

OBJECTIVE 9: MINIMISE CONSUMPTION OF SCARCE ENVIRONMENTAL RESOURCES

2.3.40 WASTE RECYCLING

POLICY

RC32 All municipalities should follow an integrated hierarchical approach to waste management i.r.o. avoidance, reduction, reuse, recycling, composting, treatment and final disposal. The Waste Management System should consist of a collection service from the source (domestic, office or factory), transfer stations and waste disposal sites. (G)

RC33 Waste separation at source should be encouraged i.r.o. all domestic households and institutions and businesses including high density and multi-storey buildings. Initially only organic (vegetable and plant matter) and inorganic (usually dry, cardboard, glass, plastic, paper, builders') waste should be separated. (G)

EXPLANATION

Waste management is reaching a crisis in some municipalities with Waste Disposal Sites at or near capacity. There is an urgent need to change lifestyles particularly with respect to domestic waste generation. However, Integrated Waste Management in the Province cannot directly copy a European approach, due to differences in incomes and lifestyles. Rather a hybrid approach is required, that recognises the contribution of informal components in the process such as waste pickers on the one hand but also the contribution that high income households, usually the biggest consumers and often living on large plots, can make on the other.

Initially, only a simple separation of organic waste (all foodstuffs not including cooked and raw meat which attracts vermin) from inorganic waste is proposed. It is relatively easy to dispose of organic waste in composting bins on site, especially on longer properties, while the remaining dry and cooked meat waste enters the waste management system. Over time further separation of dry waste into glass, plastics, paper and other categories can occur.

There is an extremely serious need for waste separation and recycling but it is recognised that this would be more difficult to begin with in high density situations and with lower income households. In any event households in these situations tend to be much smaller generators of waste than those living on large plots and who tend to be more affluent. In most cases there will be space on 500m² and larger plots to dispose of organic waste on site using composting bins and gardens. Administratively, it will also be easier to identify suburbs where the general plot size is greater than 500m² so as to identify properties from where organic waste should be collected. Obviously, it would be permissible for households living on smaller plots to separate organic and inorganic waste as well.

A number of middle income countries have already successfully introduced waste separation at source. This will have the largest impact on reducing the waste stream.



Recycling separated glass (source: Home & Garden, April 2005)

ACTION PLAN

Strategy

Waste management plans addressing separation, recycling, collection, disposal, publicity and incentives should be drawn up. An Integrated Waste Management Plan should be developed by all municipalities and implemented after approval by the Department of Environmental Affairs and Development Planning which will monitor the implementation of these plans to ensure that the set targets in the plan are achieved. These plans need to be revised every four years to be aligned with the IDPs. Organic and inorganic waste may not be mixed in the same bin or bag for collection purposes from properties larger than 500m². A comprehensive and effective publicity campaign should accompany the phasing in of this policy.

Legal

National Environmental Management Act, 1998
National White paper on Integrated Pollution and Waste Management for South Africa
National Waste management Strategy, October 1999

Funding

MIG funding
Use of incentives
District and local municipalities

Responsibility

Department of Environmental Affairs and Development Planning
Local municipalities : separation and collection, transfer stations, recycling
District municipalities : tipsites
NGOs and CBOs
Packaging and paper industry

Timespan

As soon as possible

Notes

Due recognition must be taken of the vested interests in the packaging and paper and waste collection industries in order to mitigate effectively.

This policy could be included in the SDIP when appropriate.

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2.3.40 WASTE RECYCLING (cont.)

POLICY

RC34 Material recovery facilities should be established at all transfer stations. (G)

RC35 There should be engagement with the raw material and packaging industries and agreement reached to ensure demand for recycled products. (G)

RC36 Every urban settlement should have a transfer station* within a maximum of 5km from the town centre, inside the urban edge. These transfer stations should be properly managed according to best practice so as to minimise nuisance to surrounding neighbours. They should also be open after hours and on weekends and their locations should be well publicised so as to ensure that they are used by the community. Furthermore, charges should not be levied on loads brought to transfer stations. Micro enterprises wanting to process waste and trade second hand materials on site should be encouraged. (G)

RC37 Every municipality should have waste management facilities located and operated according to DWAF's minimum requirements that will service the transfer stations in the urban settlements in that municipality. These sites may or may not be located within the urban edge of urban settlements. The main criteria for their location will be to meet satisfactory environmental and transport requirements. (G)

* transfer stations can include facilities like drop-offs, recycling centres, treatment facilities and waste disposal facilities

EXPLANATION

Recycling waste on a financially sustainable basis requires effective demand for recycled products.

