MAJOR ELECTRICITY USERS' GROUP

28 March 2007

Mr Stuart Calman
Manager, Energy and Environment Group
Ministry of Economic Development
By email to nzes@med.govt.nz

Dear Stuart

Submission on draft New Zealand Energy Strategy

Introduction

1. This is a submission by the Major Electricity Users' Group (MEUG) on the report, *Draft New Zealand Energy Strategy to 2050: Powering Our Future – towards a sustainable low emissions energy system* (the "draft NZES") released by the Minister of Energy on 11th December 2006. The following companion documents have also been considered:

   Discussion paper on measures to reduce Greenhouse Gas Emissions in New Zealand post-2102 (the "post-2012 paper") published by the Ministry for the Environment on 11th December 2006.

   "*Transitional measures – Options to move towards low emissions electricity and stationary energy supply and to facilitate a transition to greenhouse gas pricing in the future* (the "transitional paper") published jointly by the Ministry for Economic Development and Ministry for the Environment on 11th December 2006.

   Draft New Zealand Energy Efficiency and Conservation Strategy ("draft NZEECS") released for consultation by the Hon David Parker, Minister of Energy and Jeanette Fitzsimons, Government spokesperson – Energy Efficiency and Conservation, on 14th December 2006.

   Three reports from the Minister of Energy to Cabinet under the heading "*Electricity Market Review*" titled "*Summary of review (paper one)*", "*Improvements to current arrangements (paper two)*" and "*Investment in generation by lines companies (paper three)*" published on the Ministry for Economic Development website on 21 December 2006.

2. MEUG commences this submission with an expression of concern at the disconnect between the Government Policy Statement on Electricity, the draft NZES, the absence of any cost benefit analysis and the failure to relate energy security of supply and competitive pricing to economic growth and continued economic well being.

3. It is noted that the Government's electricity policy as described in the principal objectives for the Electricity Commission[1] are:

   - *Ensure that electricity is produced and delivered to all classes of consumers in an efficient, fair, reliable, and environmentally sustainable manner and*
   - *Promote and facilitate the efficient use of electricity*

[1] Section 172N of the Electricity Act 1992 (as amended)

4. The mission statement of MEUG is :

> *"The members of the Major Electricity Users' Group are committed to ensuring the continuing availability of electricity services, at the lowest cost to the economy as a whole, consistent with sustainable development. Within this framework, the Group seeks to ensure competitive electricity prices and security of supply to the members of MEUG."*

5. In the past New Zealand has been commended for analysing issues and then determining its own "unique NZ solutions" to deal with the issues. This process does not appear to have been used in respect of this draft NZES and the climate change dimension. Instead a foreign solution has been imported although the context is distinctly different.

6. In most of the first world the major contributor to greenhouse gases is fossil fuel generation of electricity. Therefore the focus of first world governments and their climate change policies is to look at how fossil fuel generators can be taxed and/or thermal generation replaced. The introduction of highly subsidised wind generation has been widespread.

7. New Zealand's existing generation mix is markedly different and there is a renewable resource namely geothermal which is not generally available in Europe. Coupled with an opportunity to introduce some wind, realistic renewable objectives can be met without the need to penalise fossil fuel generation. MEUG has some doubt whether it is possible to aim for 100% renewable generation investment over the near and long term while at the same time achieving as low cost electricity as possible. A more diverse generation sector is probably more realistic and cost effective without risking our already excellent overall electricity sector greenhouse gas emissions profile compared to our trading partners and competing countries.

Executive Summary of MEUG recommendations

8. This submission has two main themes and 7 specific recommendations:

   a) The energy strategy should focus on lowest cost energy supply and levels of security as demanded by consumers. In particular MEUG recommends:

      - The energy strategy and vision statement should focus on the most important issues to consumers of lowest cost energy supply at levels of security of supply they are prepared to pay for (paragraph 10 to 32 of this submission);
      - There is an urgent need to adopt least cost strategies for the electricity sector because the competitive price advantage we had is expected to rapidly decrease, eg relative to Australia, New Zealand consumers are expected to pay significantly more for their power (paragraph 33 to 38 of this submission);
      - A separate comprehensive climate change response strategy should be developed (paragraph 39 to 41);

   b) The devil is in the detail and robust cost benefit analysis on options is essential before final commitments are made. In particular MEUG recommends:

      - All proposals be subject to robust cost benefit analysis (paragraph 42 to 45);
      - The standard government 10% discount rate continue to be used to evaluate energy policy options until the current review by Treasury is completed (paragraph 46 to 48);
      - Research is undertaken to determine the range (both negative and positive) of externality values to be used by government for climate change effects in cost benefit analysis (paragraph 49 to 53);
      - An expert panel is established to provide independent advice to Ministers on the quality of energy policy cost benefit analysis and Regulatory Impact Statements (paragraph 54 to 56).

