

31 October 2008  
Board of Inquiry  
NPS – Renewable Electricity Generation  
PO Box 10362  
Wellington

Dear Sir

## **Todd Energy Submission on National Policy Statement on Renewable Electricity Generation**

### **1. Introduction**

Todd Energy (Todd) is a privately owned New Zealand company. It is New Zealand's largest domestically-owned energy business and the second largest contributor to the country's energy supply. Todd has diversified interests in oil and gas exploration production, natural gas and LPG wholesale and retail, electricity generation (gas co-generation and renewables) and retail.

Todd owns and operates (through its 100% ownership of Bay of Plenty Energy, BOPE), or has interests in (via its one third ownership of King Country Energy), several renewable electricity generation assets including hydro-electric power schemes [Aniwhenua (100%), Mangahao (50%), Karatau, Mokauiti, Piriaka, and Wairere] and geothermal plant (TG1 and TG2 at Kawerau). It also owns Sola 60, a solar hot water heating manufacturing and supply company which uses renewable energy to offset electricity demand.

BOPE is currently in the process of applying for resource consents to construct a 13MW hydro-electric power scheme on the upper Kaituna River, Bay of Plenty.

### **2. General comment**

Todd is generally supportive of policies which encourage the orderly development of renewable electricity resources in New Zealand, in particular policies aimed at removing barriers to the investigation of renewables, the consenting of new renewable electricity generation projects, or the re-consenting of existing plant.

However, we are opposed to policies which

- pursue the development of renewable electricity generation (or for that matter any form of generation) to the extent, or at a rate which, places energy security at risk
- add unnecessarily to the cost of electricity to consumers and to the cost of doing business in New Zealand
- give preference to one form of renewable electricity generation over another

In this respect, we have concerns about both Government's current energy policies (as reflected in the content of the New Zealand Energy Strategy, NZES) and aspects of the proposed National Policy Statement (NPS) for renewable electricity generation, which reflects both the content and thinking behind the NZES.

We appreciate that this submission should necessarily focus on the proposed NPS but consider it appropriate to inform the Board as to the nature of our general concerns about energy policy, with particular emphasis on matters that effect the content of the NPS (see Context, below). We are also mindful that the Board may deliver its report and recommendations to a government with different energy policies to those of the incumbent Labour-led government.

### **3. Context**

The NZES establishes the "90% renewable electricity generation by 2025" target. It is widely acknowledged that the main driver behind the strategy is the goal of reducing greenhouse gas (GHG) emissions and to that extent it is more of a climate change strategy than a balanced energy strategy. This lack of balance is, in our view, reflected in the apparent failure of the architects of the strategy to appreciate the strategic significance of New Zealand's indigenous gas reserves.

The NZES does not articulate the potentially critical role that gas can and, we would argue, should play in the medium term as a vehicle for maintaining security of energy supply (including needed back-up to intermittent renewables), and helping to keep downward pressure on electricity prices. Not only does the NZES not set out a strategy for maintaining continuity of gas supply, but some of its content is potentially destructive of the gas industry.

Natural gas provides about 20% of New Zealand's primary energy supply. Electricity generation is a key market for natural gas. Gas-fired power stations (CCGT and co-gen) produce about 20% of all electricity generated in New Zealand and about one fifth of this is from co-generation plants.

New Zealand has three CCGT stations (with individual capacities of about 380MW), an open-cycle station of 40MW, and a bi-fuel plant, the 1000MW Huntly station (Huntly is the only coal-fired power station in the country).

Gas is a premium low emissions fuel (emits only 40% as much CO<sub>2</sub> as coal per Kwh) which can be burnt in modern CCGT and co-gen plants at efficiencies exceeding 50% and 70% respectively.

A central element of many countries' GHG reduction strategy is to migrate from largely coal-fired to gas-fired electricity generation plant.