The waste stream can be further reduced before it reaches the waste disposal site, by the recycling of all materials that can be reused. This has the advantage of lessening demand for new materials and so contributing to sustainability. This work requires low levels of skill and literacy thereby providing employment opportunities for people in these circumstances.

The incentive for recycled products is dependent on demand from industry for these materials. This may mean that recycling plants have to be installed to convert used materials to a new state suitable for use in production. This may require incentives or other methods of encouragement.

Much of the dumping that occurs in urban areas with negative visual, ecological and often public health impacts is as a result of there being no facilities available at convenient times. This situation is often compounded by the need to pay for loads to be accepted at these facilities. As a consequence of all of these inconveniences it is often much easier, although totally unacceptable, for people to dump these loads on the nearest road verge or in another unsuitable place. This creates urban blight where such dumping is not cleared and additional costs for the municipality where it is.

Because waste disposal sites are the permanent repository of all that waste that is not recycled and their operations are often subject to odours, noise, and dust although hopefully this will diminish with the successful separation of organic from inorganic waste, they are not seen as good neighbours and have negative impacts on property values. Consequently there are seldom suitable sites for their location inside the urban edge. However, their location can be more widespread with the intermediate role that transfer stations play in the waste stream but care must be taken to ensure that locations are not so far flung as to put an unsustainable burden on the transport resources of the Municipality.

CONDITIONS / CONTROLS

A comprehensive and effective publicity campaign should accompany the phasing in of this policy.

Land-fill sites must be properly managed according to best practices so as to minimise nuisance to surrounding neighbours.



Material recovery facility (source: http://www.elharvey.com/material_rec.htm)

ACTION PLAN

Strategy

Waste management plans addressing separation, recycling, collection, disposal, publicity and incentives should be drawn up.

Legal

National Environmental Management Act, 1998
National White paper on Integrated Pollution and Waste Management for South Africa
National Waste Management Strategy, October 1999

Funding

MIG funding
Use of incentives
Municipalities

Responsibility

Department of Environmental Affairs and Development Planning
Local municipalities: separation and collection, transfer stations, recycling
District municipalities : tipsites
NGOs and CBOs
Packaging and paper industry

Timespan

As soon as possible

Notes

Due recognition must be taken of the vested interests in the packaging and paper industries in order to mitigate effectively.

This policy could be included in the SDIP when appropriate.

OBJECTIVE 9: MINIMISE CONSUMPTION OF SCARCE ENVIRONMENTAL RESOURCES

2.3.41 NOISE, AIR AND FUEL CONSUMPTION

POLICY

- RC38** Noise pollution contours and their associated land use controls should be established well in advance of future urban developments. (M)
- RC39** Air quality management systems should be operated in those settlements experiencing problems together with well resourced public awareness programs that address limiting pollution as well as energy conservation. (G)
- RC40** A carbon tax with tariffs that effectively penalises producers and emitters of high levels of carbon dioxide either in the manufacturing or vehicle industry, should be implemented as part of the mandate of the licensing authorities in the Department of Transport and Public Works. (G)
- RC41** Measures should be taken to limit the unnecessary use of high fuel consumption vehicles. Users of high fuel-consumption vehicles should be effectively penalised on a sliding scale that makes allowances for public transport users. (G)

EXPLANATION

Carbon in the form of carbon monoxide and dioxide is one of the main contributors to the green house gases responsible for global warming and in concentrated situations of air pollution, such as found in the City of Cape Town, to Brown Haze. Although the ultimate solution would be a nil-emission public transport system, for example including electric buses, reducing emissions from current sources in the meantime must be a priority (Cape Town is fortunate in having an electric commuter rail system, but is unfortunate in having lost its excellent consumer-oriented electric bus system through "cost-efficiency" decommissioning some decades ago). Some 4x4 vehicles' urban cycle fuel consumption can range between 4 and 5½ km per litre, in contrast to small vehicles (especially turbo diesels) which can attain excellent fuel consumption of up to 18 km per litre (The former similarly produce excessive carbon emissions as well). See previous policy. High levels of fuel consumption also make the economy vulnerable to global oil price increases. There are small/hybrid vehicles of which the fuel consumption is as excellent as 28 km per litre. A skewed tariff on a scale that severely penalises high consumption fuel users in contrast to low, should be implemented.

CONDITIONS / CONTROLS

A major publicity campaign, an education drive and incentives or subsidies will be necessary to discourage the use of high fuel consumption and carbon emission vehicles. Note: many private motor vehicle users are not even paying car licenses. Cars registered within the Province can pay carbon tax as part of their licence fee. Other vehicles can pay carbon tax at toll plazas or other suitable venues. Air quality management plans and monitoring systems should be put in place.

