

the Ships of Shame report, the introduction of compulsory pilotage in the Great Barrier Reef and the review of the National Contingency Plan to respond to oil pollution spills.

In addition, the Senate recommended that Australia participate in the development of a comprehensive liability regime for environmental harm and non-economic loss from marine-based oil pollution with a report to be tabled in the Senate at the end of 1994.

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AUSTRALIAN CAPITAL TERRITORY

ACT DRAFT ENVIRONMENT STRATEGY

In December 1993, the ACT Government released an Environment Strategy Discussion Paper for public comment. The paper aims to identify the ACT's current environmental situation and its objectives over the next thirty years as regards "sustaining ecological processes in the ACT while maintaining and improving the quality of life for current and future ACT residents and regional communities". It emphasises that as the ACT's population continues to grow, pressure to modify the way in which land, water and other resources are used will increase. In particular, decisions such as those associated with water supply and solid waste disposal will need to be made in the next few years.

The paper presents a draft Strategy that outlines ways in which these environmental objectives can be achieved and provides a framework for developing and reviewing further strategies and legislation. The Strategy also aims to complement the goals and targets for social, environmental and economic development identified by the *Choosing our Future: Canberra in the Year 2020* report presented to the Assembly in August 1993.

Introduction

The paper commences by defining "environment" and emphasising the importance of increased international interest in ecologically sustainable development. In particular, It stresses the need to maintain stable soils, biological diversity, and high quality air and water as well as to

implement restoration programs where degradation has occurred.

The ACT has recently endorsed the National Strategy for Ecologically Sustainable Development (ESD) and the Intergovernmental Agreement on the Environment (IGAE), thereby committing the ACT:

- to integrate long and short term economic, environmental, social and equity considerations into land use decision making;
- not to use a lack of full scientific certainty as a reason for postponing measures to prevent environmental degradation (the "precautionary principle");
- to the recognition of principles such as user-pays, greater recognition of inter- and intra-generational equity and appropriate valuation of environmental assets ("full cost pricing").

The ACT government is also concerned to:

- include appropriate linkages to strategies being developed nationally and in New South Wales;
- identify environmental indicators that can be used as tools in "state of the environment" reporting processes;
- promote the use of "best practice";
- allow sufficient flexibility to take advantage of technological developments; and
- encourage business and the community to implement the strategy (e.g. by suitable pricing mechanisms and, if necessary, regulation).

The ACT Environment in Context

The paper draws attention to some of the unique aspects of the ACT environment. Compared with other Australian capital cities, the ACT has a low population density and high rate of resource use, particularly in relation to transport, fuel and water. This is linked to Canberra's spacious design and also the high vehicle ownership rates in the ACT. Moreover,

- Canberra is Australia's largest inland city and growing at a faster rate than the national average;
- Canberra's Y-design means that the city incorporates large areas of natural and regenerated bushland and major water courses;
- The ACT is landlocked by NSW, so that its options for urban expansion are limited, and

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there is a high degree of interaction between the ACT and surrounding environments;

About half of the ACT is reserved as nature conservation estate (compared with a national average of 5.6%). These areas have local importance as water catchment areas and as tourist attractions. Areas such as the Australian Alps and regions of natural lowland temperate grasslands also have biogeographical significance, as well as assisting in maintaining biological diversity. For example, under various international conventions the ACT is required to protect aquatic habitats used by several species of migratory birds; and

Subject to the National Capital Plan, the ACT Government has an advantage in coordinating environmental management because state and local government functions are combined in one administrative and decision-making body.

Population and resource use strategy

On current patterns of resource use, growth in the ACT will eventually be constrained by the availability of land, water and waste disposal sites. The paper recommends "implementation of a population strategy which incorporates a resource use strategy" designed to achieve both a "high level of amenity to residents" and environmentally sustainable population levels.

The first step in this strategy would be to identify constraints to sustainable growth in the ACT and the region under different development and resource use scenarios. The scenarios would incorporate variables on population density, energy use, transport modes, noise generating activities, size and siting of houses, water use, generation and disposal of wastes and planning arrangements. Other integral components would be assessment of resources in the region, determination of desired ambient environmental standards, and so on. The second step would involve implementing (in cooperation with NSW) the necessary changes to community resource consumption and settlement patterns.

