Form 3

Submission on proposal for National Policy Statement

Section 49 Resource Management Act 1991

To The Chairperson
The Board of Enquiry
C/- PO Box 10362
Wellington 6143

This is a submission of the
Waitakere City Council
on the
Proposed National Policy Statement on Renewable Electricity Generation (NPS:REG),
notified August 2008.

Submission Structure and Overview:

This submission covers three main points:

- Waitakere supports the objective of the NPS:REG;
- however, support for the objective is qualified with some concerns around the more specific policies;
- some solutions or improvements to the policies are suggested to enable the objective of the NPS:REG to be better achieved.

The submission is organised in the order outlined above.

It will be noted that the focus of the submission is from the perspective of a *consent authority* undertaking duties and functions under the Resource Management Act 1991 including 'having regard to' and 'giving effect to' the proposed NPS.

Waitakere City Council looks forward to working with the Board of Enquiry and other interested parties in order to improve the national consistency of approach to this matter of national significance.

Part 1: General Support and Issues

The Specific provisions of the NPS:ET that this submission relates to are:

The Proposed National Policy Statement on Renewable Electricity Generation in its entirety, including the s32 report.

0. Introduction/Context:

0.1 Waitakere City Council *supports the intent* of the proposed National Policy Statement on Renewable Electricity Generation to provide greater guidance to local authorities, developers and the community, regarding the national significance of need to establish, upgrade, maintain and operate renewable electricity generation activities.

0.2 Waitakere considers that a secure, resilient, efficient and sustainable energy system is vital to the achievement of the purpose of the Act, particularly in allowing for people and their communities to provide for their environmental, social, economic and cultural wellbeing, and fully supports the goal of the New Zealand Energy Strategy (NZES) to provide at least 90% of New Zealand's energy needs from renewable sources by 2025.

0.3 Waitakere also supports the distinction that has been made between so called *small and community scale distributed renewable electricity generation* and larger commercial scale renewable energy developments, particularly the policy indication that small scale renewable generation should be enabled as much as possible.

0.4 Waitakere also supports a directive approach from central government to ensure a nationally consistent approach to matters of national significance, such as envisioned by the original drafters of the Resource Management Act 1991. The lack of such national guidance (until recently) has been a key reason why there is so much variation between adjacent local authorities, and has resulted in significant costs to local authorities (and their ratepayers and applicants) in developing and defending Regional and District Plans.

0.5 Officers of the Waitakere City Council also provided comment to the Ministry for the Environment in relation to a request for input on what should be included in a possible NPS on Renewable Energy Generation. This comment is attached at **Appendix A** to this submission. In summary, the preliminary comments suggested the following:

- That while general overarching policies were appropriate, specific policies should be developed related to each of the various renewable energy resources because the potential issues related to generation of energy from each resource are very different;
- The NPS needs to recognise that renewable generation will not be appropriate in all locations;
- The NPS should provide guidance to decision makers as to the resolution of tensions between the benefits of renewable generation and the adverse effects of that generation, particularly adverse effects on matters of national importance;
- That the NPS be developed in concert with other whole of government regulatory and non-regulatory approaches in relation to renewable energy and efficiency;

- That there is an important distinction to be made between small domestic scale generation which should be enabled as much as possible, and larger 'grid connected' scale generation which may result in more significant adverse effects.

0.6 The NPS:REG has incorporated some of these comments, which is welcomed. Waitakere does however have some minor concerns with the NPS:REG as proposed, and has provided suggestions as to how these concerns may be addressed, to better enable the achievement of the objective of the NPS. The nature of these concerns and some suggestions for possible solutions are outlined further below.

Reasons for Support:

0.7 Waitakere is currently almost 100%[1] dependent on electrical energy imported to the City from other regions of the country. Security of supply to Waitakere is therefore somewhat dependent on the approach taken by other Territorial Authorities to the generation and transmission of electricity, as well as the level of investment by Transpower in the national grid, as well as generation and distribution companies in their infrastructure.

0.8 The Auckland Region as a whole generates only some 25% of its peak load generation, almost 100% of this 'local' generation being from thermal stations at Otahuhu, the remainder entering the region of Auckland via a small number of cables (ie the Transmission Network).

0.9 EECA[2], the Auckland Regional Council and a number of Auckland's local authorities[3] have commissioned studies relating to the investigation of the potential for the region or district in relation to renewable energy generation.

