

16A.1 RENEWABLE ENERGY GENERATION

16A.1 Background

Energy is vital to the efficient functioning of our country. As both a natural and physical resource, the generation and use of energy is a relevant resource management matter. In particular, section 7(j) of the Resource Management Act requires decision-makers to give particular regard to the benefits derived from the use and development of renewable energy.

This chapter is focused on renewable energy generation; and in particular, the conversion of natural resources into electricity. Energy generation from non-renewable sources, energy efficiency and energy conservation are addressed in other Plan chapters.

The National Policy Statement for Renewable Electricity Generation came into force in May 2011 and forms part of central government's strategic target to achieve 90% of electricity generated is from renewable energy sources by 2025. The Council is required to give effect to any national policy statement. The objective of the National Policy Statement is to recognise the national significance of renewable electricity generation activities by providing for the development, operation, maintenance and upgrading of new and existing renewable electricity generation activities, such that the proportion of New Zealand's electricity generated from renewable energy sources increases to a level that meets or exceeds the New Zealand Government's national target for renewable electricity generation. Policy D of the National Policy Statement requires that decision makers shall, to the extent reasonably possible, manage activities to avoid reverse sensitivity effects on consented and on existing renewable electricity generation activities.

The Regional Policy Statement for the Wellington Region recognises the importance of energy within the Region, and in particular that the benefits from renewable energy, from small to large scale generation, be recognised. Upper Hutt City Council is required to give effect to the Regional Policy Statement and include policies and/or methods to ensure these benefits are recognised. These benefits include security of supply and diversification of energy sources, reducing dependency on imported energy sources and reducing greenhouse gas emissions.

Although energy is essential to our communities, its generation has the potential to have both adverse and positive environmental effects. The positive effects of renewable energy generation are often felt nationally (and/or globally) as well as locally, however adverse effects are generally more localised. Given the nature of renewable energy generation activities, many developments are unlikely to be able to internalise all potential adverse effects that they may generate within the site, and may include effects on amenity, landscape, ecology, cultural and heritage values. The benefits of any development therefore need to be weighed up against potential adverse effects.

The application of renewable energy can be in a number of different forms. At the domestic or small scale, there are various passive approaches including orientating buildings to assist passive heating and cooling, and natural lighting and more active approaches such as solar water heating and panels, and wind turbines. The passive approaches are addressed through other chapters in the District Plan. This chapter addresses the active approaches to renewable energy generation, primarily in the form of electricity generation. At present, renewable energy generation facilities in Upper Hutt City are limited to small scale wind turbines and solar panels. There are no existing larger scale renewable energy generation activities within the City.

A study of the Wellington Region's renewable energy sources undertaken by the Energy Efficiency and Conservation Authority in August 2006 identifies wind and solar as the primary renewable energy sources within Upper Hutt City that fall within the functions of the Upper Hutt City Council. Other options such as large scale solar generation or biomass energy may become more viable in the future, and this chapter should be amended to address the various resource management issues that may arise as more information about these options becomes available. This chapter therefore focusses on wind and small-scale solar resources.

The provisions in this Chapter apply to renewable energy generation activities throughout all zones of the City. The underlying zone objectives, policies and rules do not apply to renewable energy generation activities unless specifically referred to. City wide rules, such as those relating to historic heritage, notable trees, earthworks and hazardous substances will still apply.

16A.2 Resource Management Issues

16A.2.1 *Balancing conflicts created by the effects of renewable energy generation with its local, regional and national benefits.*

Upper Hutt City contains some renewable energy resources, the use of which would provide benefits locally, regionally and nationally. However, the use of such resources can also have adverse environmental effects, which are generally felt at a local level. These effects can create conflicts between renewable energy generation and a wide range of biophysical and community held values, and raise issues of scale and location.

16A.3	Objectives
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16A.3.1 *Provide for the development of renewable energy generation that is designed, located, constructed, operated, maintained and upgraded so as to:*

- a) Avoid, remedy or mitigate adverse effects on the environment; and*
- b) Promote the local, regional, and national benefits of the use and development of renewable energy resources.*

There are significant benefits available at the local, regional and national level from renewable energy generation activities. The benefits from any renewable energy generation proposal can range from large significant contributions, to small incremental gains, but they are all cumulative. New renewable generation capacity can contribute to the New Zealand Energy Strategy target, and to increasing the diversity of supply. The City offers opportunities in particular for wind and solar generation.

