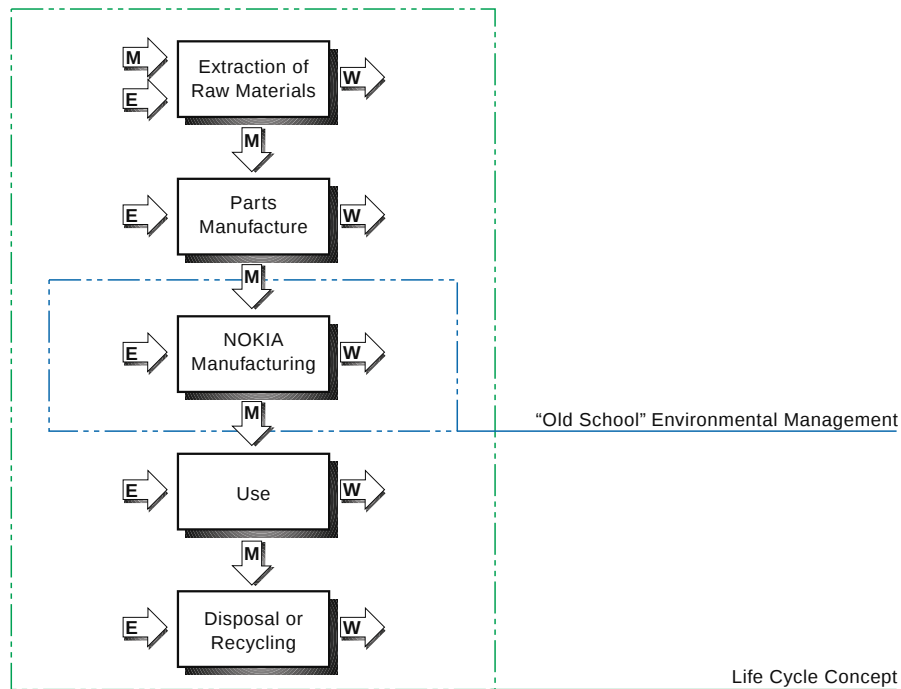
Environmental management is not a separate process but an integral part of all our operations, and those of our suppliers, inseparable from the processes of manufacturing, distribution and disposal. To reach that goal, we make continual improvements in our own environmental performance, and expect the same of our suppliers.

In this brochure we have defined and described our environmental guidelines for our suppliers.

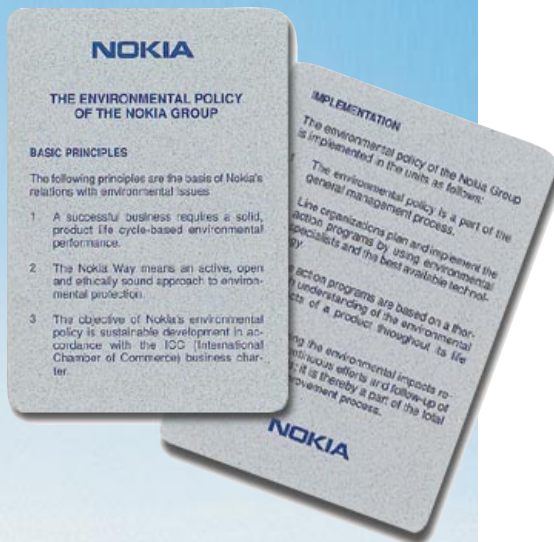
Life Cycle Concept



M = Material
E = Energy
W = Waste & emissions



Life cycle thinking, the so called "cradle to grave" approach, requires that environmental performance of all members in the chain is known and managed.



Nokia Environmental Policy

Nokia Sourcing Principles for the Environment: implementation of the policy

- 1 Nokia suppliers will be managed to meet Nokia's environmental policy in all its aspects without incurring any total cost impact on Nokia.
- 2 Sourcing's environmental management will cover three main topics:
 - Environmental impact of supplier's products and processes
 - Environmentally ethical considerations amongst suppliers
 - Life cycle impact of products throughout the supply chain
- 3 Nokia suppliers must meet applicable environmental legislation as well as the Nokia requirements.
- 4 Focus must be given to minimising environmental impact. Therefore Nokia will encourage suppliers to support Design for Environment and other procedures that design in environmentally sound features at all development stages of products, services and their production.
- 5 Nokia will expect its suppliers to implement self auditing processes that record performance, initiate corrective actions and monitor progress (Environmental Management Systems, EMS).
- 6 Environmental Management is an integrated and routine part of Sourcing's activities.