0.10 For Waitakere[4], the most significant and feasible source of renewable generation is via solar: particularly domestic scale solar hot water systems, photo-voltaic converters, and passive solar design and insulation; and offshore marine sources, particularly on the west coast via wave action and from Manukau harbour tidal currents.

0.11 Large scale hydro development is discounted in Waitakere due to the small catchment sizes and the ecological values in the steeper sections, though micro-hydro could have some potential at the domestic scale[5].

0.12 Wind development potential in Waitakere is also limited due the landscape and ecological values of the high wind sites (ie the Waitakere Ranges), in which the quality of the wind resource for larger and smaller scale developments is also affected by vegetation cover which can slow average wind speeds and create turbulence:

> "*Native forest and Department of Conservation land can lengthen and complicate the consent process and as a result, wind farm developers tend to favour locations outside*

[1] The only significant embedded or distributed generation in the City is used at the on-site use scale (e.g. solar hot water heating, PV panels and small scale wind turbines for houses, business, community facilities and isolated infrastructure) or used on-site (e.g. Watercare Services operates some small scale hydro plants at their water supply dams for onsite needs). Waitakere City Council actively supports and encourages Solar Hot Water installations by fully subsidising building consent costs and providing encouragement and technical assistance.
[2] EECA/SKM, 16 March 2007, *Renewable Energy Assessment: Auckland Region.*
[3] E.g.: Rodney District Council/SKM, 19 April 2006, *Sustainable Energy Supply Options for Rodney District*
[4] Grooby, L, 2005, M. Tech, Energy Mgmt, Unpublished Masters Thesis, *The Renewable Energy Potential of Waitakere City.*
[5] WaterCare Services do operate hydro-generators in their Waitakere water supply dams for onsite use. These dams are in the largest catchments, and there are limited catchments remaining with potential for additional large scale water supply or hydro-generation even if ecological concerns are discounted.

> *such areas. In this context it is to be noted that the Waitakere Ranges Regional Park and … the Waitakere Ranges Heritage Area contain substantial native forest. Given this, these areas have not been considered in the estimate…Whilst wind farm development in these areas cannot be ruled out completely,* ***areas within the Auckland Region outside the Waitakere Ranges have comparable wind resources and grid accessibility together with limited native bush cover****." (*EECA 2007, p38, emphasis added).

0.13 For Waitakere's urban area, the wind resource is generally poor, being in the lee of the Ranges and sheltered from the predominant westerly wind.

0.14 Large scale renewable energy development is therefore unlikely in Waitakere, but smaller scale domestic, business or community based development is likely to play an increasing role in reducing greenhouse gas emissions, improving resilience (particularly for coastal and rural communities, but also in the urban context), enhancing energy generation distribution, and reducing demand on the reticulated energy system.

0.15 Large scale, geographically distributed and variable renewable generation (wind, hydro and tidal particularly) sources will also rely on a resilient transmission and distribution network to transfer energy around the grid and local network to match peaks between the geographical and temporal separation of generation and demand. This issue is being partially addressed via the National Policy Statement on Electricity Transmission, which somewhat unfortunately does not include transmission assets owned by parties other than Transpower. The small scale renewable energy developments likely in Waitakere (and nationally) are more likely to be 'embedded', that is connected to the local distribution network, rather than the national grid.

0.16 The recently passed Waitakere Ranges Heritage Area Act 2008 also has special provisions that interface and relate to the Resource Management Act 1991. While the Resource Management Act 1991 required decision makers to 'have regard to' provision of any relevant NPS, Section 13 of the WRHAA 2008, requires decision makers to 'have *particular* regard to' any NPS when considering resource consent and plan change applications that impact on the Waitakere Ranges Heritage Area. This provision essentially elevates the matters in the NPS to a similar status as the purpose and objectives of the WRHAA2008, and section 7 of the RMA. This provision may therefore result in a perverse outcome, where despite the comments outlined in paragraphs 0.9 and 0.10 above, and the intentions of the WRHAA, large scale renewable projects are more enabled or 'directed' to the Heritage Area.

The general support outlined above is qualified by the concerns outlined below:

1. Clear and Directive Policies:

1.1 Clear and directive policy would limit the variability and uncertainty resulting from various regional and local authority interpretations. As worded, the proposed policies do not provide the certainty and assurance that would be required to reduce inter-authority variation, provide certainty for applicants, and result in the Objective (of 90% renewable generation by 2025, requiring ~175MW of new generation per annum) being achieved.

