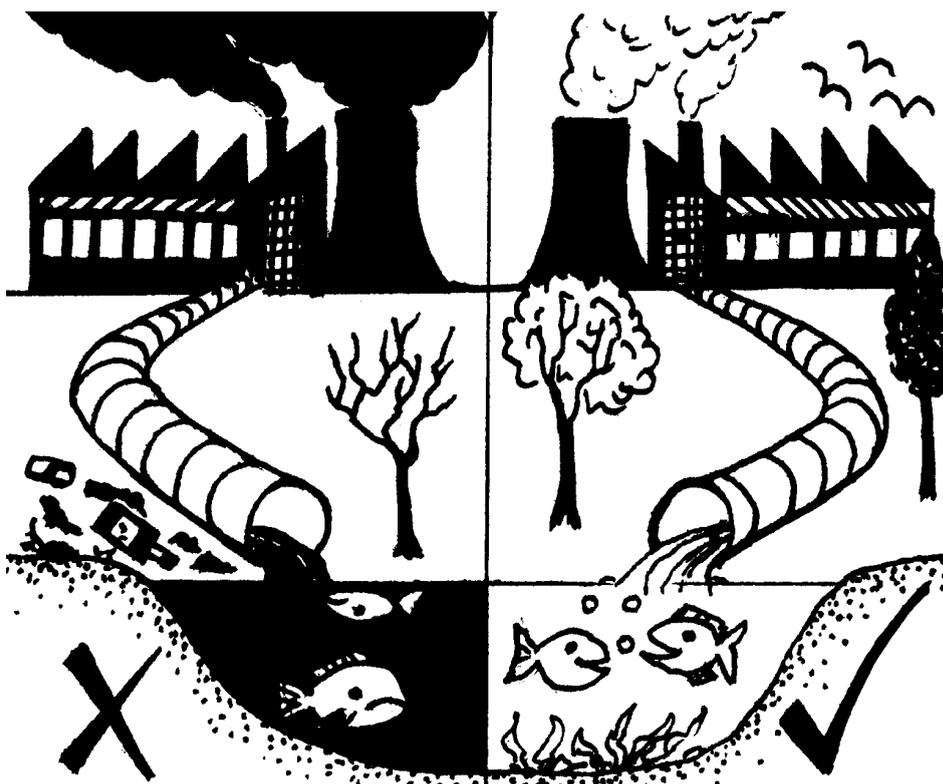


## SECTION 5: Environmental Quality

### KEY PRIORITIES

To encourage the local community and commercial sector to develop, implement and maintain best-practice standards in pollution control; and

To encourage support for clean production technologies to ensure ecological sustainability of industrial and urban activities



### **WASTE MANAGEMENT**

Australians produce waste at the rate of approximately 800kg per person per year. Much of this waste ends up in landfill sites, taking up space and creating localised areas of highly contaminated land. Burning at landfills releases large amounts of greenhouse gases into the atmosphere. Some waste is illegally dumped or thrown out as litter. Leaching from dumps and inappropriate disposal contaminates the environment, killing wildlife, reducing water quality and threatening human health.

Priorities to address these problems include waste reduction, improved waste disposal facilities and rehabilitation of contaminated sites. Individuals, households, industry and government will need to share responsibility for the overall problem.

### **ENERGY CONSERVATION**

Efficient use and conservation of energy are fundamental to our sustainable use of resources. Current energy generating technologies have serious impacts on the global and local environments. Use of fossil fuels (i.e. oil, coal and gas) for transport and electricity production results in diminished air quality and increased greenhouse emissions.

Priorities for this section include the development of renewable energy generation systems in Townsville-Thuringowa; reduced reliance on fossil fuels for transport; reduced consumption and more efficient use of energy in all sectors; and future buildings designed for the tropical climate to reduce reliance on air-conditioning.