In particular, the paper recommends that the implementation strategy incorporate urban renewal in a "sensitive manner". The Government is currently favouring a land development program involving 50% urban renewal and 50% greenfields development. It argues that allowing

courtyard, townhouse and dual occupancy dwellings in existing residential areas will provide an opportunity to make more efficient use of existing urban facilities such as schools, reticulation systems, transport networks, electricity cables and so on, whilst shorter commuting distances will mean reduced energy consumption and associated air pollution. However, it recognises that it will be necessary to implement complementary environment protection measures to manage increased stormwater runoff and maintain agreed ambient air, water and noise quality.

Land use decision making

There is increasing concern in the ACT about intrusion of the city into areas of biological and heritage significance. Whilst the Paper recognises that the Land Use Policy of the Territory Plan has defined objectives and controls for each area, the paper regards the Plan's broad scope as rendering it inappropriate for more subtle land use decisions, such as choice of vegetation cover, soil conservation measures, street design, and residential noise and water management.

It therefore recommends an "integrated land-use decision making process that is clear and accountable and incorporates ESD principles" while maintaining a high level of urban amenity. Some aspects of this policy would include reviewing the *Land (Planning and Environment) Act 1991* and existing land-use guideline documents, such as the *Landscape Design and Construction Guidelines for Canberra and the ACT*, to see whether they meet ESD objectives, as well as developing more such guideline documents. Other means of encouraging public and private businesses and contractors to minimise the environmental impacts of their operations could include environment awards, subsidised provision of appropriate seed for revegetation purposes, taking into account tenderers' previous environmental record, as well as the use of environmental bonds and trust accounts.

Water Management

As the paper notes, "compared with other Australian capital cities, Canberra households have a high average annual consumption of water (422 ld) for which they are charged on average \$0.50 per kl. As a comparison, households in Melbourne use 270 kl per annum for which they

pay \$0.75 per kl". Moreover, it has been estimated that 52% of treated water supplied to residents is used for watering gardens.

Concerns have been expressed that unless consumption rates change, the ACT will require a new dam early next century. These concerns have led ACT Electricity and Water to conduct a comprehensive investigation into the options for Canberra's future water supply and development of long range (50 year) water supply strategy, beginning with the release of a discussion document in December 1992, entitled *The Water Future of the ACT*.

Other options canvassed by the paper include implementing demand-side management approaches to minimise water use. This could include user-pays as well as continued research on the feasibility of potential uses of "grey water" (from washing and showers), and alternatives to water in the management of human and industrial wastes.

Biodiversity

The paper recommends that a nature conservation strategy, supported by legislation, be developed in order to maintain biodiversity in the region. Part of this strategy would include "options for off-reserve protection of species and habitats to complement the reserve system".

For example, covenants to protect known biodiversity values could be included in property management agreements under the new rural leases policy. Other possibilities raised include:

- A "coordinated and integrated pest management strategy which includes programs to manage feral animals and introduced plants"; and
- A "comprehensive fire management strategy that takes into account conservation issues" (the paper notes that this is often a contentious issue, with fire suppression activity often undertaken to protect urban infrastructure).

Energy

According to the paper, ACT per capita energy consumption for domestic purposes is 28% higher than for Australia as a whole. Estimated sources of energy used by ACT households in 1989 was 56% electricity, 25% natural and LP gas, 16% solid

fuels, 2% heating oil, diesel and kerosene, and 1% solar. Smoke from solid fuel heaters is a major source of localised air pollution, especially in Tuggeranong, whilst the collection of approximately 100 000 tonnes of wood per year for use in Canberra has affected wildlife habitat.

The paper recommends that a coordinated energy strategy be adopted in order to significantly reduce per capita energy use and maximising the proportion of renewable non-polluting energy, while addressing planning and development issues. The strategy would involve consultation with the Commonwealth and New South Wales governments to ensure a coordinated effort, as well as implementing the initiatives developed by the Energy Management Task Force of the Australian and New Zealand Minerals and Energy Council.