9. Specific comments on proposed electricity sector related actions and questions in the draft NZES are set out in the appendix to this submission.

Strategy should focus on price and security of energy cognisant of linkages to other strategic issues

10. Energy is and is likely to remain an important input to wealth creation by New Zealand businesses and the health and everyday needs of households. There are numerous other important policy issues affecting the wealth of the economy (that is both household and business wealth). Some policy issues are closely related to energy, such as climate change. Others are not, such as accident compensation policy.

11. The draft NZES singles out climate change as not just the most important related strategic policy issue; but almost an overriding issue that dictates energy policy. MEUG believes this is a mistake. Climate change response should be considered in a more holistic manner than as part of the draft NZES and the companion discussion papers on climate change released at the same time as the draft NZES.

12. By focussing solely on strategic energy policies, MEUG believes a greater level of consensus on an energy strategy can be developed around the two key outcomes that consumers consistently seek for energy supply:

    a) Energy supplied at lowest possible cost.

       This implies first, that competitive markets are best. And second, where there are significant market failures (eg monopolies), that regulatory structures mimic and facilitate a transition (eg as technology develops) to a competitive environment. Another type of market failure are externalities and those should be priced into cost structures if possible.

    b) Security of supply levels decided by the consumer.

       This recognises that ever increasing levels of security of supply come at a cost – consumers should decide what the security of supply level versus cost trade-off should be or again, failing the market be able to provide that, then any regulatory mechanism should attempt to mimic and facilitate consumer(s) making that choice.

13. Climate change policies need to mesh with energy policies, but so to do a number of other strategic issues. The draft NZES discuss RMA strategic issues and Research and Development strategic issues[2]. However little if anything is covered in the draft NZES on the following strategic issues:

    a) Economic growth.

       The draft NZES refers in passing to economic development and economic transformation[3] but fails to link specific outcomes of the strategy with economic growth. The overarching objective of government should be to increase GDP per capita at a rate greater than other countries. That is the appropriate measure of whether government policies are making New Zealanders more prosperous or not. The draft NZES should consider how energy sector policies contribute to increasing GDP per capita.

    b) Sustainable water programme of action.

       Access to fresh water by existing and new hydro power stations and cooling water for thermal power stations is a strategically important issue for the electricity sector. Recent suggestions that fresh water might develop into another foreshore and sea debate highlight the strategic importance of the Sustainable water programme of action. The draft NZES doesn't mention this programme. MEUG suggests the final NZES should incorporate aspects of the Sustainable water programme of action relevant to the energy sector.

[2] Draft NZES, section 6.2, p66 and 67 discusses the MoRST Energy Research Roadmap
[3] Ibid, section 1.2, p5

c) State Owned Enterprises (SOEs).

The behaviour of SOEs in the electricity sector is crucial to the performance of the sector because of the extensive ownership of assets by SOEs. Poorly performing SOEs or perceived government direction of SOEs can affect outcomes as well as private sector investor confidence. The current government does not consider privatisation an option; however there have been suggestions of other ways to improve the performance of SOEs and lower the risk of political interference, eg a recent address by Rob Cameron appeared to have a degree of cross-party support[4]. The draft NZES doesn't mention SoEs policy as a strategic issue. MEUG suggests the final NZES should consider if and how the performance of SOEs can be improved because it is a material strategic issue.

d) Regulatory structures and competition policy.

The draft NZES discusses (p62) possible overlaps or gaps between government agencies involved in energy efficiency. MEUG agrees with the proposed action in the draft NZES, "*The government to ensure that roles and responsibilities are clear and distinct*."

