# Submission on the

# State Sustainability Strategy

# For Western Australia

**Contents**

# Denmark Environment Centre Inc
# Submission on the State Sustainability Strategy for Western Australia

## Introduction

The Denmark Environment Centre (DEC) fully supports the pending implementation of a State Sustainability Strategy for Western Australia. For many years, the DEC has campaigned for sustainable industrial and economic practices. The decision to implement a State Sustainability Strategy is a significant opportunity for substantial positive changes in the management of the Western Australian community and environment.

The consultation paper "Focus on the Future: Opportunities for Sustainability in Western Australia" (FOF) defines sustainability in two ways, firstly: "Development which meets the needs of the present without compromising the ability of future generations to meet their own needs" (United Nations, 1987).

The second definition is: "Sustainability is the simultaneous achievement of environmental, economic and social goals" (WA Government, 2001).

A third definition has been developed by ecologists and physicists in Sweden, who have formulated four basic conditions of sustainability, known as the "The Natural Step":

1) In order for a society to be sustainable, nature's functions and diversity must not be subject to increasing concentrations of substances extracted from the earth's crust,
2) subject to increasing concentrations of substances produced by society, or
3) impoverished by physical displacement, over-harvesting or other forms of ecosystem manipulation.
4) In a sustainable society, resources are used fairly and efficiently in order to meet basic human needs globally. (for more information, see www.naturalstep.org)

The principles of The Natural Step are applied by many businesses and government departments in Europe and North America. An essential point to remember is that The Natural Step actually has the effect of encouraging industries to reconsider their methods and find better ways to operate. Writers Suzuki and Dressel point out that sustainability actually improves productivity: "because its principles are in line with the natural, physical laws of the planet, they have often proven to increase the long-term profitability of anything they're applied to, through increased efficiency and decreased waste" (Suzuki, D., and Dressel, H., *Good News for a Change*, Allen and Unwin, 2002, p. 22).

By examining industrial and social processes in the light of these four principles as well as the two more general definitions noted earlier, a reasonable assessment of sustainability can be made.

The primary sources of unsustainable practices can be broadly classed as industrial, cultural and economic. Unsustainable industrial practices are

commonly found in mining, forestry, agriculture, manufacturing, energy and transport. Unsustainable cultural practices include excessive consumption and gardens. Unsustainable economic practices include economic inequality, lax company laws and tax avoidance. Other unsustainable practices are fairly common, but this submission is intended to deal only with some major issues.

These issues will be considered briefly, in terms of their environmental implications and sustainability. In all cases, solutions are available and relatively simple to implement. Consideration is also given to the economic and social implications of encouraging sustainable industries, culture and legal structures.

**Mining**

The extractive mining industry has been a vital economic support to the Western Australian community for many decades. In some cases, mines have caused significant damage, but the extent of damage has been mitigated by responsible planning and management. The extraction of iron ore in the Kimberley, gold in the Goldfields and oil on Barrow Island are examples of long-term mining industries with relatively minor ecological consequences per unit of income earned.

Other mining industries have not been so benign. The extraction of mineral sands in the Southwest and alumina in the Darling Range has caused excessive and permanent ecological damage. Two specific examples of unsustainable mining projects are the BHP Beenup minesite and the Cable Sands Jangardup minesite, both of which were allowed to proceed in spite of clear indications that these projects would cause irreparable environmental damage. The impacts on the environment from such projects include:

1) loss of biodiversity and rare and endangered species
2) pollution of soil, groundwater and air, and associated health problems
3) loss of groundwater through pumping, and associated regional loss of ecosystems through artificial drought (notably Tuart forests)
4) spread of disease (notably *phytophthora*), feral animals and weeds.

Other economic and social impacts include:

1) ongoing need for new minesites, and inherent economic instability
2) high cost of government subsidies and provision of infrastructure
3) loss of community trust on environmental issues.

It is clear that mining industries of this nature are not sustainable. Our environment is subject to the effects of increasing pollution and destruction as a result of these activities. The economic benefits are not equitably distributed; shareholders and executives receive vast amounts of money, while workers and others in supporting industries are subject to health risks and threats of redundancy.