The nature and scale of effects from renewable energy generation will vary depending on the scale and location of the activity and the characteristics of the surrounding area. Potential effects include adverse visual impacts, impacts on indigenous flora and fauna, culturally and historically significant areas and noise effects.

The District Plan provides for renewable energy generation activities at different scales, ranging from commercial-scale activities where the purpose is to generate electricity for financial gain to small scale activities which provide for domestic energy needs. Different activity statuses are used to reflect the nature, scale and associated levels of effects of the different scales of renewable energy generation activities.

16A.3.2 *Enable small-scale renewable energy generation and the identification and assessment of potential renewable energy sources and sites in appropriate locations within the City.*

This objective recognises that there are parts of the City where small-scale renewable energy generation activities may be viable to serve the electricity needs of individuals and local areas. The objective also recognises the importance of enabling the identification and assessment of potential renewable energy sources and sites for the Upper Hutt community.

16A.4	Policies
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16A.4.1 ***Recognise the local, regional and national benefits of renewable energy generation activities.***

Renewable energy generation activities have the potential to provide a range of benefits within the City, regionally and nationally. These benefits need to be considered by decision makers when determining any application for a new renewable energy generation activity within the City. Some of the benefits of renewable energy generation activities include:

- Maintaining and increasing security of electricity supply;
- Using renewable rather than finite energy sources;
- Reducing dependency on imported energy sources;
- Reducing greenhouse gas emissions; and
- The reversibility of the adverse effects of some renewable energy generation technologies.

16A.4.2 ***Enable small-scale renewable energy generation to be developed and operated in a manner that avoids, remedies or mitigates adverse environmental effects.***

Small-scale renewable energy generation particularly from wind and the sun provides an opportunity for Upper Hutt City to become partially self-reliant for energy supply. Technologies that currently exist and enable individuals to harness energy sources are likely to improve and become more cost-effective into the future. As demand for energy increases, self-reliance will have economic benefits for both individuals and the City.

Small-scale renewable energy generation activities may still have adverse environmental effects that should be avoided, remedied or mitigated. The District Plan includes such controls as are necessary to manage the potential effects of small-scale renewable energy generation activities.

16A.4.3 ***Enable the identification and assessment of potential renewable energy sources and sites in a manner that avoids, remedies or mitigates adverse environmental effects.***

A precursor to developing renewable energy generation activities is identifying and subsequently assessing potential renewable energy sources. This may require testing over a number of years, for instance, to determine whether wind speeds are of an appropriate velocity and are consistent enough to efficiently and effectively generate electricity.

While the equipment needed for identification and assessment is

generally of a lesser overall scale than a renewable energy generation facility itself, the equipment has the potential to generate adverse environmental effects that need to be appropriately managed. Accordingly, the District Plan includes controls as are necessary to avoid, remedy or mitigate adverse effects.

16A.4.4 ***Provide for the operation, maintenance and development of community scale and commercial scale renewable energy generation activities.***

Some parts of the City, particularly those that are elevated, are potentially suited to the development of renewable energy sources, particularly commercial scale renewable energy generation activities where wind is the energy source. There is little potential in the City for the community or commercial scale use of solar energy for electricity generation.

16A.4.5 ***Manage the adverse environmental effects of community scale and commercial scale renewable energy generation activities by recognising that these activities have the potential to cause significant adverse effects on the environment. In particular, activities that use wind as a source of energy have the potential for significant adverse effects on landscape, ecology and amenity values, and noise (including any low frequency noise) and may be inappropriate in some locations.***

While the Plan permits some renewable energy generation activities, those that are of a significant scale or do not meet the standards to be a permitted activity, will require a full assessment of their environmental effects through the resource consent process. This will allow the Council to weigh the benefits of any new generation activity with its environmental effects. A non-complying activity status applies to activities located within the Southern Hills Overlay Area and on sites containing listed Heritage Features and where turbines do not comply with NZS6808:2010, as these are likely to have significant adverse effects on the environment.

