

Chapter 14

ENERGY

PREAMBLE

Section 2 of the Act includes *energy* within the meaning of natural and physical resources.

Section 5(2)(a) of the Act identifies sustainable management as including:

sustaining the potential of natural and physical resources (excluding minerals) to meet the reasonably foreseeable needs of future generations.

Section 7(b) of the Act requires the Regional Council in achieving the purpose of the Act, to have particular regard to:

the efficient use and development of natural and physical resources.

Clause 1 of Part 1 of the Second Schedule of the Act provides that a RPS may include any matter relating to the use, development or protection of any natural and physical resources for which the regional council has responsibility.

Accordingly, energy on the West Coast is a topic that should be considered within this RPS.

Like any other region, the West Coast is reliant on an adequate supply of energy for its social and economic well being. Currently the region is a net importer of energy in the form of electricity, gas and petroleum products. It does, however, have at least 350 million tonnes of recoverable coal resources. Several small hydro electricity generation facilities on the Arnold River, and at Kumara-Dillmans, Duffers, Kaniere Forks, McKays Creek, Lake Wahapo, Fox Glacier and Turnbull supply some of the region's needs. Many of the region's rivers have potential for hydroelectric development. The West Coast could become not only self sufficient, but also a significant contributor to the nation's energy requirements.

While the provision of energy has obvious social and economic benefits there is also potential for adverse environmental effects to arise from its generation, supply and use. Depending on the source of energy, adverse effects might include use of a non renewable resource, air pollution, visual effects, occupation of space for structures associated with energy capture

and transmission, destruction of natural values and effects on recreation. No particular source is entirely free of disadvantages.

ISSUES:

- 1. The need for an adequate supply of energy to meet the demands of the West Coast and to contribute to national energy requirements.**
- 2. The use of renewable versus non- renewable sources of energy.**
- 3. Adverse environmental effects arising from the production, transmission, distribution and use of energy.**
- 4. Inefficient use of energy.**

With respect to the commentary that follows the Regional Council is not involved in the generation and supply of energy. Its role is to ensure the sustainable management of energy as a natural and physical resource, provide for the sustainable management of the natural and physical resources from which energy is obtained, and deal with the environmental effects of the production, transmission and use of energy.

Most of the region's electricity demand is met through long distance transmission via the national grid. Possible new industries such as titanium processing at Cape Foulwind and the Globe Progress gold mine at Reefton may necessitate the upgrading of transmission facilities or development of further electricity generation potential in the region.

Development of further hydro-electric schemes on some of the region's many suitable rivers would alleviate the degree of its dependence on energy imported from outside the region. This could result in more efficient use of electricity, as losses associated with large transmission distances would be reduced. Hydro power also has the perceived advantage of being more environmentally acceptable than production from non-renewable sources. This, however, needs to be weighed against the possible disadvantages such as the flooding of areas of land, destruction of natural values and changes in water flows or levels. There may be ways of lessening these effects by careful design and location of structures. The potential for development of hydro electric schemes on the West Coast is described in reports by the Ministry of Works and Development (1985 and 1987) and Tonkin and Taylor (1987).

Regional self sufficiency in electricity requirements could also be attained by using coal. A 480 MW coal-fired power station near Westport was considered in the 1970's and some of the transmission structures were built at the time. As the Maui gas field becomes depleted, the use of West Coast coal for electricity production could become an attractive prospect. If a coal-fired plant is constructed to replace a gas-fired plant of similar capacity it may be possible using new, efficient technology to use West Coast coal resources in a way which does not add to the carbon dioxide emission levels that occurred in 1990.

Currently, about 1.2 million tonnes of coal per year are exported from the West Coast, mostly overseas, where it is used mainly for steel production. It

is also an important regional and national energy source.

Alternative electricity sources include solar and wind power. However, available sites for these are likely to be limited. Again there are trade offs, when sites intrude on the landscape.

The West Coast is totally dependent on imported liquid fuels to run its transport system. The environmental effects of using these include the generation of greenhouse gas emissions (See Chapter 13 on Air Quality). As yet there is no practicable substitute for petroleum fuels. Like other parts of New Zealand, the use of liquid fuels for transport represents the largest source of energy demand on the West Coast.