Recent proposed changes to the Mining Act are intended to allow a speedier approvals process for mining and exploration applications. Given that current reserves of mineral sands and bauxite are limited, the rapid extraction of those minerals is not sustainable. When the mineral sands deposits run out, for example, the mining companies may simply disband, leaving enormous ecological and social damage behind them and no legal responsibility for their actions. It is then up to the community to make the effort to repair the damage, if that is possible.

It is noted in the FOF that the precautionary principle is essential to good sustainability management. An assessment of minesites which have been "rehabilitated" clearly indicates that the success rate for repairing environmental damage is very low. Natural ecosystems cannot be replaced, and should not be destroyed in the first place. Destructive mining practices are both undesirable and unsustainable.

Materials which incorporate products mined in an unsustainable manner are not themselves sustainable. Aluminium and titanium are clearly useful and valuable, but their supply is highly damaging to the environment. Alternative materials are already widely available, and can even be a benefit to the environment.

Cars are being manufactured using carbon fibre plastics, ceramics and recyclable materials. Drink containers can be made from high-density vegetable materials. Researchers at the University of Queensland are making car panels using banana leaves and straw. Plastic can now be made from seaweed or waste paper.

The technology required to convert waste vegetable matter into objects that are presently made of metal are simple. The infrastructure required to establish manufacturing facilities of this type is mostly in place already, in the form of a large agricultural base, efficient transport, and abundant skilled labour. There are enormous ecological and social benefits in supporting such technology. It is quite plainly an opportunity for Western Australia to become a leader in sustainable technology.

**Forestry**

The logging of old growth forests has long been recognised as an unsustainable practice. Given that less than 10% of Western Australia's forests are still standing, it is plainly unreasonable to continue to log our native forests. Given that only 15% of timber harvested is actually put to a positive use, there simply isn't enough native forest to support the timber industry beyond a few more years. Over harvesting of timber and the ongoing practice of burning forests on a regular basis both add to the loss of our old growth forests and associated ecosystems.

The forestry industry is attempting to become more sustainable, with a growing emphasis on harvesting plantation timbers. The shift from clearfelling old growth forests to growing plantations has been driven primarily by a combination of community pressure and a shortage of native timber. Even plantation timber production entails problems, including:

1) depletion of soils, loss of biodiversity and wildlife
2) increased use of pesticides and salt-based fertilisers
3) loss of employment in plantation areas
4) substantial government subsidies and taxation concessions, which effectively impose a financial burden on the community as a whole.

The amount charged for the mass logging of irreplaceable resources is currently far too low to be sustainable. An old-growth jarrah tree is worth about $15 to a timber mill, but about $35,000 to timber craftspeople.
While timber is a valuable commodity, much of the timber harvested from forests and plantations is wasted. It is usually made into paper, which is mostly destroyed. Paper can be manufactured from many materials of much less value, including sugar cane waste, wheat straw, wool and even lawn clippings. The reuse of our “waste resources” would greatly diminish the impact of logging on the Western Australian landscape.

In those countries where wood is considered to be exceptionally valuable, many successful paper making industries have developed. In countries such as India and Zambia, paper is made from cottonseed waste and old clothes. The end result is an unusually strong, pleasantly textured paper that is much sought after in India and overseas. Such a product can be made with low-level technology, using otherwise unwanted materials. Much finer products can also be produced using slightly better technology.

The sustainability of the forestry industry would be greatly enhanced if every small town or regional centre in Western Australia possessed the means to recycle its own waste paper, straw, old clothing and other organic materials into new paper. The capital expenditure for such local paper production facilities is surprisingly low. Some of the more evident savings from a sustainability angle include reduced wastage of resources, preservation of valuable forests, increased local employment and a greatly diminished dependency on imported paper products.