1.2 While broadly termed policies may allow for authorities to give effect to the NPS in a manner that allows variation to suit the particular environmental (including quality, nature and scale of renewable energy resources), social and economic conditions present in each area, this may not result in the national consistency of approach to facilitating renewable generation that will be required if the objective of the NPS is to be achieved.

1.3 The policies are also broad, allowing flexibility for local authorities to 'enable' renewable generation that suits the particular resources present in their districts. However, the effects (and benefits) of generation from each type of renewable energy resource are very different. The broadness of the policies does not suggest ways and means of, nor assist local authorities in developing policies, to address these conflicting demands.

2. Assisting decision makers in balancing competing effects and benefits:

2.1 A key aim of the NPS:REG as outlined in the s32 analysis, Regulatory Impact Statement, and preamble to the NPS itself, is to *"**provide greater certainty** to decision makers, applicants and the wider community*" by "*adopting **a nationally consistent approach** to **balancing the competing values** associated with the development of New Zealand's renewable energy resources". (Emphasis added).*

2.2 While the NPS does contain policies that state the benefits of renewable generation, acknowledge practical constraints around avoiding, minimising or remedying effects of renewable generation activities and note that some effects are relatively reversible, there is no assistance for decision makers in the NPS about actually balancing the acknowledged positive aspects (which are already outlined in the Resource Management Act 1991 at section 7) with adverse effects on the other important matters in sections 6 and 7.

2.3 The section 32 report also outlines that a key benefit of the NPS is to assist decision makers in balancing these concerns. However, the NPS only outlines that there are benefits of renewable generation, without outlining how these benefits should, could or would be balanced against competing adverse impacts.

2.4 Significant reliance is also placed on existing and emerging case law to inform and clarify interpretation of both the Resource Management Act 1991 and this NPS. The NPS should be able to 'stand alone' without necessity for interpretation by learned Justices. The section 32 report states the current situation as follows: "*A trend has become apparent for decision makers to address the benefits of renewable generation in an inconsistent way. The Environment Court is able to balance local and national, costs and benefits in relation to renewable generation proposals, and case law is emerging in this area"* (p53). It is submitted that the NPS should be the source of unambiguous assistance to decision makers, thereby avoiding the very significant cost, delay and uncertainty to *all* parties that an appeal on a decision regarding a renewable energy generation consent to the Environment Court would require. The assertion in the report

that the Environment Court is somehow able to balance local and national benefits and costs but for some unstated reason 'decision makers' cannot, also suggests that unambiguous assistance from an NPS is required. This issue is further stated in the conclusion of the s32 report at p55 (emphasis added):

> Analysis of the status quo leads to the conclusion that the RMA does not clearly establish the significance of the benefits of renewable electricity generation projects, which by their nature can compete with other environmental values and are often felt at the national level. Renewable electricity projects will in almost all instances require council officers and decision-makers to weigh competing environmental, social and cultural values throughout the resource consent process. **Within a regulatory framework that does not clearly establish the weight to be given to the benefits of renewable electricity generation, or provide clear guidance on how to balance national versus local effects, these judgements are complicated and can take time for a responsible decision-maker to make**. This will have a compounding effect and will have a significant bearing on the time it takes to process consent applications. It is, therefore, considered that the critical factor influencing the time it takes to gain consent is the compounding effect of uncertainty within the regulatory framework.

3. Other Related Issues:

3.1 A number of other related matters that potentially fall beyond the scope of the terms of reference for this Enquiry should also be addressed if the Objective of the NPS is to be achieved. This submission has included these 'non-NPS' matters as they may form part of the Board's broader recommendations to the Minister.

3.2 This is important because simply facilitating or enabling the uptake of renewables though the Resource Management Act 1991 process will, on its own, not be sufficient to meet the targets of the New Zealand Energy Strategy or the New Zealand Energy Efficiency and Conservation Strategy.

3.3 In particular, there are a number of complementary actions that should also be undertaken to create the economic and regulatory conditions necessary for the significant shift from the current centralised electricity system to a distributed, localised and renewable energy system, that is required if the targets of the NZES and NZEECS are to be met.

3.4 These complementary actions include, but are not limited to:

- Establishing standard, convenient and fair net/export metering arrangements with electricity retailers;
- Removing barriers in the Building Act 2004 that make it difficult and expensive to obtain a consent for a domestic renewable energy installation;
- Central and local government's leading by example in their procurement, construction and asset management policies and practices.