In stark contrast, the NZ Government has placed a ban on all new base load thermal power stations [ via the Electricity( Renewables Preference) Amendment Act 2008] on

the basis that it is not prepared to rely on its carbon pricing mechanism (the Emissions Trading Scheme) to achieve the 90% renewable electricity generation by 2025 target. The “target” is, unfortunately, being treated as an absolute objective or imperative.

The ban limits all new generation to either renewables or high cost and inefficient back-up thermal plant to support intermittent renewables, provided that plant can obtain an exemption. It will not be possible to build super-efficient base load Combined Cycle Gas Turbine Plants even though they are relatively low carbon plants requiring little in the way of new grid (eg if placed close to load near Auckland) and capable of producing electricity at significantly lower prices than most renewables projects.

The New Zealand Centre for Advanced Engineering (CAENZ) has predicted that the 90% renewables target, coupled with the moratorium on base load thermal generation, will have the following effects:

- a loss of security in electricity supply as a result of placing greater reliance on forms of generation (renewables) that can result in intermittent supply
- increased electricity prices as a result of the need to develop “over-capacity” (to counter intermittency) and new transmission lines to service remote renewables locations
- suppression of demand for gas from the electricity sector by about 33% by 2023
- negative impact on gas exploration and development, and hence reserves discovery
- consequential decline or loss of gas’s ability to play a reliable back-up role to renewables (as per the NZES)
- consequential upward pressure on gas prices as reserves decline
- consequential potential for introduction of LNG (taking NZ’s energy prices to international levels) as a result of a weakened domestic gas industry

Many knowledgeable industry commentators endorse these findings (Note: the recent surge in exploration activity has been driven largely by high oil prices and in the case of the Great South Basin by companies hoping to find gas reserves in exportable quantities). The Executive Director of the Major Electricity Users’ Group (MEUG) has recently stated, in a press release (13/09/08), that :

*“ New Zealand’s approach to saying no to base load gas but embracing weather-dependent new hydro and wind generation is foolhardy...inevitably we will see electricity prices rising faster than they should and higher risks to security of supply”*

Todd agrees with both the CAENZ analysis and the MEUG viewpoint and it is in this context that we make the following submissions on the proposed NPS.

#### **4. Justification for proposed NPS**

As indicated above, Todd is actively involved in renewable electricity generation and is consequently generally supportive of actions or policies facilitating the development of renewable energy resources. However we have reservations about the NPS proposals. We consider that , in the interests of NZ Inc, the Board needs to consider two questions:

- Is it appropriate to “tilt the regulatory playing field” (p4 of s32 analysis) in favour of a *particular* form of development given the scheme and underlying philosophy of the Resource Management Act?
- If not, are there sufficient existing mechanisms or other initiatives that will ensure that the overall aim of increased renewable electricity generation is achieved?

We address these two questions below.

#### **4.1 Is it appropriate to have an National Policy Statement on renewable electricity generation under the RMA?**

The purpose of the RMA is to promote the “sustainable management” of natural and physical resources. The definition of natural resources includes energy. Sustainable management is defined in terms of managing the *use, development* and protection of natural and physical resources in a way or at a rate which enables people and communities to provide for their social, economic and cultural wellbeing and health and safety [subject to the three s5(2) caveats].

The purpose of national policy statements is to state objectives and policies for matters of national significance that are relevant to achieving the purpose of the Act.

So on the face of it the Minister is entitled to promulgate an NPS aimed at promoting the use and development of renewable energy resources. However, we have reservations which relate to the following observations:

First, the purpose of the Act (above) relates to the management of *resources* not activities ( the proposed objective of the NPS refers to management of renewable electricity generation *activities*).

Second, whilst the purpose of the Act refers to management of use and development as well as protection, the scheme of it is such that it does not promote any form of development or use over another. Part 2 of the Act is fundamentally protective of resources and environmental values. Use and development may proceed providing the three (protective) caveats in s5(2) are met, the preservation and protection of the matters of national importance in section 6 are “recognized and provided for”, and “particular regard” is had for the matters listed in section 7. This is why the Act has always been described as “effects based”. In contrast to the Act itself, most resource management plans have taken an activity-based approach to rule development, partly because Part 3 of the Act requires local authorities to regulate specific categories of activity (eg land uses, discharges) and partly because such plans are easier to write and understand. The key point however is that plans , almost universally, do not promote particular types of

development activity, for the simple reason that councils have taken the approach that developments should stand or fall on their merits against the protective effects-based criteria in Part 2 and it would be inappropriate for the regulatory authority to create a policy bias towards a particular form of development.