16A.4.6 ***Recognise the technical and operational constraints of renewable energy generation, including the location of the resource, development and maintenance of facilities and the location of the electricity distribution network.***

The locational, functional and technical constraints on the siting of renewable energy generation facilities also need to be considered when development proposals are assessed and conditions of consent are imposed. This recognition includes considering the need for renewable energy generation facilities to be located where such resources are available and the location of existing structures and infrastructure. The District Plan includes relevant matters of discretion which ensures the

Council recognises these technical and operational constraints associated with any application.

16A.4.7 *Encourage community and commercial scale renewable energy generation providers to consult early with the local community, including Māori, on the appropriate placement, location and design of renewable energy generation activities.*

In some cases, engaging early with the community about a proposed new renewable energy generation activity may result in an alternative more appropriate location to be identified that both meets the needs of the developer and addresses any concerns that the community may have. In encouraging consultation, the Council recognises that it cannot require providers or individuals to consult on permitted activities.

16A.4.8 *Protect consented and existing renewable energy generation activities from incompatible subdivision, land use and development.*

The Plan recognises that new subdivision, land use and development activities can result in reverse sensitivity effects on existing and consented renewable energy generation facilities and may result in the benefits of facilities being reduced. In addition, community amenity values may be adversely affected by locating in too close proximity to renewable energy generation facilities.

At present, the City only contains small scale renewable energy generation facilities with no established community scale or commercial facilities. It is likely any such larger scale facilities would be established in the rural areas and that any reverse sensitivity effects would arise from subsequent new subdivision, land use and development which would provide an opportunity for assessment of any such potential effects.

16A.4.9 *Ensure that the provision and operation of renewable energy generation activities that cross jurisdictional boundaries is managed in an integrated manner.*

Some renewable energy generation activities and the effects arising from them may cross jurisdictional boundaries between councils. Cross boundary issues can result for renewable energy generation providers and for the community, particularly where different councils have different rules or processes for how they recognise and provide for renewable energy generation activities and manage their effects. It is important that councils work together in an integrated manner both when developing plan provisions and when dealing with proposals for new or upgrades to existing renewable energy generation activities.

16A.5	Methods
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- 16A.5.1** District Plan provisions which include a Regulatory Assessment Framework that includes rules and matters of control and discretion to guide assessment of renewable energy generation activities. The framework utilises permitted, controlled, restricted discretionary, discretionary and non-complying activity status and specific matters of control and discretion to assess and manage the actual and potential adverse effects.
- 16A.5.2** Plan change(s) to introduce new provisions to manage reverse sensitivity effects on renewable energy generation activities where there are pressures for new or intensification of existing development in proximity to consented or existing renewable energy generation activities.
- 16A.5.3** Monitoring and review of the District Plan renewable energy generation provisions to assist in assessing the effectiveness of the renewable energy generation provisions in the Plan.
- 16A.5.4** Education of, and building relationships with, renewable energy generation providers.
- 16A.5.5** Encouraging renewable energy generation providers to engage with the local community when considering new renewable energy generation activities within the City.
- 16A.5.6** Education of the local community about renewable energy.

16A.6	Anticipated environmental results and monitoring
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The following results are expected to be achieved by the objective, policies and methods in this Chapter. The means of monitoring whether this Plan achieves the anticipated environmental results are also set out below.

Anticipated environmental results	Monitoring indicators	Data source
The benefits to be derived to Upper Hutt City from renewable energy generation activities are realised.	Types of renewable energy generation activities Consultation with regional and national organisations to ensure renewable energy generation activities are co-ordinated and consistent.	Council records Customer surveys Council resource consent records and monitoring compliance
The Upper Hutt City community is able to provide for its social, economic, cultural and environmental wellbeing.	Types of renewable energy generation activities located within Upper Hutt City Level of update of renewable energy generation activities.	Council records Council resource consent records and monitoring compliance Community surveys
The health and safety of Upper Hutt City's community is not adversely affected by the construction, operation, upgrading and maintenance of renewable energy generation activities.	Complaints and enforcement procedures System failures	Council complaints register Council resource consent records and monitoring compliance.