3.5 Discussion of these complementary additional issues follows below:

3.6 Net or Export Metering Arrangements:

Making arrangements with electricity retailers for net or export metering for distributed generation, eg photovoltaic systems on business/homes buildings, has proven to be challenging for a number of installers. Developing national standards for net/export metering arrangements with electricity retailers for surplus electricity generated by distributed energy sources to be added to the national grid would ensure that the benefit of surplus electricity generated is not lost

through difficulties experienced by individuals or organisations attempting to make arrangements with electricity retailers.

Unless embedded renewable energy generators are able to recoup their investments and earn a commercial return on the sale of their energy, the spread of renewable generation sites across the country is likely to be severely constrained

The UK Government has also recently introduced 'Feed-In Tariffs'[6], which constitute a support mechanism for renewable energy. Such a tariff guarantees a long-term, premium price for energy generated from renewable sources. Households generating energy from solar, wind or other renewable sources are able to sell any excess energy to the UK grid at an established price. This practice is well established in continental Europe, and has been suggested[7] as the "most successful policy instrument yet devised for speeding the comparatively low cost deployment of renewable energy technologies", citing Germany, Spain and Denmark as examples.

A further example is the New York Consolidated Law Service, Public Service Law, Article 4, Provisions Relating to Gas and Electrical Corporations; Regulation of Price of Gas and Electricity, NY CLS Pub Ser § 66-j (2008) *Net energy metering for residential solar or farm waste electric generating systems*. This legislation provides the framework for net metering arrangements with electricity retailers and defines their roles and responsibilities. It avoids additional charges being placed upon distributed energy generators operating within the framework.

The distributed energy generation the US legislation also includes the following definitions[8]:

> S 66-j(d) "Solar electric generating equipment" means a photovoltaic system with a rated capacity of not more than ten kilowatts.
>
> S 66-j(e) "Farm waste electric generating equipment" means equipment that generates electric energy from biogas produced by the anaerobic digestion of agricultural waste, such as livestock manure, farming wastes and food processing wastes with a rated capacity of not more than four hundred kilowatts.

3.7 Building Act 2004:

The Building Act 2004 requires that a significant amount of additional, and sometimes unrelated information be submitted at the time of building consent lodgement to confirm compliance with certain (and often unrelated) aspects of the Building Code: for example current house plans drawn by a professional, showing the location of smoke alarms, etc.

Anecdotal evidence suggests that in some cases, these 'additional information requirements' are used to bring the Council's 'property file' up to date where current house plans do not exist for a variety of reasons.

These information requirements are adding in some cases significant additional costs to households and businesses installing solar hot water systems, heat pump water heating systems, photovoltaic systems and other sustainability related initiatives, including rain water tanks. These 'application' related costs are factored into the 'payback' time of the device for the applicant, and in some cases exceed the value of the work – consequently, these costs may result in these devices not being installed.

[6] http://nds.coi.gov.uk/environment/fullDetail.asp?ReleaseID=381477&NewsAreaID=2&NavigatedFromDepartment=False
[7] http://www.worldfuturecouncil.org/research_and_publications.html See also the 'Stern Report': http://www.hm-treasury.gov.uk/6520.htm
[8] This is relevant to the 'small scale' definition used in the NPS

The development of acceptable solutions for common small scale renewable energy devices (solar hot water systems, photovoltaic installations, micro wind turbines etc) or specific amendments to the Building Code (Regulations) or Building Act 2004 (such as for passive solar gain/orientation, insulation and ventilation) should be considered to support and better enable uptake of these devices and improve the energy efficiency of the building stock over time.

Amendments to the Building Code should also be considered in relation to sustainable building practices as has been the case in Australia, where a 'Star Rating' system[9] has been implemented for all new buildings. Such has been the success of the system, that higher rated buildings are now achieving a premium in the market, due to a recognition of the lower running costs of a well designed and energy efficient home.

The benefits of having a nationally recognised and/or required standard for sustainable building including small scale renewable energy devices and related energy efficient building practices would be significant, as the economies of scale and experience in the industry would rapidly rise, possibly also leading to multiplier effects across the economy.

3.8 Local and Central Government Practice:

Local and Central Government are major users of electricity (and other resources). They have significant existing investments in the built environment, and are substantial builders of new buildings and infrastructure. Through large purchasing power, the government sector's actions as a consumer has the potential to effect change in the building and renewable energy industries. The potential for the sector to effect change is demonstrated by the Govt[3] programme[10], which is currently voluntary, but with an "expectation that all core government departments be part of Govt[3]". There is potential that by making such a programme mandatory across all government agencies more significant results would be achieved.