There are also some other important regulatory structures that should have been considered as strategic issues in the draft NZES but are not mentioned. For example whether the Electricity Commission and Gas Industry Company structures are sustainable. MEUG suggests the ongoing debate about political direction and appointment of Commissioners and Board representatives creates uncertainty and is unlikely just to go away. Work is needed to find a more robust solution that meets the needs of consumers, the electricity and gas industries as well as politicians. The draft NZES assumes these structures are optimal already. MEUG don't believe that is so and hence suggest a review of the governance of the Electricity Commission and Gas Industry Company should be included in the energy strategy.

14. The following 7 paragraphs comment on the vision statement on page 8 of the draft NZES.

15. The overall draft vision statement is:

> *"A reliable and resilient system delivering New Zealand sustainable low emissions energy."*

16. The notion that energy supply and consumption should increase economic wealth, for example GDP per capita, is not encapsulated in the proposed vision or if it is then is so oblique as to be meaningless. MEUG suggest the following vision statement is a better reflection of the various factors that need to be considered.

> *"Ensure that energy is produced and delivered in an efficient, fair, reliable and environmentally sustainable manner."*

17. This suggested re-drafting is partly based on the existing principle objectives for the Electricity Commission generalised to cover all energy.

18. The first bullet point to the draft vision is:

> *"Providing clear direction on the future of New Zealand's energy system"*

19. The use of the word "direction" conjures a slide back to central planning and government picking winners. MEUG suggest the following restatement should be considered:

> *"Avoiding policy flip flops and ensuring all policy will be welfare enhancing"*

[4] Rob Cameron, presentation to the Public and Administrative Law Conference, Transforming State Owned Enterprises, February 2007, refer http://www.cameronpartners.co.nz/media/files/Transforming_State_Owned_Enterprises-PRESENTATION.pdf

20. The second bullet point to the draft vision is:

> *"Maintaining high levels of security and reliability at competitive prices"*

21. An important element missing in this bullet point is the notion that consumers, not government, should choose the level of security and reliability they desire depending on the price. For some energy services where it's difficult to discriminate between the preferences of consumers (eg the level of transmission services to a region), the challenge is to find regulatory structures that uncover the optimal level of consumer preferences in that region. MEUG suggest the following restatement of this bullet point should be considered:

> *"Facilitating consumer choice in trading off different price levels for different levels of security and reliability"*

22. The third bullet point to the draft vision is:

> *"Maximising how efficiently we use our energy to safeguard affordability, economic productivity and our environment"*

23. This bullet point makes efficiency a prime objective constrained by affordability, economic productivity and environmental objectives. MEUG believe this bullet point is inappropriate and obsolete for the following reasons:

a) It's bizarre that energy efficiency is accorded its own bullet point when the more important broader objective of economic growth (eg GDP per capita) doesn't have a bullet point. Either the government includes additional bullet points that have a primary goal of increasing economic growth subject to various other policy goals or this bullet point should be removed;

b) The ordering of the prime objective of energy efficiency subject to various other policy goals is more appropriate for the draft NZEECS because that strategy has a statutory requirement to consider energy efficiency and renewables; and

c) The overall vision statement as suggested by MEUG (refer paragraph 15 above) adequately covers the various strategic policy objectives, including energy efficiency, that need to be considered.

24. The fourth bullet point to the draft vision is:

> *"Maximising the proportion of energy that comes from our abundant renewable energy resources"*

25. The comments on the third bullet point are also relevant to this bullet point. In essence a focus on renewables is already part of the NZEECS and the more important outcome of increasing economic growth should be mentioned ahead of promoting renewables.

26. The fourth bullet point is also not supported because of the absolute and unconstrained policy objective of maximising renewables. Taken literally this would lead to all sorts of perverse interventions.

27. The fifth bullet point to the draft vision is:

> *"Reducing our greenhouse gas emissions"*

28. Taking this literally any policy that reduces greenhouse gas emissions would be acceptable policy. MEUG doesn't believe that is the intention of the government because some measures to reduce greenhouse gas emissions would be detrimental to other policy goals such as increasing GDP per capita. Alternative text to insert these types of trade offs follows:

> *"Reducing greenhouse gas emissions subject to consideration of other government policy objectives and in particular the overarching objective of increasing GDP per capita"*

29. The sixth bullet point to the draft vision is:

> *"Promoting environmentally sustainable technologies"*

30. MEUG suggest this bullet point has too narrow a scope in the context of a generic energy strategy for New Zealand. For example New Zealand would be far more prosperous if we discovered another Maui gas field (and the price of gas was low) or found a large oil discovery in the Great South Basin. MEUG supports continuing MoRST funding to firm up our oil and gas reserves. This sixth bullet point to the draft vision would, on the face of it, lead to MoRST reducing work on uncovering potentially wealth enhancing new petroleum resources. Therefore MEUG disagrees with the proposed sixth bullet point.