In light of the above, the question has to be asked—is it appropriate for *the Government* to create a regulatory bias towards a particular form of development? There are other forms of development that might equally be regarded as desirable and/or sustainable, and therefore worthy of such bias (eg aquaculture, organic farming, bio-fuels) but which, like renewable electricity generation, may not be appropriate at all locations due to their environmental effects. Arguably the integrity of the RMA, in particular achievement of its “sustainable management” purpose, relies on maintenance of a neutral stance by consent authorities in respect of the form or type of development that should be allowed to take place at a given locality.

We note that, contrary to our analysis (above), the section 32 report (p12) attempts to justify the need for a NPS by stating that (local authority) “plans do not contain policies that would encourage the use and development of renewable electricity generation purposes” and that they are “skewed towards identifying and evaluating the potential adverse effects of renewable electricity generation projects”. In our view such comments reflect a lack of understanding of the scheme of the Act.

It is erroneous in our view to suggest, as the s32 report does, that section 7(j) of the Act – which requires decision makers to have “particular regard” to the benefits(= positive effects) to be derived from the use and development of renewable energy resources-- places any obligation on local authorities to *promote* renewable energy. While this section, introduced by way of amendment in 2004, can be viewed as amounting to a slight tilting of the playing field in that alludes to a particular form of development, it still (only) places an effects-based deliberative obligation on decision makers and is therefore consistent with the scheme of the Act.

We disagree with the Regulatory Impact Statement’s(RIS) identification of the problem with the status quo, viz “that the RMA does not clearly state the significance of the benefits of renewable electricity projects...”. The RMA does not state the benefits of *any* form of development and that is arguably appropriate. But by requiring decision makers to have particular regard to the benefits of renewable energy [s.7(j)], evidence on those benefits becomes very relevant to the assessment of effects and the presentation of evidence.

The section 32 report argues that the NPS is needed to combat “regulatory uncertainty in the absence of a clear articulation of Government’s position on the benefits of renewable energy generation” and “a lack of clarity surrounding the balancing of effects”. It is difficult to reconcile this statement with the fact that the proposed NPS (policy 1) only identifies 2 benefits, one of which (energy security) is debatable (below), nor does it produce any clarity regarding the balancing of effects given that the NPS is *subject* to Part 2 of the Act and contains no guidance as to *how* to balance effects.

Contrary to assertions in both the section 32 analysis and the RIS, it is not clear that the framing of decision criteria in the RMA currently acts as a significant impediment to the consenting of renewable energy projects (Note: this is not to say that the RMA shouldn't be improved from a process perspective). As noted in the s32 report itself (p3), since the 2004 amendment to the RMA, which introduced s7(j), the decisions of the Environment Court on the benefits to be derived from the use and development of renewable energy has led to the emergence of case law that is particularly relevant to renewable electricity generation projects and *both the number of applications and the number of consents granted for these projects has grown rapidly in recent times.*

Another RMA-related argument advanced in the section 32 analysis is that facilitation of renewable electricity generation will lead to a consequent increase in security of electricity supply with attendant social and economic benefits. Whilst we accept that up to a point increases in renewable generation capacity should increase the diversity and security of electricity supply, we caution against this as an unqualified justification for a NPS. As indicated in section 3 above, there are very good reasons for thinking that over-zealous pursuit of renewable energy generation in the medium term (as in the 90% by 2025 objective) could have the opposite effect, that is, pose a threat to New Zealand's energy security.

#### **4.2 Other mechanisms/ initiatives promoting renewable electricity generation**

As noted above, Todd considers that rigid adherence to the 90% renewables by 2025 target is not in New Zealand's best interests and we have some reservations about the use of a NPS under the RMA to facilitate the activity of renewable electricity generation.