Leading by example also demonstrates that technologies, methods and policies work. The experience of undertaking building projects and/or changing procurement and operational procedures to improve use and uptake of renewable energy generation also builds practical experience within all sectors involved that can be used to improve policies and regulations, and can be disseminated into the wider community.

This may be particularly useful where a new and or relatively unproven technology or method is being used.

For example, Waitakere is hosting a trial of the UK made Swift Micro Wind Turbine, a small roof mounted wind turbine designed to be used in urban situations. Data and experience from the trial will be used in product refinement for the unique New Zealand situation.

Waitakere has also installed an 8.16 kW photovoltaic system with 96 panels at Massey Leisure Centre and Library in 2003, and a 1 kW photovoltaic system with 6 panels on the new Civil Defence building in 2006 and has individually agreed an export metering arrangement with its electricity retailer.

[9] E.g. the NABERS scheme: http://www.abgr.com.au/default.aspx
[10] http://www.mfe.govt.nz/issues/sustainable-industry/govt3/

Part 2: Solutions and Improvements

In light of the above broad issues, **Waitakere City Council seeks the following changes to the Proposed National Policy Statement on Renewable Electricity Generation:**

NOTE: (To enable discussion in a logical fashion, the text of the Proposed National Policy Statement on Electricity Transmission has been set out in full, (in Garamond) with Waitakere City Council's position or comments on the text following (in Arial)).

0. Preamble and Objective:

Objective:
To recognise the national significance of renewable electricity generation by promoting the development, upgrading, maintenance and operation of new and existing renewable electricity generation activities, such that 90 per cent of New Zealand's electricity will be generated from renewable sources by 2025 (based on delivered electricity in an average hydrological year).

0.1 Waitakere City Council supports the objective of the Proposed National Policy Statement on Renewable Energy Generation, and is actively involved in the promotion and use of renewable energy, particularly at the small or 'post-meter' scale.

0.2 The preamble to the proposed renewable electricity generation NPS outlines the importance of renewable electricity generation and some of the current issues of consenting renewable electricity projects because of competing values. The preamble suggests that the current problem is how to provide a '*nationally consistent approach to balancing competing values associated with the development of New Zealand's renewable energy resources*'.

0.3 The objective set out in the Proposed NPS however is '*to recognise the national significance of renewable electricity generation by promoting the development, upgrading, maintenance and operation of new and existing renewable electricity generation activities*'. There seems to be a mismatch between the problem outlined in the preamble and the objective.

0.4 Essentially, the Proposed NPS promotes all renewable electricity generation activities with the intent to meeting the 90% renewables by 2025 target as set out in the NZ Energy Strategy. While this provides a useful national direction, and perhaps balances the existing situation in many planning documents that focus on the adverse effects of activities, Waitakere queries whether this policy is going to achieve any more than what is provided already through the government's New Zealand Energy Strategy in terms of national direction and through S.7 of the RMA which requires particular regard to be given to the benefits to be derived from the use and development of renewable energy.

0.5 The Proposed NPS should provide guidance on how councils are to balance competing values, particularly balancing the sometimes contradictory matters outlined in s6 and s7, and the benefits of renewable energy which is a stated aim of the NPS as outlined in the preamble, and in the s32 report.

1. Policy 1:

Recognising the national significance of the benefits of renewable electricity generation activities

Policy 1

The benefits of renewable electricity generation activities, at any scale, are of national significance. Decision-makers must have particular regard to the national, regional and local benefits relevant to renewable electricity generation activities. These benefits may include, but are not limited to:

i. maintaining or increasing electricity generation capacity while avoiding, reducing or displacing greenhouse gas emissions

ii. maintaining or increasing security of electricity supply at local, regional and national levels by diversifying the type and/or location of electricity generation.

1.1 This policy elevates renewable electricity generation to being a matter of national significance.

1.2 The policy refers to 'decision-makers'. Waitakere's interpretation of the intent described in the Section 32 analysis is that there is no explicit requirement for councils' policy statements or plans to be changed or amended to give effect to the policy directly, but the NPS will be relevant to making decisions in relation to resource consents and designations for renewable generation, and when an eventual plan change is being considered.

1.3 There is a question as to what value this statement would provide over section 7 (ba), (i) and (j) of the Resource Management Act 1991.