31. In summary MEUG believe the vision statement and bullet points on page 8 of the draft NZES need more work before they could be considered reasonable. Only when the vision statement is reasonable will the strategy gain wide buy-in by stakeholders. Gaining broad consensus on the energy strategy vision is essential if the government wishes to see it as being durable and relevant.

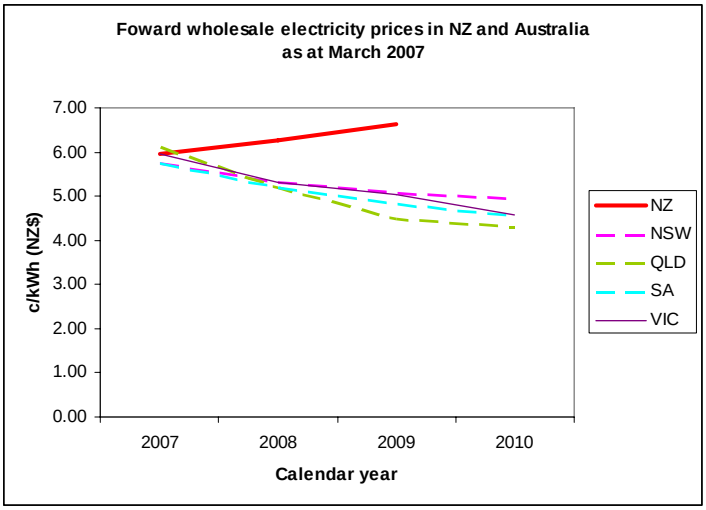
32. MEUG recommend the energy strategy and vision statement should focus on the most important issues to consumers of lowest cost energy supply at levels of security of supply they are prepared to pay for.

New Zealand is fast losing its competitive advantage of lower power prices, eg Australian forward prices are forecast to be significantly lower than NZ prices

33. Figure 1.2 (p7) in the draft NZES graphs OECD survey statistics comparing industrial electricity prices in 2005. The results report New Zealand industrial prices are the second to lowest of the 18 OCED countries. Norway had the lowest industrial power prices in 2005.

34. There is a risk policy makers may view this graph as still accurate (even though the OECD survey data is at least 2 years old) and on that basis believe we have head room to allow some electricity price increases to accommodate renewables in preference to lower cost thermal options.

35. The graph and table below illustrate wholesale electricity forward prices reported in markets in New Zealand and Australia[5]. All prices have been converted to New Zealand currency[6].



Calendar year All $NZ	NZ c/kWh	NSW c/kWh	QLD c/kWh	SA c/kWh	VIC c/kWh
2007	5.95	5.75	6.11	5.73	5.97
2008	6.27	5.32	5.19	5.18	5.30
2009	6.63	5.06	4.48	4.83	5.05
2010		4.96	4.30	4.55	4.59

36. This market data shows:

a) As at 2007 New Zealand already has a wholesale electricity price disadvantage compared to New South Wales and South Australia;

b) By 2009 forward prices are predicting New Zealand wholesale electricity prices will have increased by 11% compared to 2007 whereas for the 4 Australian States prices are expected to decrease by between 12% and 27%;

c) In 2009 New Zealand consumers will be paying between $582m and $796m more for wholesale electricity compared to the prices forecast in Australia.

37. The above example of Australian forward prices compared to New Zealand prices demonstrates that the historic OECD survey data is not current and can give misleading results. It would be worthwhile ensuring we understood what the expected electricity prices were likely to be in our trading partner and competitor countries before embarking on other than least cost policies in New Zealand. The countries that we need to monitor would include other Southern Hemisphere agricultural exporting countries in South America and South Africa. The OECD survey does not cover these countries.

