

ESD targets for development

Reproduced from Green Games Watch 2000 draft State Environmental Planning Policy (SEPP) for Ecologically Sustainable Development (ESD) (1999)

Environmental Targets

Conservation of species

Flora and fauna

- no harm to threatened species, populations, ecological communities, critical habitat or areas of ecological sensitivity, including wetlands and remnant vegetation
- minimum 30% increase in area of locally indigenous vegetation, and native wildlife corridors and habitat, compared to existing condition

People and social environment:

- increase in employment opportunities compared to existing situation

Conservation of resources

Water

- minimum 50% reduction in demand for potable water from Sydney's mains supply for any new development compared to a similar development

Energy

- maximum energy consumption of 100MJ/psqm/a for any new multi-unit residential development
- 5 star energy rating under the Sustainable Energy Development Authority's (SEDA) Energy Smart Homes Policy for any new individual lot residential development
- maximum energy consumption of 350MJ/psqm/a for any new commercial/office development
- maximum energy consumption of 900MJ/psqm/a for any new retail development
- minimum 50% reduction in demand for energy from non-renewable sources for any other new development compared to a similar development

Construction materials

- reduction in use of materials which deplete natural resources or create toxic pollution in manufacture, use or disposal, for any new development compared to a similar development

Open space

- significant allocation of public open space in the development for community use

Topsoil

- no importation of topsoil

Pollution prevention

Air & transport

- minimum 25% decrease in greenhouse gas emissions compared to existing situation
- no use of ozone depleting substances
- no increase in ambient levels of air toxics listed under the National Pollutant Inventory measured at the boundary of any new industrial development
- maximum of 0.08ppm ozone measured over 1 hour
- maximum of 0.105 ppm nitrogen dioxide over 1 hour
- maximum of 30 micrograms per cubic metre particulate matter (PM10) over 1 year
- maximum of 90 micrograms per cubic metre of total suspended particulates over 1 year
- significant decrease in number of car parking spaces per capita
- significant increase in vehicle kilometres travelled (VKT) by public transport compared to existing situation
- maximum indoor levels of carbon monoxide, formaldehyde, lead, ozone, radon, sulfates, sulfur dioxide, total suspended particulates and total volatile organic compounds (VOC) as specified in National Health and Medical Research Council (NHMRC) interim national indoor air quality goals for any new development

Water

- significant improvement in quality of stormwater compared to existing situation
- significant reduction in pollutant load from licensed discharge for any new development compared to similar development
- no adverse impact on water flows from any new development
- groundwater quality to meet Australian and New Zealand Environment and Conservation Council (ANZECC) 1992 *Australian Water Quality Guidelines for Fresh and Marine Waters*

Soil

- maximum levels of heavy metals, mineral pollutants, phenolic compounds, aromatic hydrocarbons, chlorinated hydrocarbons, pesticides, sulfate and pH not to exceed levels specified as environmental investigation levels in ANZECC 1992 *Guidelines for the Assessment and Management of Contaminated Sites*

Waste

- minimum 60% reduction in waste to landfill from operation of any new development compared to a similar development
- 90% reduction in construction hard waste from any new development compared to a similar development

Noise

- significant reduction in noise level for any new development compared to a similar development

Light

- significant reduction in light spill for any new development compared to a similar development
- no adverse light impact on environmentally sensitive or existing residential areas

Environmental Guidelines (list of outcomes)

Design and construction

- developments incorporate or adapt existing facilities as far as possible
- building and infrastructure design minimises adverse environmental impacts and impacts on surrounding communities
- building material selection is subject to life cycle assessment, considering environmental implications during manufacture, use and disposal
- development takes into account the findings of social and health impact assessments
- development minimises the amount of land used while not compromising good urban design
- site selection and design avoids native bushland, threatened species, populations and ecological communities, critical habitat, and ecologically sensitive areas including wetlands and wildlife corridors
- site selection and design avoids areas of Aboriginal or European archaeological significance
- site selection and design encourages the use of public transport

- environmental management plans are prepared and implemented during design, construction and operational stages of development
- independent environmental audits are conducted during design, construction and operational stages of development

Energy conservation

- the development incorporates passive solar building design
- insulation and natural ventilation are used
- life cycle assessment of materials considers thermal performance
- renewable sources of energy are widely used
- use of natural light is maximised
- energy efficient appliances and lighting systems are used
- sophisticated building management and control systems assist management of engineering services to minimise energy requirements
- mechanical ventilation is zoned to allow ventilation flow to be switched off when spaces are unoccupied