A similar principle applies to the production of timber for construction purposes. The technology exists for the use of waste plastics to manufacture beams, flooring and even roof tiles. Timber used for furnaces in the mining industry could also be replaced by recycled waste paper or biowastes from urban sewage plants. Benefits from the use of alternatives to timber include:

1) reduction of timber demand by about 90%
2) reduction of landfill wastes by up to 80%
3) increased employment in creative industries (as opposed to destructive industries)

4) reduced requirement for fossil fuels to transport raw materials over long distances.

It is important to ensure that all people who wish to work are able to do so. A substantial levy on native timbers would both reduce the rate of logging and provide income for the establishment of more sustainable manufacturing processes for paper, construction materials and minerals processing.

**Agriculture**

The production of food and clothing are the central activities of any sustainable culture. Agriculture in Western Australia has been essential to the creation of our present affluence. Western Australia is fortunate to have a relatively small population and a large land area on which to produce food and textiles. In spite of our good fortune, we have not treated the land well, and are suffering accordingly. Current indicators of salinity, soil loss and low commodity prices show that our present land uses are not sustainable.

It could be said that modern agriculture is in some ways like mining; the end results of overharvesting are pollution, environmental degradation and potentially irreparable environmental damage. Much of the problem stems from the use of large, capital-intensive machinery to produce a single, low-value crop. The production of wheat and the export of sheep are both examples of highly ineffective, even damaging uses of land, which require excessive resources.

Efforts are already being made to diversify farm produce, to reduce chemical usage and to replant damaged soils with native or other durable vegetation. Farming is coming to be seen as a way of cooperating with the environment rather than simply exploiting it. Unfortunately, the rate of change is not sufficient to ensure sustainability.

One of the key barriers to the revegetation of farmland is a lack of information. Many farmers do not realise that there are alternatives to bluegum plantations. Some highly valued timbers that could be grown in salt-affected land include casuarina species, nut trees, olives, pomegranates, and carob. Greater emphasis needs to be placed on educating the farming community, and providing substantial incentives for change, such as increased taxation concessions or landcare grants.

Improved use of satellite imaging may also assist in the realisation by individual farmers of their role in the wider picture of local wildlife and remnant bush conservation. As a result of the development of the Shire of Denmark's Greening Plan (based on a combination of satellite imaging and ground data collection), it has been found that landholders with access to quality maps and images can make better decisions with regard to landuse and revegetation.

A basic problem with encouraging sustainable agriculture is that not all farmers are interested. Ways to improve the rate of change of agriculture might include a tax exemption for farmers who revegetate a certain percentage of their land, or who redesign their farms to be less damaging to the environment.

Given the problems of salinity, erosion and eutrophication in rivers and estuaries in WA, it may be useful to consider compulsory tree planting along watercourses, financed by penalties imposed upon those agriculturalists found to be polluting soil and watercourses.

**Manufacturing**

Manufacturing processes consume energy and generate waste as a matter of course. It has been noted that energy consumption and waste production are both expensive, and this is reflected in the ecological impacts as well as the end price of the product (Suzuki, D., and Dressel, H., *Good News for a Change*, Allen and Unwin, 2002, p. 27).

One of the greatest challenges facing the modern manufacturing industries is the growth of complexity. Products are considered more desirable if they are faster, if they do more, or if they are more high-tech. Demand for simple products that just do their job is steadily falling. The popular attitude towards complexity is supported to a large degree by advertising.

The German Government has established the *Siftung Warentest* (SW), an environmental audit unit that tests the sustainability of manufactured goods, from food to vacuum cleaners and cars (Suzuki, D., and Dressel, H., *Good News for a Change*, Allen and Unwin, 2002, pp. 27-31). SW base their assessments on the presence of any substance that is known to be an unnecessary pollutant or a waste of resources. German manufacturers comply with sustainability requirements because otherwise they will receive negative publicity; SW broadcasts product test results on national television, and publishes consumer information in a monthly magazine.

A basic requirement, in keeping with the first principle of The Natural Step, is that manufacturers take their products back for recycling when the purchaser has finished with it. This ensures a high level of recyclability, and the manufacturer is held accountable for the level of pollution incurred by the product in a simple and direct way. Manufacturers may also prefer to refurbish returned products so that they can simply be resold rather than destroyed and then recycled.