Nokia Environmental Guidelines for Suppliers

Environmental management

The supplier shall have a properly documented Environmental Management System (EMS) and/ or a plan for its implementation.

The EMS should comply with ISO 14001 or some other internationally recognised environmental standard. At the very least, it should contain the elements of such standards.

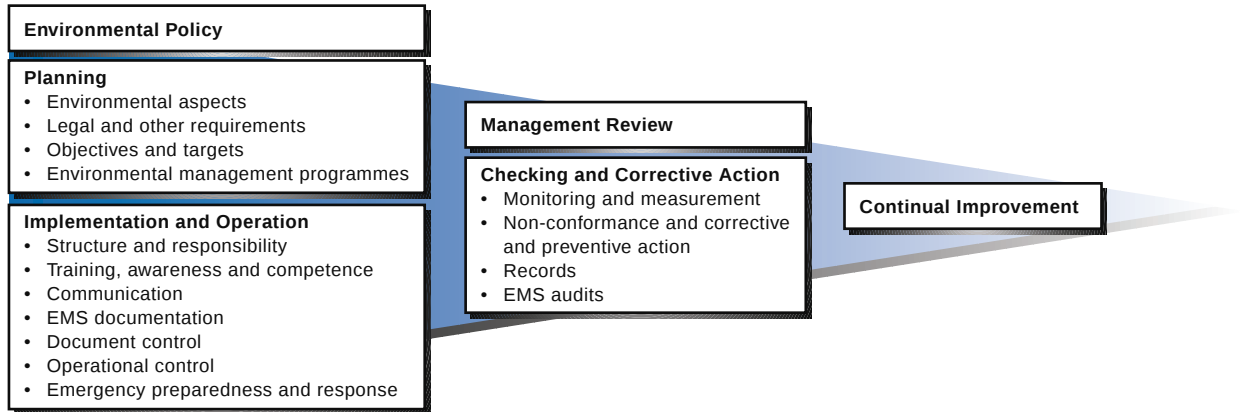
An Environmental Management System describes a company's environmental policies and procedures, shows evidence of environmental compliance and corrective actions taken, plus evidence of continual improvement.

A properly designed and functioning EMS ensures control of all significant environmental aspects and effects, and has built-in mechanisms for continual improvement. To make implementation feasible and improvement possible, it is important to focus on small concrete steps instead of trying to do everything at once.

The scope of the EMS must be clearly defined in terms of the activities of the organisation. Whenever possible, the scope should cover all locations, i.e the entire organisation.

In order for the EMS to be successful, management must be committed to it and sufficient skilled resources must be allocated.

Elements of EMS



The supplier shall have an environmental policy.

This policy, a statement of the organisation's environmental principles and intentions, provides the framework for action. It shall be approved by the company's management and be relevant to the organisation and its operations. When the organisation is part of a larger one, its sub-policy should not be in conflict with policies at higher levels, but should provide more detail and be relevant to individual locations.

The policy shall include commitment to environmental protection, prevention of pollution, compliance with environmental legislation, and continual improvement.





The supplier shall know the environmental legislation and applicable regulations and comply with them, and be aware of draft legislation and prepare for it.

Within the organisation there shall be a procedure for identifying the legal and other binding requirements concerning the environment. These include current and future legal requirements, local regulations, industry codes of practice and specific Nokia requirements, and any signed voluntary agreements with public authorities or programs such as the ICC Business Charter and Responsible Care etc.

The supplier shall recognise its environmental aspects, document and measure the environmental impact of significant aspects, and have improvement programs for them.