1.4 Waitakere questions how this policy will clarify and assist decision makers to balance a matter of national significance (more renewable generation) with matters of national importance (as those matters outlined in sections 6: Matters of National Importance, 7: Other Matters, and 8 Treaty of Waitangi.

1.5 There are particular considerations for the implementation of any NPS in the Waitakere Ranges Heritage Area established under the Waitakere Ranges Heritage Area Act 2008. Whereas the Resource Management Act 1991 requires that the consideration of an application for resource consent for a discretionary or non-complying activity must "have regard to" the relevant provisions of any NPS, section 13 of the Waitakere Ranges Heritage Area Act 2008, raises that test (within the Waitakere Ranges Heritage Area) to a requirement to "have particular regard to" those matters. This aligns the status of the NPS (in this Area) with the purpose and objectives of the Waitakere Ranges Heritage area Act 2008, and with Section 7 of the RMA.

1.6 Waitakere seeks that this 'benefits' policy statement is balanced elsewhere in the NPS:REG by an 'effects of renewable generation' policy or other suitable method, which should be provided to assist decision makers address the stated problem, as outlined in the preamble, of *balancing competing values.*

2. Policy 2:

Acknowledging the practical constraints associated with the development, upgrading, maintenance and operation of new and existing renewable electricity generation activities

Policy 2

When considering measures to avoid, remedy or mitigate the adverse environmental effects of renewable electricity generation activities, consent authorities must have particular regard to the constraints imposed on achieving those measures by:

i. the nature and location of the renewable energy source
ii. logistical or technical practicalities associated with developing, operating or maintaining the proposed renewable electricity generation activity
iii. the nature and location of existing renewable electricity generation activities
iv. the location of existing structures and infrastructure including, but not limited to, roads, navigation and telecommunication structures and facilities, the local electricity distribution network, and the national grid.

2.1 Waitakere's interpretation is that the policy essentially directs decision makers to consider the practical constraints associated with renewable electricity generation activities when considering environmental effects and possible consent conditions to avoid, remedy or mitigate any adverse environmental effects.

2.2 These practical constraints include the location and nature of the renewable resource and the present technological state of extraction and generation equipment, as well as the presence (or otherwise) of other supporting infrastructure and topography.

2.3 However, the Section 32 report takes a slightly different view and explains that '*Policy 2 seeks to tip the balance in favour of renewable electricity projects that, for reasons deriving from practical constraints, might otherwise fail to gain a commercially viable resource consent*'.

2.4 Waitakere supports the intent of the policy (as interpreted in s2.1) but is concerned that the result of an interpretation as outlined in the s32 report (and s2.2) may be that projects previously considered unviable or environmentally unacceptable (due to valid concerns around adverse effects, resulting in an expectation from applicants that significant mitigation or remediation conditions would be imposed) would now be considered for consenting, due to the reduced ability of decision makers to impose conditions to avoid, remedy or mitigate those adverse effects.

2.5 This concern is further enhanced by the lack of a balancing policy around how these practical constraints, and national benefits, should be balanced with effects on matters of local, regional or national importance, as discussed in the previous section.

3: Policy 3:

Having regard to the relative reversibility of adverse effects associated with particular generation types

Policy 3

When considering proposals to develop new renewable electricity generation activities, decision-makers must have particular regard to the relative degree of reversibility of the adverse environmental effects associated with proposed generation technologies.

3.1 This policy requires considerable clarification if it is to be effective. The policy does not provide decision makers with assistance on considering a proposal on its merits.

3.2 As worded, the policy raises the following questions:

- What particular adverse effects of renewable generation (noting the effects of generating from each resource are very different) are reversible?
- Relative to what?
- Should decision makers assume that a renewable generation activity will cease (and require information on this) to allow consideration of this 'benefit'?

3.3 Some effects are not reversible, and the reversibility of some effects will vary by the scale, nature and type of resource being exploited, and for most large scale generation activities, there are construction effects that may not be reversed.

3.4 In relation to hydro-generation for example, the construction of a large dam will have the effect of changing the environment from a fast flowing river to a still water pond – quite different and non-compatible ecologies. The longer the dam remains, the more 'naturalised' the upstream and downstream ecologies become – removal of the dam may therefore return the river to its pre-existing flow regime, but may destroy the lake ecology that has developed. This situation has occurred in relation to the Waitakere water supply dam: built in the early 1900s, the dam severely restricted the flow of the Waitakere River, which was previously navigable to some extent inland. The environment downstream of the dam, due to the reduced sediment flushing, has now created the largest wetland environment remaining in the Auckland Region (the Te Henga Swamp) and is now considered to be a habitat of regional and national significance. Removal of the dam would destroy this valued environment.