The principle of manufacturer responsibility is difficult to enforce when products are imported. Recent problems have arisen with, for example, the export of asbestos-based products from Canada to third world countries. Because the products are overseas, Canada is not required to take

responsibility for the contaminants and their effects. Similar problems occur with toxic agricultural chemicals and electronics components.

It would therefore make good ecological sense to encourage the local manufacture of goods, particularly if those goods may prove hazardous when imported. Local manufacturers can ensure that their products are sustainably produced, recyclable and non-toxic. It might be said that such a policy would deter free trade and that the economy would suffer. On the other hand, the Western Australian community is already paying a very high price in health care as a result of exposure to pollutants such as asbestos, lead fuel additives and poorly designed electronics appliances.

**Energy**

Energy production is notoriously inefficient. It has often been said that only 4% of the energy generated at Western Power's Collie stations actually makes it into Perth homes. Most of the electrical power is lost in transmission. Eventually, Western Power will run out of coal, and the community as a whole will be faced with an enormous bill for alternative energy sources.

One of the great disappointments resulting from the present Federal Government's policies is the failure to ratify the Kyoto Protocol. The Kyoto Protocol is intended to encourage better environmental management. While many nations around the world are making considerable efforts to ensure that more sustainable energy production is implemented, Australia has chosen to not participate. The Queensland Government's new coal mining venture is a clear indication of non-participation in sustainable energy production. The WA Government would nonetheless do well to implement the Kyoto Protocol, either publicly or through a de facto process of industrial reform.

A simple and sustainable resolution to this ongoing wastage of finite natural resources is to establish a greater power generating capacity in people's homes and offices, where it is needed. Solar power is silent, it does not create pollution, and is very reliable.

The main drawback to solar power is the cost of the equipment. However, the capital expenditure on coal-fired power stations and the associated distribution network is huge. It would not cost as much to provide cheap solar power as it has already cost to build a new power station at Collie. The end result would be a power plant that is spread out, rather than centralised. This would lead to greater power security, with a reduced incidence of blackouts. The elimination of high voltage power lines could be seen as an opportunity to improve the health of the community.

Western Australia seems to be a perfect place for the manufacture and deployment of photovoltaic panels. The raw materials are abundantly available, the technology is simple enough to be applied easily, and demand for the panels is potentially enormous. The costs of establishing a photovoltaic

manufacturing industry would probably not be as high as building a wind farm or another coal-fired power station.

**Transport**

The environmental and financial costs of transport are substantial. Given that most motor vehicles depend on fossil fuels to function, the transport industry is currently not sustainable. The impacts on health and the environment are becoming increasingly apparent, even to the point that daily pollution tests are required in Perth, to warn the public of dangerous pollution levels.

More efficient motor vehicles can reduce pollution, but are still not sustainable. Many people feel obliged to travel long distances to work every day, because of the nature of Perth's urban sprawl. A few people do try to travel by bicycle, but this is plainly dangerous on many streets and highways in particular. The infrastructure required to ensure that walking and cycling are safe does not yet exist.

A second transport problem is the growing dependence in every city on imported food. Perth is no longer self-sufficient, and so food is imported from the Eastern States, from the Northwest, and from overseas. Given that fossil fuels are limited, food imports are not sustainable.

Both these problems, commuting and food imports require local solutions. The decentralisation of State Government Departments has been useful in creating smaller centres of work, so that workers are not obliged to travel as far as they otherwise might. The encouragement of smaller business and administrative units can substantially diminish commuter travel. Changes in town planning policy to encourage clusters of high-density housing associated with small local businesses would also assist greatly in reducing community dependence on transport.

The localised production of food is very simple to implement. A small beginning exists already, in the form of City Farm in East Perth. There are many areas of land in suburban Perth, which could be converted into sustainable agricultural units. This could also be a positive opportunity to create employment for people in areas where urban agriculture is undertaken. A similar process would be of great value in country towns, where most food is also imported.