In our view, the best approach is to use other (non-regulatory) measures to promote renewables, in particular to ensure that barriers to the development of renewable energy are identified and removed so that renewable energy can compete on a level playing field with other sources of energy, leaving it to the market to determine the optimum mix of renewables and non-renewables having regard to considerations such as the locus of demand, energy security risks, carbon price risks, costs and effects on electricity prices.

We note that in recent times a number of Government initiatives have enhanced the profile and competitiveness of renewables, including:

- the NZES 2007 and its policy settings which generally promote renewables
- the Emissions Trading Scheme 2008, by putting a price on emissions, improves the economics of renewable electricity generation relative to fossil fuels
- the Electricity (Renewables Preference) Amendment Act 2008 creates a preference for renewable electricity generation by restricting new base load thermal plant (Note: Todd opposed this intervention)
- 2008 amendments to the Electricity Industry Reform Act remove impediments to lines companies investing in renewables

- the Electricity Commission's *Transmission to Enable Renewables Project* has been initiated; aimed at making sure the transmission system can reliably integrate greater proportions of renewable generation
- the Electricity Commission is also revising electricity market arrangements to enable management of higher levels of intermittent wind power entering the electricity system
- the Government has boosted funding of research into renewables
- the Government is supporting renewable electricity generation by participating in RMA consent processes via the use of "call in" powers and submitting in support of renewable generation projects

In our view, the above initiatives are probably more than adequate to ensure that renewable energy is facilitated and, as noted in section 4.1, the number of renewable electricity generation projects granted consent has grown rapidly in recent times.

## **5. Proposed NPS Objective**

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

Todd has no issue with the idea of promoting or facilitating renewable electricity generation providing this is not done in an unbalanced manner (section 3, above). However, as indicated in section 4, we do have reservations about the use of a NPS under the RMA to promote renewable electricity generation.

If the NPS proceeds, we question the need for the objective to start with "To recognize the national significance of..." because this is the stated purpose of an NPS [ see section 45(1) RMA].

We would also suggest, for the reasons alluded to in section 4.1, that the words "renewable electricity generation" in the first line be replaced with "renewable electricity resources" and that the word "activities" be replaced with "plant". This puts the focus on the management of a resource and avoids use of the word activities.

We consider it inappropriate for the "90% renewable electricity by 2025" target to be embodied in law, for the reasons referred to in section 3. The target should be just that, not a requirement or inviolate objective. We therefore ask that the last part of the objective, beginning "such that", be removed.

We note that the section 32 analysis of the proposed objective (p30) confirms the view that the NPS is driven primarily by climate change considerations. Some potential costs of (over-zealous) pursuit of renewables are recognized on p31-32 but then dismissed with the limp statement that the benefits and costs were analysed during the development of the NZES and it was concluded that the benefits outweighed the costs.

It is erroneously stated on p31 of the section 32 analysis that a reduced dependency on fossil fuel generation will minimize the country's exposure to international fluctuations in gas price. None of the gas used to generate electricity in New Zealand is imported; the domestic gas price is completely uncoupled from the international price of gas. Ironically, one of the likely outcomes of over-aggressive pursuit of renewables is increased likelihood of LNG importation, which *will* link NZ to international energy prices.

Table 6 of the section 32 analysis (p33) , which evaluates the objective against Part 2 of the Act ( not section 5 as stated) is misleading. The NPS is promoting the development of renewable electricity generation but points out that projects are *subject* to Part 2 of the Act and there will be occasions when renewables projects will have unacceptable effects . Why then present an analysis that purports to show that the NPS objective is *consistent* with Part 2 of the Act? As indicated in section 4.1, there is arguably considerable tension, if not incongruity, between the proposed NPS and the scheme of the Act as reflected in the detail of Part 2.