Other issues to be addressed include:

- Full cost pricing for energy supply, in accordance with the national Greenhouse Response Strategy. The paper notes that about one third of the ACT's electrical power comes from the Snowy Mountains Hydroelectric Scheme which so far has not incorporated the projected costs for upgrading equipment, building new dams and other capital expenditure into its pricing. This issue is also being considered by the National Grid Management Council which is coordinating the development and reform of the electricity industry in eastern Australia;
- Greater use of solar energy, especially by the use of solar passive design houses. Currently, the Territory Plan requires energy audits for subdivisions of thirty blocks or more, as well as energy efficiency ratings for dwellings approved after 1 July 1995; and
- Reduction of energy use by government and business. Currently the Territory Plan requires compulsory energy management plans for buildings of more than 2000 square metres. The ACT is also participating in a national scheme to devise a cost-effective energy efficiency code for new commercial buildings.

Transport

According to the paper, per capita annual energy consumption in the ACT for transportation is 18% higher than for Australia as a whole, with the transport sector accounting for 63% of the energy consumed in the ACT (1988/89 figures, Australian

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Bureau of Agricultural and Resource Economics). It has also been estimated that lead emissions from motor vehicles comprise 96% of the total lead emissions into the ACT atmosphere.

As a parallel to the government's urban renewal policy, the paper's long term objective is a "transport, urban design and land use system characterised by patterns of settlement and land use which reduce the demand for travel, especially by private vehicles".

Waste Management

The paper considers the reduction of solid waste disposal to be a critical economic and environmental objective. It notes that builders' spoil and commercial and industrial waste comprise 83% (by volume) of all wastes landfilled, with demolition waste comprising two-thirds of this percentage. In 1992 it was estimated that on current waste generation rates, both ACT landfills will have reached their capacity by 2001, with a new site costing around \$40m to establish. Charges for commercial waste disposal at ACT landfill sites were instituted early in 1993. However, even if the ACT meets the target of 50% reduction in waste going to landfill set by the National Waste Minimisation and Recycling Strategy, the paper asserts that it will still have a significant waste management problem as a result of a growing population.

The paper lists as its long term objective "sustainable waste management", including minimisation of the generation of waste, maximisation of reuse, recycling or reprocessing of waste and "environmental best practice in the handling and disposal of waste, including hazardous chemical wastes and environmentally hazardous materials". To meet this objective, it recommends the development of a comprehensive waste management strategy. This could include:

- Best available technologies and capabilities for handling of hazardous waste;
- A chemical and hazardous waste management strategy for the safe management of chemicals in the environment;
- Control measures to counter irresponsible disposal of material and litter;
- Application of waste disposal fee structure that takes into account all externalities, including pollution control measures, costs of establishing new disposal facilities, and

mechanisms to prevent trade waste and other toxic substances from entering sewage systems and waterways;

- Development of a Trade Waste Acceptance Policy to control the quality and quantity of material admitted to sewer; and
- Development of a sullage and septage receival facility to control the disposal of liquid waste.

Cleaner production processes

The paper notes that although the ACT does not have any traditional "heavy" industries, it does have a large housing and construction industry as well as a multitude of small businesses associated with vehicle maintenance, hospitality and other service industries as well as various Public Sector enterprises. It lists as its long term objective "sustainable use of resources by industry through the adoption of cleaner production techniques".

What does it all mean?

The Strategy document contains no surprises in the area of environmental management. It is a comprehensive discussion document, which reflects the broad consultative approach adopted by the ACT Government on all issues of general coverage. However, in the ACT as in other jurisdictions, the real test for administrators comes in the form of difficult decisions about site-specific approvals, or about economic choices. One of the unfortunate aspects of a consultative approach to decision-making is that it leads to discretionary decisions, frequently tilted towards the arguments presented at the time rather than the consistent application of policy and law, based on standards and certainty.

All sides of the environmental debate would benefit from clearer statements of environmental policy by way of simple and precise regulation and processes. Hopefully, the process of formulating the strategy will lead in that direction.

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