**Excessive Consumption**

For reasons that are far from clear, modern Western society is inclined to consume more and more resources, at an apparently ever-increasing rate. The consumption of resources has greatly exceeded the satisfaction of basic needs, or even the requirements of a comfortable life.

At the same time, those members of the community who choose to live simply are in some ways penalised by taxes on basic goods and services, reduced social status and are frequently seen to be in some way deficient. While this is essentially a cultural problem, Government does have some opportunity to modify the situation.

Products that are not basic requirements for daily living are part of the problem of excessive consumption. This could easily include such items as swimming pools, large lawns, extra cars or large houses. These items waste large amounts of resources, typically without serving any humanitarian purpose.

A simple solution would be to impose a relatively heavy tax on luxury items. This would have the effect of discouraging the excessive consumption of resources. Revenue raised would be of value in enhancing the natural environment, or funding urban sustainability initiatives.

**Gardens**

An approximate assessment indicates that 40% of Perth's land area is taken up with roads, and almost 30% is taken up with lawns. Roads and lawns are costly to maintain, but are not in themselves productive, and are therefore not sustainable. This ratio is typical of most urbanised areas, and suggests a high level of resource consumption.

Ornamental horticulture consumes a significant portion of Western Australia's water, urban land and fossil fuels. When coupled with the importation of food over great distances, the unsustainability of urban horticulture is clearly evident. There is an urgent need to ensure that Perth's soil and water resources are more productively utilised.

The difficulty with cultural change is that it is typically very slow. Many people are strongly attached to their gardens, and are unwilling to modify their use of resources. The need for Water Corporation patrols and fines during the past summer is a clear indication of resistance to change. The Water Corporation has already introduced excess water charges. A simple way to reduce the wastage of resources in gardens is to make the excessive consumption of water much more expensive, while encouraging householders to replace lawns with less wasteful, more productive plants.

**Economic inequality**

It is a well known tendency in our society for wealth to gravitate into the hands of a minority. In theory, the concentration of wealth is in part due to some people working harder and more productively than others. Wealth that has been earned through effort and imagination can be seen as a fair reward for those who earn it. Effort and its rewards are both essential to a healthy and sustainable economy.

Other members of society have little or no money. In many cases, lack of wealth is due to misfortune or a lack of opportunity. Such people should not be penalised for their situation. It has often been noted that the less privileged members of society are unwilling to enter into the responsibility of full time work and the commitments that this entails. Some form of work that is productive and yet flexible in its demands may help resolve this issue.

In the countries of Denmark and Sweden, regulations have been implemented whereby companies and businesses employ people as a fixed multiple of their corporate turnover. If, for example, a company deals with ten million dollars of business each year, then that company may be obliged to employ twenty staff. Some of these staff are necessary to the operation of the company business, while others might be employed as gardeners, artists, childcare workers or researchers. Corporations retain the option to discontinue the employment of unsatisfactory employees.

The end result is that there need be no shortage of work, and that a more equitable, therefore sustainable economic system is developed. By basing employment numbers on turnover, companies that pay little tax are still required to fulfil some of their societal obligations. Once the system is in place, many changes are noted in corporations; more staff means more flexible working hours, better care for premises and families, and a greater sense of corporate responsibility.

**Company laws**

One of the peculiarities of corporate law is that no individual member of the board of directors of a company is actually responsible for the actions of the company. While this can serve to protect the directors from damaging legal charges or liability claims, the privilege can be misused. The abuse of corporate immunity can lead to environmental damage, socially irresponsible business and severe resource depletion.

The issue of corporate immunity has been of great concern to communities throughout the world. In Germany, pollution and resource depletion have become critical issues. Company law was amended in 1996, so that individuals are held responsible for the actions of their company. If the company conducts itself improperly, the individual involved can be held responsible. According to David Suzuki, “these laws […] are undoubtedly one of the main reasons why Germany has a much better handle on food purity, toxic waste and environmentally polluting energy systems than does most of the rest of the world” (Suzuki, D., and Dressel, H., *Good News for a Change*, Allen and Unwin, 2002, p. 37)

## Taxation avoidance

It has been observed by many people that large corporations pay very little tax, and yet make enormous profits. Given that corporate income is typically derived from the income of ordinary people, tax avoidance constitutes an unsustainable diminution of community wealth.