Water conservation

- the development is consistent with any relevant catchment management plan
- a water cycle management plan is incorporated
- buildings and infrastructure are designed to collect wastewater for recycling
- life cycle assessment of materials considers water used
- treated stormwater and sewage effluent are recycled
- the recycled water system is supported by public information and education
- landscape design uses locally indigenous species which decrease water requirements
- water conservation devices are used such as dual flush toilet systems, roof-fed water tanks, water-saving shower roses, and appropriate irrigation devices
- AAA rated low water-use appliances are used

Waste avoidance and minimisation

- a waste minimisation plan covering design, construction and operation is prepared and implemented
- the waste minimisation plan is supported by user information and education
- life cycle assessment of materials considers waste issues, including recycled content
- packaging is avoided wherever possible during construction and operation of the development
- waste separation and composting facilities are incorporated in design
- colour coded recycling bins with signage are used
- compost from organic waste is used in landscaping
- regular waste audits are conducted
- recycled, non-chlorine bleached paper is used in all project documentation

Improving air, water and soil quality

- an air quality management plan covering design, construction and operation is prepared and implemented
- public transport access is facilitated
- provision of car parking spaces is limited
- car pooling is encouraged
- cycle ways and pedestrian walk ways which link to existing routes are provided
- new plantings are provided to reduce greenhouse gas emissions
- CFC, HFC, HCFC-free refrigerants and processes only are used
- building design maximises indoor air circulation, without compromising energy saving features
- integrated pest management is adopted during design, construction and operation to minimise use of pesticides
- indoor air quality is protected by selecting building materials, finishes and furnishing with the lowest emissions of pollutants and radiation
- plant species known to produce common human allergens are avoided in landscaping near buildings
- use of chlorine based products (organochlorines) such as PCBs and PVC is avoided or minimised
- an erosion and sedimentation control plan is prepared and implemented
- paved surfaces are minimised and permeable pavement systems are used where appropriate
- constructed wetlands and gross pollutant traps are used to remove pollutants from stormwater
- cleaner production practices and best practice technology are implemented to minimise licensed pollution discharges
- a land-use history of the site is prepared to identify potential soil contamination
- comprehensive soil and groundwater contamination testing are undertaken for potentially contaminated sites
- an ecological risk assessment and remedial action plan are prepared and implemented for contaminated sites
- bioassays are used in testing, validation and monitoring of contaminated and remediated sites
- life cycle assessment of materials considers emissions to air, water and soil

Protecting significant natural and cultural environments

- flora and fauna impacts are assessed and minimised
- design avoids damage to native bushland, threatened species, populations and ecological communities, critical habitat, and ecologically sensitive areas including wetlands and wildlife corridors
- landscape and habitat management plans are prepared and implemented to enhance locally indigenous communities
- extensive indigenous plantings, including corridor plantings, are used to attract locally indigenous birds and other animals

- buffer zones are provided between sensitive natural areas and human use areas
- integrated pest management is used to manage feral animals and weed invasion
- impacts on Aboriginal or European heritage are assessed and minimised
- existing landscape features, such as ridges and lookouts, are protected, and visual amenity is assessed and enhanced
- a management plan is prepared and implemented to manage natural, landscaped and cultural features

Event management

- a public transport strategy is prepared and implemented
- public transport is the primary means by which spectators can directly access the event
- where appropriate, satellite car-parking venues are established so people can transfer to trains, buses and ferries for event access
- the event transport strategy facilitates access for people with disabilities
- event tickets integrate event admission with public transport
- integrated ticket prices encourage the use of public transport
- tickets are printed on recycled paper using non-toxic ink
- an event waste minimisation strategy is prepared and implemented
- waste minimisation and recycling are applied at both "back of house" and "front of house"
- event organisers minimise the amounts and types of waste entering venues
- foodstuffs from event outlets have minimal packaging subject to health requirements
- re-usable cutlery and crockery are used at food outlets wherever possible
- a standardised, colour-coded recycling bin system is applied throughout event venues
- recycling bin stations carry simple information to assist users to correctly separate waste
- the event waste strategy is supported by education of participants, including suppliers, waste contractors, venue employees and spectators
- event information is carried electronically where possible to reduce unnecessary use of paper, supplemented by effective paper recycling procedures
- procedures are implemented to identify, minimise and safely manage special wastes such as medical waste, photographic waste, batteries, cooking oil
- noise abatement techniques minimise disturbance for nearby residents
- event merchandise with a short life is avoided
- selection of event fitout material and official merchandise is subject to life cycle assessment considering environmental implications during manufacture, use and disposal
- use of recycled materials in fitout and merchandising is maximised
- packaging of merchandise is avoided or minimised
- official merchandise embodies an educational message about the environment wherever possible