Savings in the use of energy from transport, which is reliant on non-renewable fossil fuels, could be made by greater use of more energy efficient forms of transport. However, the West Coast's low and widely scattered population makes operation of additional viable public transport services difficult. The development of new services will be encouraged via the Regional Land Transport Strategy.

Greater efficiency in the use of energy will be promoted by the Regional Council. As well as in transport, savings can also be made in industry. Reductions in waste heat emissions, as well as reducing air pollution, also lessen the use of non-renewable resources. Other benefits of improved energy efficiency will be greater community safety and health.

Achieving energy efficiency in buildings could involve more appropriate location, siting and design to take advantage of solar heating and improved insulation. Fitting existing buildings with more efficient forms of heating such as the replacement of open fires with closed solid fuel burners is another option.

OBJECTIVE 14 To promote the sustainable management of energy resources.

ENERGY POLICIES

POLICY 14.1 Recognise the importance of an adequate supply of energy resources for the needs of people and communities on the West Coast, provided that this is not inconsistent with other policies in this RPS.

Policy 14.1 corresponds with Network Utilities policy 15.1

POLICY 14.2 Promote the sustainable management and efficient use of energy within the region.

Policy 14.2 corresponds with Network Utilities policy 15.2

POLICY 14.3 Co-operate with any Crown initiatives and policies, where practicable, that seek to promote greater energy conservation, efficiency and the use of renewable energy sources including the Government's Voluntary Agreements Scheme for reduction of CO₂ emissions.

Cross reference policies 14.1-14.3

*Soils and Rivers policy 7;
Water policy 8.1.1;
Habitat and Landscape policies 9.1-9.3;
Coastal Environment policies 10.1-10.3;
Air Quality policy 13.2 and Network Utilities policy 15.1.*

Cross reference policy 14.4

Network Utilities policy 15.2

POLICY 14.4 Promote energy conservation through appropriate modes of transport, including ride sharing, minivans and co-ordinated public transport.

METHODS

- 14.1 Through publications, encourage energy efficiency in the design, location and siting of buildings, including encouraging the fitting of existing buildings with improved methods of insulation and more efficient heating systems.
- 14.2 Encourage territorial authorities to make adequate provision in district plans for the distribution of energy by allowing for the siting of necessary structures.
- 14.3 Promote a consistent approach to the use of energy with neighbouring regions through liaison with other regional councils.
- 14.4 Adopt complementary provisions under the Regional Land Transport Strategy, when it is next reviewed, to promote energy efficiency.
- 14.5 Manage the adverse effects of energy production, transmission and use through regional and district plan, and the resource consent process.

EXPLANATION

Policy 14.1 recognises the importance of production and use of energy to the West Coast and the possibility of adverse effects on other resources that might arise. Accordingly, consistency with other policies in this RPS is needed in the context of the establishment, operation and maintenance of the energy infrastructure. This policy corresponds with policy 15.1 because energy is closely related to network utility operations.

Policy 14.2 complies with an obligation under section 7(b) of the Act requiring the Regional Council to have particular regard to the efficient use of natural and physical resources.

Policies 14.1 and 14.2 recognise the overlap between energy and network utilities. Accordingly they correspond with policies in chapter 15 (Energy) Readers may also find it helpful to refer to the explanation of Policy 9.4 in Chapter 9 (Habitats and Landscapes).

Efficient management of energy suggests that, where constraints allow it, renewable sources of energy should be used before resorting to the use of fossil fuels in thermal power stations. As the demand for electricity increases, present and potential use of the waters of the West Coast for electricity generation may have a significant impact on the management of the region's and nation's energy resources.

Policy 14.3 recognises that the region needs to be prepared to support any national directives on energy conservation that might emerge from the Crown.

It is important that the West Coast Regional Land Transport Strategy, when reviewed, promotes ways in which the consumption of petroleum products can be reduced.

The Regional Council is responsible for preparing and reviewing the West Coast Regional Land Transport Strategy as provided for in the Transit New Zealand Act 1994. It is also responsible for assessing resource consent applications which may be required for proposed new energy generation facilities, that fall within the scope of section 30 of the Act. Territorial authorities are responsible for the siting and location of structures which produce, distribute or use energy.

ANTICIPATED ENVIRONMENTAL RESULTS

- 14.1 The more efficient use of renewable and non renewable energy sources.
- 14.2 A reduction in the adverse effects on the environment from energy production, use and development.
- 14.3 Reductions of carbon dioxide emissions.