



Development of European Ecolabel Criteria for Buildings

Main Environmental Impacts of the buildings

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Action to reduce main impacts

- Minimize life cycle costs
- Reduce resource consumption
- Reduce resource waste
- Increase equipment and system efficiency
- Emphasize source and waste reduction
- Create healthy environments



Process Building

The process of building follows these phases:

- planning
- construction process
- maintanance and operational
- demolition and disposal

The process of creating a high-performance building is different from the conventional design/build process.

The challenge is to integrate environmental goals without compromising any of the project needs and objectives.



Planning

Objective

- improve site planning
- safeguard water and ensure its efficient use
- maximize energy efficiency
- conserve materials and resource
- ensure indoor environmental quality

Benefits

- reduced energy and water use
- lower maintenance and capital costs
- less environmental comfort and health
- higher employee productivity



Construction process

The main impacts from the construction activities are:

pollution, noise, vibration, water quality, traffic flow, visual impacts for those residents and travellers.

Environmental impacts and risks

- Air quality

- NOx and fine particulate from diesel engines
- dust
- visibility of stack emissions from off-road equipment
- cumulative effects of emissions from paint and other solvent

- Water quality

- dewatering and stormwater runoff



Construction process

- Solide Waste

- quantity of materials disposed to landfills
- toxicity of some materials used in construction and related activities
- potential liability from contaminated soil
- provisions for recycling unused materials
- provisions for making use of materials with recycled content
- situations involving special regulatory considerations, including wetlands, endangered species
- potential for contamination from stored materials, spills
- preservation of vegetation, or revegetation, as appropriate



Maintenance and operational

Specific elements of this phase include:

- Heating, Ventilation, Air Conditioning Systems and Equipment
- Indoor Air Quality Systems and Equipment
- Cleaning Equipment and Products
- Materials
- Water Fixtures and Systems
- Waste Systems
- Landscape Maintenance



Demolition and disposal

The benefits from reducing the amount of waste include:

- reduced waste disposal costs
- avoid landfill consumption quality
- preservation of environmental quality
- improved workplace safety and health

Some examples of recyclable demolition materials:

- Aluminum
- Other metals
- Wood
- Asphalt
- Concrete



Demolition and disposal

Reduction measures at the development/design stage

Reduction of waste could be enhanced by:

- Encouraging building owners and developers to embrace the concept of waste minimisation and recovery resources
- Designing buildings to avoid waste wherever possible
- Designing structures to enhance the ability to deconstruct and dismantle rather than demolish
- Designing buildings to enhance their ability to be adapted for different uses
- Establishing a task force with representatives from recyclers, building materials manufacturers, building designers, and building/demolition contractors to investigate waste reduction measures and provide co-ordination across industry sectors
- Ensuring waste management issues are considered during the development process



Demolition and disposal

Reduction measures during construction

- Requiring Waste Management Plans as supporting documentation in the tendering process for any project
- Recycling and reuse proposals as criteria in the selection process for the awarding of contracts
- Nominating a person on site to be the Waste Management Officer and giving them the authority and accountability for ensuring cost effective results
- Including waste minimisation outcomes as key performance indicators to be reviewed at all site management meetings and evaluated at the end of the project
- Undertaking discussions with all suppliers to review ways of reducing waste
- Requiring construction material suppliers to take back surplus materials



Demolition and disposal

Reduction measures during construction

- Accurately estimating quantities excess materials being delivered to site
- Employing techniques so only the required materials arrive on the construction site at the appropriate time
- Matching the skips for recyclable products to the different stages of construction, thus optimising space
- Including waste management issues as a part of the building inspection/control and certification process
- Developing disposal procedures such as the type of containers to be employed, clear and appropriate signs, a suitable location for bins and stockpile sites and allocation of areas to place materials for recycling/reuse.