### ***PROTECTION OF AIR AND ATMOSPHERE***

Many substances that we produce deplete the ozone layer, increase the warming greenhouse effect and diminish air quality. Thanks to everyday activities from backyard burning of rubbish to coal mining, Australia has the third highest per capita rate of greenhouse gas emissions in the world. Scientists predict that rising global temperatures caused by greenhouse gases will not only change our local climates, but will melt the polar ice caps and cause the seas to rise. Depletion of the ozone layer has been blamed for the increasing rate of skin cancer in Australia.

Townsville-Thuringowa currently enjoys good air quality compared to bigger cities. However, increases in population, traffic and possibly industrial emissions are expected. Consequently, levels of atmospheric pollutants may become a risk in the near future, both for human health and for sensitive ecosystems.

Priorities for this Section are to minimise activities that result in the release of greenhouse gases, ozone-depleting gases and other gases that impact on air quality. We also need more information on ecosystems that are sensitive to air pollution, so that they can be considered in land-use planning processes.

## **STRATEGY 5.1 WASTE MANAGEMENT**

### **❖ WHAT ARE THE ISSUES?**

Australia has one of the highest rates of waste generation in the world. Each of us produces approximately 800 kg of solid waste per year. Globally, we are now generating waste at a rate too fast for the environment to absorb it.

Most of our waste goes to landfills, taking up precious space and creating localised patches of highly contaminated land. Decomposition of garbage at landfill sites produces large amounts of methane, the most potent greenhouse gas being released into the atmosphere. A large proportion of waste finds its way into the environment through inappropriate disposal or leaching from dumps. This pollution can contaminate waterways and other habitats, choke wildlife, and threaten human health.

In Townsville-Thuringowa, illegal dumping and littering is evident along main roads, in wetland areas, and in the bush. The rubbish that “decorates” our beaches comes from illegal disposal at sea and litter washed down urban storm-water drains and waterways. A major cause of death in marine animals is by choking on plastic bags.

Reducing unnecessary generation of waste is increasingly urgent. Solid waste disposal is expensive, especially with new laws to minimise environmental pollution. Local councils are moving to recognise the true costs of waste management and pass them onto those who produce the waste, which is all of us. It is up to everyone to take a responsible attitude, by purchasing items with minimal packaging, saying no to plastic bags, reusing and recycling items and composting our kitchen scraps and garden waste.

### **❖ WHY IS WASTE MANAGEMENT IMPORTANT?**

Reduction of waste and appropriate disposal, recycling and reuse will:

- reduce landfill space, contamination of soils and water, and greenhouse gas emissions;
- reduce health hazards for human and wildlife populations;
- protect ecosystem health and habitat integrity;
- improve the aesthetics and amenity of our open spaces;
- contribute to energy conservation; and
- promote more sustainable and efficient production.

### **❖ WHAT CAN WE DO ABOUT IT?**

We can minimise the amount of waste we generate by reusing, recycling, composting and promoting production of sustainable goods. We can ensure that disposal of unavoidable waste does not impact on our health, ecosystem processes and habitat integrity.

### **❖ WHAT CAN THIS STRATEGY ACHIEVE?**

- ★★ Implementation of best practice initiatives towards waste reduction.
- ★★★ Establishment of efficient and sustainable regional waste disposal facilities.
- ★★ Local communities of responsible consumers who select goods on the basis of “clean production” merits and recycling principles.
- ★★ A reduction in the disposal of solid waste at legal and illegal sites and at sites where contamination may occur.
- ★★ Active involvement of local communities in initiatives to clean-up priority environments.

## **STRATEGY 5.2 ENERGY CONSERVATION**

### **❖ WHAT ARE THE ISSUES?**

Conservation and efficient use of energy are fundamental components of the sustainable use of our resources. Current technologies for generating energy have serious impacts on the environment. Reliance on fossil fuels (oil, coal and gas) for transport and electricity generation results in major local and global environmental impacts.