If the NPS proceeds we consider that there would be merit in rewording the objective along the following lines, putting the emphasis on benefits [creating a desirable link with effects and with s.7(j)], taking away the reference to promoting (more neutral) and to activities, taking out the reference to the 90% target, and incorporating an appropriate link to policy statements and plans:

*“ To ensure that decision makers have regard to the national benefits associated with the development and use of renewable electricity resources and that policy statements and plans do not contain unnecessary barriers to the development of these resources “*

(Note: it might then be appropriate to include a footnote explaining that “renewable electricity resources” ,which are not mentioned in the Act, are a subset of energy resources, which are).

## **6. 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

Again, it does not seem necessary to refer to benefits being of national significance if a NPS, by definition, deals with nationally significant matters (above). In addition, it seems counter-intuitive to suggest that renewable electricity generation activities at *any scale* are of national significance.

The section 32 analysis says (p31) that Policy 1 is “central to the purpose of the NPS”, yet:

- Benefit (i) is a well-known beneficial effect of renewables and decision makers are already required to have “particular regard” to the benefits of renewable energy under section 7(j) of the Act.
- Benefit (ii) appears reasonable, particularly when considered at a local or regional level, but as indicated in the last paragraph of section 4.1 above, over-zealous pursuit of renewable electricity could have the effect of decreasing national energy security

If this policy is proceeded with, we suggest removal of the first sentence (to address the first 2 issues raised above), and removal of reference to activities. The concern in the second bullet above would be alleviated by removal of reference to the 90% target in the objective.

## **7. 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 resource
- 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 distribution network, and the national grid

This policy is quite confusing in its wording and, if the NPS proceeds, needs to be amended to better reflect the policy intent articulated on p37 of the s32 analysis.

Todd supports the premise that decision-makers need to be realistic when considering consent applications for renewable electricity generation projects (new or existing) and have adequate regard to the practical constraints relating to the avoidance or mitigation of adverse effects. This is particularly important in the case of re-consenting of existing hydro-electric plant which were located and designed under different regulatory regimes, and which constitute massive capital investments and essential components of the country’s infrastructure.( Note: In this respect, we have serious concerns about the implications of the Government-promulgated NES on Ecological Flows for the re-consenting of existing hydro plant).

In an ideal world we would not need an NPS to tell decision-makers to be realistic and practical.

## **8. Policy 3**

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

Todd is strongly opposed to this policy. It is effectively saying that not all renewable electricity generation projects are equal.....that some are more desirable than others, in particular those which can be relatively easily removed. As such, this policy, represents a

further tilting of the regulatory playing field and, in our view, an unwarranted intervention in the renewables marketplace.

The section 32 analysis gives the example that marine or wind turbine generators can be removed at the end of a project's economic life and the environment returned to its pre-development state. This policy, if implemented, could have major implications for new hydro-development. It would provide yet another matter relevant to decision-making, another basis for objection and another matter to be addressed in applications and by expert witnesses.

We note and agree with the comment in the section 32 analysis (p41) that the lack of clarity as to what constitutes "reversibility" could be used by project opponents in arguments against particular development projects and has the potential to increase litigation costs.

We are unaware of any other form of development that gets treated on this basis ie the degree of reversibility.

## **9. 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 energy generation
- ii. research-scale investigation into emerging renewable electricity generation technologies and methods

Todd is supportive of this policy as it is aimed at removing unnecessary barriers to the development of renewable energy resources.

Activities associated with the identification and assessment of potential sites and sources of renewable energy and the investigation of emerging generation technologies should generally be able to take place under permitted activity rules (ie subject to meeting specified conditions) as their effects are generally minor and temporary.

## **10. 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.

Again, Todd is supportive of this policy on the grounds that it addresses existing regulatory barriers to the development of small generation schemes, viz the disproportionately high consent costs associated with small and community-scale renewable electricity generation projects with limited environmental effects.

We note that the threshold of 4MW installed capacity has been selected to capture the majority of small-scale projects that are expected to be viable in rural and island locations across New Zealand.

Todd wishes to be heard in support of its submission.

Yours sincerely

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