3.5 It is also queried as to whether a decision maker will be required to anticipate that a project under consideration would cease at some specified point in the future, to enable the realistic consideration of this benefit actually occurring. Consent authorities may require applicants to provide information on the expected design life and reversibility of their project, or provide decommissioning information.

3.6 A perverse outcome of this policy maybe to grant consents with shorter timeframes than would otherwise be expected, or commercially viable, requiring multiple applications for extensions of time etc, or the imposition of significant bonds or other conditions that may have the effect of frustrating long term certainty of the project.

3.7 It is also questioned how likely are the effects to be reversed? It is suggested that it is far more likely that a successful generation development utilising a geographically constrained renewable

resource will be expanded and upgraded over time than removed, particularly as the country and world moves to a carbon constrained future.

3.8 It is submitted that the policy could be clarified by rewording or additional policies which answer the questions raised in s3.2 above.

4. Policy 4:

Enabling identification of renewable electricity generation possibilities
Policy 4
By 13 March 2012, local authorities are to notify, in accordance with Schedule 1 of the Act, a plan change, proposed plan or variation to introduce objectives, policies and, where appropriate, methods, into policy statements and plans to enable activities associated with:
i. the identification and assessment by generators of potential sites and energy sources for renewable electricity generation
ii. research-scale investigation into emerging renewable electricity generation technologies and methods.

4.1 This policy directs councils to introduce objectives, policies and methods into policy statements and plans to enable activities associated with researching new renewable electricity generation sources and sites.

4.2 There are a very large number of ways to generate electricity from renewable sources and a wide spectrum of potential effects as a result of the wide ranging methods of undertaking site research, in a rapidly advancing field of scientific endeavour.

4.3 *Enabling* these activities appropriately and sustainably through a plan would require consent authorities to be aware of all the possible renewable generation resources in its area, and all the possible methods of their identification and assessment; to determine the potential impacts of the assessment and identification on the other resources of the district; and make decisions on the consent status and write policies etc . This is an onerous task even for well resourced authorities.

4.4 Like the preceding policies, Policy 4 would benefit from clarification, particularly around answering the following questions:

- How big is '*research scale'*?
- In the context of the emerging and rapidly advancing science of renewable electricity generation, how new and cutting edge are '*emerging technologies'*?
- Arguably all renewables are 'emerging' and most installations are specific to the particular site and resource – are all applications to some extent '*research scale'* on this basis?

4.5 Without policy guidance in the NPS, it will be left for local authorities, either on their own or in ad-hoc association, to attempt to answer these questions, resulting in unnecessary plan development costs, delays, and increased potential for appeals. Guidance on these issues will be required in the NPS to ensure a nationally consistent approach to enabling identification of renewable energy resources and facilitating 'research scale investigations into emerging electricity generation technologies and methods'.

4.6 Waitakere asks that clear definitions be added to the interpretation section for these terms, keeping in mind that there is a variety of renewable resources and methods of investigation, depending on the resource being investigated.

4.7 It is appreciated that it will be a difficult task to anticipate future technologies and provide a workable and flexible definition, but this task is better undertaken at the national level via the NPS than left to the 85 councils to define individually.

5. Policy 5:

Supporting small and community-scale renewable electricity generation
Policy 5
By 13 March 2012, local authorities are to notify, in accordance with Schedule 1 of the Act, a plan change, proposed plan or variation to introduce objectives, policies and, where appropriate, methods, into policy statements and plans to enable activities associated with the development and operation of small and community-scale distributed renewable electricity generation.

5.1 Waitakere fully supports the intention to differentiate and enable small scale renewable energy generation, particularly at the domestic, business or community scale.

5.2 The interpretation section of the NPS defines *"small and community scale distributed renewable electricity generation"* as renewable electricity generation projects with an installed electricity generation capacity of less than four megawatts and excludes offshore wind, tidal and wave generation.

5.3 However, the size, scale and effect of renewable generation varies with the resource being exploited, and the state of technology, and it is questioned whether a blanket 'output' based threshold is a suitable method to determine the threshold at which generation should be enabled.

5.4 It is also questioned whether the 4MW limit is too high, particularly as the energy output of any renewable energy device is only partially correlated to its effects, and the reasons for selection of a 4MW limit is not adequately discussed in the s32 report.