At a local level, energy generation and fossil fuel consumption may compromise the quality of the air we breathe. World-wide, it is the primary source of increase in greenhouse gases, which is a cause of accelerated global climate change. Although the future remains uncertain, modelling suggests that climate change in Australia will increase the frequency and severity of extreme weather events, such as cyclones, storms and heatwaves. Some controversial studies even suggest that global warming may have devastating effects on the Great Barrier Reef over the next 20 to 50 years.

Making more efficient use of energy and adopting “clean energy” technologies will drastically reduce greenhouse gas emissions. The hot climate of Townsville-Thuringowa means that we use a lot of energy for air-conditioning systems and refrigeration. Old refrigerators and most air-conditioning devices not only consume energy, but are the major source of ozone-depleting gases released to the atmosphere. We can easily reduce this problem by insulating buildings and using building designs and materials suitable for a tropical climate. We can take full advantage of our dry tropical climate by converting to solar hot water systems for our houses.

### **❖ WHY IS ENERGY CONSERVATION IMPORTANT?**

Adoption of renewable energy sources, conservation and efficient use of energy and a responsible attitude towards dealing with our tropical climate will:

- reduce emissions of greenhouse gases to the atmosphere;
- improve the quality of the air we breathe; and
- protect sensitive environments.

### **❖ WHAT CAN WE DO ABOUT IT?**

We can promote the conservation and efficient use of energy and the adoption of renewable energy sources.

### **❖ WHAT CAN THIS STRATEGY ACHIEVE?**

- ★ Improved understanding by the residents of Townsville-Thuringowa about the implications of current power generation and supply for local and global environments.
- ★★ Development of renewable energy systems in Townsville-Thuringowa.
- ★★ Reduction in our reliance on fossil fuels for transport.
- ★★ Increased adoption by the community and the building industry of innovative designs and materials suited to tropical climates, to reduce reliance on air-conditioning.

## **STRATEGY 5.3 PROTECTION OF THE AIR AND ATMOSPHERE**

### **❖ WHAT ARE THE ISSUES?**

It is increasingly apparent that the substances released as a result of our technologies and lifestyles are dramatically changing the composition of the Earth's atmosphere. This has serious implications for local air quality, as well as global climate and atmospheric processes.

Townsville-Thuringowa enjoys good air quality compared to bigger cities. However, the expected increases in population, traffic and industrial emissions may result in increased threats from atmospheric pollutants in the near future. This could impact upon both human health and sensitive ecosystems such as mangroves.

Apart from being noxious to human health and natural ecosystems, many substances that we produce increase the atmosphere's greenhouse effect or deplete the ozone layer. Australia has the world's third highest rate of greenhouse gas emissions per person. These emissions result from everyday activities including: burning of fossil fuels for transport and electricity generation; burning rubbish at landfill sites and in backyards; digestion processes of livestock; coal mining; burning of vegetation during land clearance; disturbance of soil for agriculture and forestry; and the use of artificial fertilisers.

Our community needs to understand the local and global implications of our activities on the atmosphere. All consumers have the power to change current production systems and technologies, by increasing the demand for a market of "clean" and sustainable products.

### **❖ WHY PROTECT THE AIR AND ATMOSPHERE?**

Clean air, free of toxic substances and particulate matter:

- supports life on our planet;
- contributes to healthy environments for human populations and natural ecosystems;
- minimises human-induced changes in the composition of the atmosphere;
- prevents or mitigates the occurrence of a number of respiratory diseases; and
- provides clean skies that add to the visual amenity of our landscapes.

### **❖ WHAT CAN WE DO ABOUT IT?**

We can ensure that future urban and industrial development and our lifestyles have minimal impacts on the quality of the air we breathe and the overall chemical composition of the atmosphere.

### **❖ WHAT CAN THIS STRATEGY ACHIEVE?**

- ★★ Minimisation of activities that impact on air quality.
- ★★ Minimisation of activities that result in the release of both greenhouse gases and ozone-depleting gases.
- ★ The identification and protection of organisms and ecosystems sensitive to changes in air quality.
- ★★★ Adoption and further development by all industries in Townsville Thuringowa of best-practice measures for the reduction of air emissions.