This is one of the cornerstones of EMS. There shall be programs covering the significant environmental aspects. The program targets (preferably numerically quantified) shall be defined, and there must be feasible plans that include timetables, responsibilities and milestones.

The programs will vary by industry, but each supplier must have taken into consideration its own environmental impacts. The programs may cover important topics like waste management, energy management, hazardous waste treatment, packaging material, water treatment etc.

Environmental **aspect** is an element of an organisation's operations, products or services that can interact with the environment. It will cause an environmental impact whether adverse or beneficial.

Environmental **impact** is a change in, or effect upon, the environment resulting either wholly or partially from the organisation's activities, products or services.

Environmental **effect** means physical evidence of an environmental impact.







The supplier shall have an appropriate environmental training program and implementation schedule for its employees.

All employees working in a process that could create significant impact on the environment must receive appropriate training. The organisation must therefore carry out some training analysis.

Personnel must be environmentally competent on the basis of their education, training and/or experience.

Similarly, training records should be available.

Suppliers

The supplier shall evaluate its suppliers' environmental performance and set environmental improvement targets as necessary.

The environmental performance in each stage of the entire supply chain contributes to the total environmental impact of the final product.

This "cradle to grave" approach adopted by Nokia requires that the environmental performance of all members of the chain is known and effectively managed. This extends upstream along the supply chain to suppliers of components and to the extraction of raw materials. Going downstream this covers the use of the product, as well as the eventual disposal or recycling of components or materials.



Environmentally conscious design

The supplier shall take due consideration of environmental issues during research, development, manufacturing process design and production.

Environmental issues should be systematically taken into consideration during research and development. This is called Design for Environment (DfE). The purpose of DfE, in both design solutions and material selection, is to develop environmentally compatible products and processes whilst optimising total cost, performance and quality.

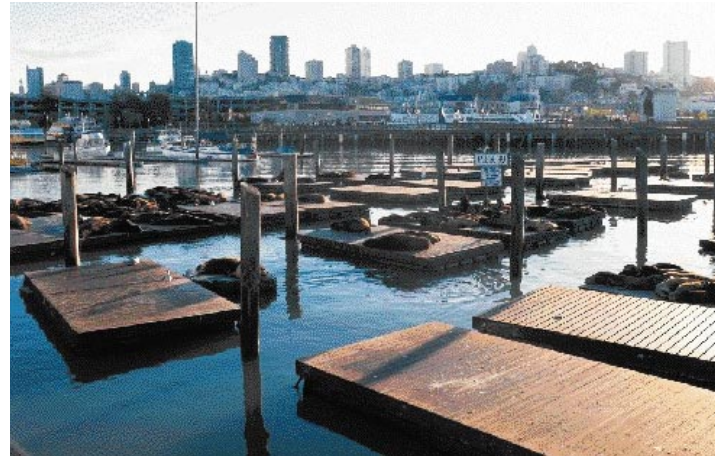
DfE usually covers the following issues:

- energy efficiency both in product manufacturing and use
- minimised material use
- material selection: e.g. comparing the raw material content and recyclability of different alternatives, reducing the variety of materials used
- reuse and recycling

The supplier shall upon request declare the raw material content of its products delivered to Nokia.

Customers are placing increasing demands for full material declaration, i.e. the total raw material content of the product. This demand applies throughout the whole supply chain. This information is needed in order to utilise the material in the best possible way, e.g. for recycling purposes.

A full material declaration is preferable; from the start a minimum requirement is a list of environmentally relevant materials according to a list provided by Nokia.



Environmentally relevant material:

Substances, preparations or materials that are considered relevant due to:

- their hazard to humans or to the environment in their applications or end-of-life treatment methods
- their availability as natural resources
- their known high impact during their lifecycle



End of Life (EoL) practices

The supplier shall upon request provide end of life treatment recommendations for its products.

Producer responsibility will require the producer to take back and recycle certain types of end products at the end of their useful lives. Recycling can mean one of several options, e.g. reuse, recycling, refurbishment or conversion.

In order to manage the recycling process and increase the eco-efficiency of the process, it is necessary for us to have the relevant data on the raw materials and treatment of the components in our products.





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