ACTION PLAN

Strategy

Central government has policies to limit the level of toxic and pollutant emissions but excessive travel and use of high fuel consumption vehicles especially those used for private use, must be addressed. A parallel improvement in public transport services is also required. An approach should furthermore be made to the National Department of Transport to ensure that a uniform approach is implemented in other Provinces otherwise there may be attempts to register vehicles in other Provinces.

Legal

Air Pollution Control Act.

Funding

To be investigated

Responsibility

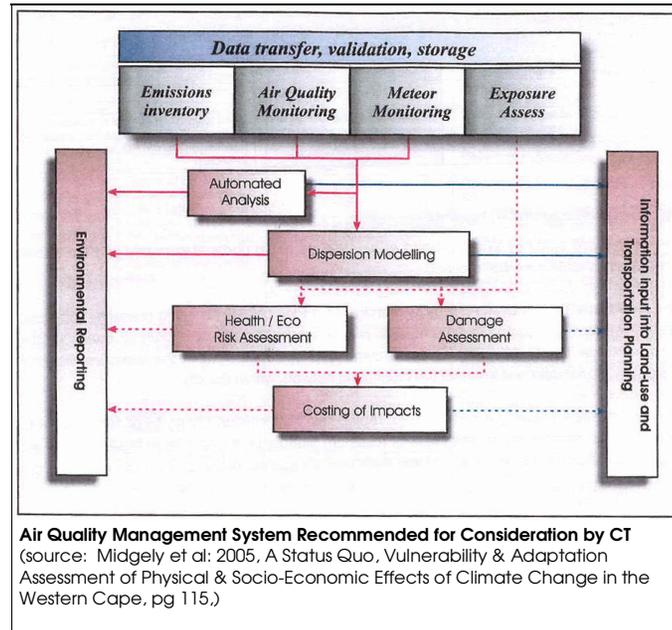
National Dept of Transport.
Provincial Department of Transport and Public works.
Oil and motor vehicle industries
Department of Environmental Affairs and Development Planning

Timespan

As soon as possible

Note

This policy could be included in the SDIP when appropriate.



OBJECTIVE 9: MINIMISE CONSUMPTION OF SCARCE ENVIRONMENTAL RESOURCES

2.3.42 RENEWABLE ENERGY RESOURCES

POLICY

- RC42** Codes and standards for energy efficient buildings in the government, commercial, industrial, residential and community sectors should be set according to the following guidelines:
- Green House Gas emissions reduced by 10% over 20 years. (G);
 - Electricity consumption reduced by 20% from what it would have been if the current trend continued unabated for the next 20 years. (adapted from National Policy Guidelines, Energy for Development Research Centre (EDRC, 2003) (G)
- RC43** Renewable energy sources (wind, solar thermal, biomass, and domestic hydro-electricity generation) should comprise 25% of the Province's energy generation capacity by 2020 (adapted from National Policy Guidelines, EDRC, 2003). (G)
- RC44** Solar thermal water heating and photo-voltaic energy generation should be compulsory, linked to mains electricity sources as back-up, on all new residential, commercial, industrial and community buildings, and should be progressively phased in as appropriate. (G)

EXPLANATION

Greenhouse gas (GHG) emissions are partially responsible for global warming which is resulting in major negativities and even disasters in the short and medium term. These proposals should be brought into line with national government's Climate Change Response Strategy. Human-caused greenhouse gas emissions are largely responsible for the rapid rate of global warming which will increasingly undermine human development gains throughout the world and increase national and local costs of disaster management. These proposals are in line with the Government's Climate Change Response Strategy.

Solar power has the potential to also contribute significantly to energy production that would otherwise be provided using fossil fuels.

Wind turbines do not have negative visual impact if carefully managed.

CONDITIONS / CONTROLS

The PGWC Wind Turbine Study should inform this proposal.



Demonstration Project : Mini wind turbine generator, photovoltaic cells, solar water heating panels, solar cooker.

ACTION PLAN

Strategy

A renewable energy plan should be drawn up indicating, inter alia, the role of different energy sources and how they should be integrated.

Targets should be set for this reduction of emission from vehicles and industry.

Provincial support should be given to a national scoping initiative with respect to alternative transport fuels, e.g. LPG.

Legal

New Air Quality Act

Funding

Eskom, oil companies and international funders are increasingly making funds available for pilot projects and research.

Carbon credits

Responsibility

Department of Environmental Affairs and Development Planning
Department of Minerals and Energy

Timespan

As soon as possible

Notes

n/a