There are many ways in which taxation revenue is spent, including the provision of social services (that is, Social Security, schools and hospitals), environmental restoration (for example, Greening Australia, the National Heritage Trust, Swan River Trust) and the provision of public amenities (National Parks, museums, galleries).

It appears that many corporations inflict unsustainable environmental, cultural and economic damage on those areas in which they operate. Legislation to ensure that damage is made good is essential. Even if a company does not pay tax, it can still be obliged to provide medical and educational facilities, to restore damaged ecosystems, to provide more adequate redundancy payments, and to be held publicly and financially accountable for the sustainability of its actions.

Legislative changes can encourage companies to become better members of the wider community. The Environmental Protection Authority is already well placed to ensure compliance with existing environmental legislation. Existing legislation, however, does not appear adequate to ensure compliance with the basic requirements of sustainable industry. Substantial changes to the Environmental Protection Act are required to ensure that corporations do not avoid paying for the resources they utilise or destroy.

## Conclusion

Sustainability requires that the living systems on which we depend are restored and maintained in good order. Past patterns of resource use have led to a significant decline in the quality and volume of available resources. Social and economic problems have resulted from the degradation of resources and the environment.

In particular, the extraction of minerals, timber and agricultural produce have led to serious ecological problems, which we are only just beginning to fully appreciate. While large companies and broadacre farmers must take a large share of the responsibility, urban individuals and the manufacturers of goods and services are also involved in the issue of sustainability.

Regardless of the scale of the damage done, another requirement of sustainability presents itself, namely that whenever environmental damage occurs, someone has to make good the damage. It should be the role of Government to ensure that the environment is protected, for the benefit of the community as a whole.

On this basis, the Denmark Environment Centre makes the following recommendations:

(1) that mining operations which have been shown to cause unsustainable environmental damage be halted completely
(2) that the approvals process for mining applications include a significantly more stringent environmental impact assessment process
(3) that the logging of old growth forests be halted
(4) that research be undertaken to develop sustainable methods for the production of basic commodities such as food, paper and motor vehicle fuels
(5) that extensive landcare projects be undertaken to ensure the health of all watercourses and estuaries in Western Australia
(6) that substantial penalties be introduced for the pollution of waterways by agricultural and manufacturing processes
(7) that tax concessions be increased to broadacre landholders who revegetate a minimum percentage of their land, or who retain existing native vegetation
(8) that detailed satellite imaging and mapping be made freely available to landholders
(9) that increased subsidies be made available to encourage the installation and manufacture of photovoltaic panels for houses
(10) that the Kyoto Protocol be either ratified on a state level, or implemented through industrial reform legislation
(11) that localised food production be actively encouraged by local and state Governments, with a view to creating employment thereby
(12) that a more substantial tax be placed on luxury and imported goods and services, with a view to reducing consumption
(13) that excess water consumption be charged more heavily, with a view to reducing the wastage of water on gardens
(14) that corporations be obliged to employ staff as a multiple of annual financial turnover
(15) that individuals within corporations be held legally responsible for the actions of the corporation
(16) that environmental and corporate laws be amended to ensure that corporations take proper care of the environment, workers and their families and the wider community

The essential aspect of sustainability is the level of care taken with regard to the natural environment. Care for the environment will certainly lead to a healthier and more affluent community, which is the ultimate aim of any government.

The Denmark Environment Centre understands that the Sustainable Policy Unit, in conjunction with the Environmental Protection Authority, has an important role to play in the formulation of a sustainable future for Western Australia.

# Denmark Environment Centre Inc
# Submission on the State Sustainability Strategy for Western Australia

The Denmark Environment Centre takes a keen interest in matters that affect the natural environment. We look forward to assisting in the development of the State Sustainability Strategy in whatever way we can.

Yours sincerely,

Geoff Evans (Convenor)

Ivor Bell (Management committee)