5.5 For example, a 4MW geothermal plant could potentially operate within a fairly unobtrusive way in a rural or urban environment; however a 4MW wind farm would be highly visible and would require any number of turbines[11]. A 4MW solar array would cover a significant area. A 4MW hydro-generator would require significant river modification to provide the required head or velocity.

5.6 While the government's goal of enabling renewable electricity generation is supported, the size and scale of most 4MW renewable generation facilities would (at the current technological state) result in potentially significant adverse effects and would, for the most part, be beyond what could reasonably be described as 'small scale'.

5.7 Waitakere submits that the NPS include a range of output thresholds to be developed specific to each generation type, which may include energy output, but also physical aspects such size, scale, height, or other similar criteria that actually relate to the level of effect. Without these limits provided in a NPS, local authorities will need to undertake this work themselves, leading to significant costs and national variability.

5.8 This policy also involves a temporal element that may result in other perverse impacts – at the current state of technology, most devices will be larger/more intrusive to generate 4MW, but over time the size of the device(s) needed to generate 4MW would reduce as efficiency improves – thus, early uptake of these provisions of the NPS will likely be near-viable projects that are

[11] For example, a 4MW limit would allow for the installation of either 4000 Swift Micro Turbines rated at 1kW (such as that installed on the roof of the Waitakere City Council buildings), or five 800kW Vestax 92 turbines, or 2 very large 2MW class turbines – each scenario having the potential for very significant visual impacts.

already well advanced but are on hold due to consenting concerns. Thus, the better resources would be taken up by less efficient, larger devices with greater adverse effects.

6. Interpretation:

Interpretation

In this national policy statement, unless the context otherwise requires:
"**Act**" means the Resource Management Act 1991.
"**Application**" means any application for resource consent or consents or application under section 127 of the Act. Applicant has the corresponding meaning.
"**Decision-makers**" means all persons exercising functions and powers under the Act.
"**Local electricity distribution network**" means the system of electricity conveyance that connects individual electricity users with the national grid and electricity generation facilities.
"**National grid**" means the assets used or owned by Transpower NZ Limited.
"**Renewable electricity generation**" means generation of electricity from solar, wind, hydro, geothermal, biomass, tidal, wave, or ocean currents resources.
"**Renewable electricity generation activities**" means the construction, operation and maintenance of structures associated with the generation of renewable electricity. This includes small and community-scale distributed renewable generation activities and the system of electricity conveyance required to convey electricity to the local electricity distribution network and/or the national grid.
"**Small and community-scale distributed renewable electricity generation**" means renewable electricity generation projects with an installed electricity generation capacity of less than four megawatts and excludes offshore wind, tidal and wave generation.

6.1 A number of additional definitions will be required to be added to this interpretation, and some of the definitions will require further drafting.

6.2 In particular, clear and unambiguous definitions for the following new terms should be considered:

- 'Net Metering': Refer s3.4 for suggestions
- 'Research Scale' : refer section 4 for discussion
- 'Emerging Technologies': refer section 4 for discussion

6.3 Consideration should also be given to redrafting of the following terms in light of the comments made in this submission:

- 'Small and community-scale distributed renewable generation' : refer s5 for discussion

In summary, Waitakere supports the intent, objective and the policies of the NPS:REG but believes that significant but simple improvements can be made to the document as proposed to avoid confusion and national variability, reduce implementation costs for local authorities and applicants, and better achieve the stated objective.

These improvements relate mainly to the provision of clear and unambiguous wording, definitions and targets in the NPS:REG.

Waitakere also asks that the Board of Enquiry provide feedback to the Minister on other complementary measures that could be undertaken beyond the NPS to better support the achievement of increased renewable generation.

Waitakere City Council wishes to be heard in support of this submission

Waitakere City Council will consider making a joint presentation at a hearing with others making a similar submission.

Chair, Planning and Regulatory Committee
Cr Vanessa Neeson

31/10/08
Date

Address for Service: Waitakere City Council,
Private Bag 93109
Henderson 0650
WAITAKERE
Att: Kyle Balderston
L5, Strategy.

Ph: (09)836-8000, x8474
Email: kyle.balderston@waitakere.govt.nz

Kyle Balderston, Strategic Advisor: Sustainable Management

APPENDICIES:

Appendix A: Comments of Waitakere City Council on what should be included in a possible NPS on Renewable Electricity Generation.