38. MEUG recommends that there is an urgent need to adopt least cost strategies for the electricity sector because the competitive price advantage we had is expected to rapidly decrease, eg relative to Australia, New Zealand consumers are expected to pay significantly more for their power.

[5] NZ forward prices from www.energyhedge.co.nz close of business (COB) 27 March 2007, with quarterly prices averaged to estimate calendar year prices. Australian futures prices from http://d-cyphatrade.com.au/ as at COB 26 March 2007.
[6] Assumes 0.883 NZD/AUD exchange rate published by NZ Reserve Bank for 26 March 2007 (refer http://www.rbnz.govt.nz/statistics/exandint/b1/data.html)

Need for a separate comprehensive climate change response strategy

39. Climate change is an important policy issue because it's difficult to assess what will be the impact on the New Zealand economy and way of life of New Zealanders of doing nothing versus the raft of possible interventions that have been proposed. This is not an issue where knee jerk responses are likely to be optimal. The bigger the policy issue the more important it is that careful analysis be undertaken before policy decisions are made otherwise significant resources could be wasted.

40. Climate change isn't only about energy. Unfortunately the draft NZES and related three discussion papers on climate change policy largely focus on electricity generation, stationary engine emissions and land use change. Moreover the climate change policies appear to be driven by a European vision of that issue. There is little discussion on New Zealand's largest contribution to green house gas emissions, namely methane. MEUG suggest a climate change response policy should be developed by government consulting on a comprehensive climate change strategy that would include:

    a) Consideration of all greenhouse gases with particular focus on New Zealand's main greenhouse gas, methane.

    b) Suggestions on how best New Zealand can participate in international discussions for a global climate change response; including lessons learnt from the Kyoto agreement.

    c) Whether buying carbon credits to meet New Zealand's Kyoto commitments might be the lowest cost option, or at least in the mix of options.

    d) What the costs and benefits of New Zealand withdrawing from the Kyoto Protocol might be (but remaining a signatory to the Framework Climate Change Convention).

    e) Assessing the opportunity to join the Asia Pacific Partnership on Clean Development and Climate[7] (AP6) or failing that to improve cooperation with AP6 so that New Zealand can benefit from new technologies and methodologies developed by AP6.

       The failure of New Zealand to have been invited into the AP6 group highlights the need for a specific climate change policy rather than this current ad hoc consultation round partly under the guise of an energy strategy. The members of AP6 are likely to be the powerhouse of technological innovation rather than Europe. Unfortunately the climate change policy of New Zealand and our direction (eg signing the Kyoto Protocol) have been dominated by European thinking rather than being aligned with out trading partners, most of which are in AP6.

    f) The mix and level of research and development into:

        i) Improving our understanding of climate change risks;

        ii) Developing mitigation options; and

        iii) Developing adaptation options.

41. MEUG recommends a separate comprehensive climate change response strategy be developed.

[7] Refer http://www.asiapacificpartnership.org/

Robust cost benefit analysis essential before implementation decisions are made

42. Following feedback on the draft NZES MEUG understands specific proposals that appear to have merit will be subject to cost benefit analysis before final decisions are made. This is essential.

43. The concern that decisions will be made without robust cost benefit analysis is heightened because of the following experiences in energy policy and climate change policy:

a) The call by the Prime Minister for New Zealand to become Carbon neutral has, as far as MEUG is away, never been tested by weighing the costs of pursuing that goal with the likely benefits.

b) When opening the Parliamentary session for this year on 13 February the Prime Minister in her statement to the House announced[8]:

"The government has decided that a Biofuel Sales Obligation will be set at 3.4 per cent of the annual energy content of total annual petrol and diesel sales by 2012. This initial target is considered sufficient to encourage the uptake of biodiesel and the development of infrastructure for ethanol distribution."

This announcement was made without analysis of the economic costs and benefits.

c) The Electricity Commission plans to spend $3m on a programme to promote Compact Fluorescent Lighting. The programme commenced with some pilot studies and we understood that the results of those would be carefully analysed before the Commission proceeded with a full programme. To date the Commission has not published a report analysing the results of the pilot study but is seeking additional funding in the 2007/08 appropriation round to expand the programme.

d) In November 2006[9] government decided to fund a solar water heating programme for 5½ years commencing with additional funding of $15.5m for the first 3½ years to the funding given already to EECA. No economic cost benefit analysis of the programme was undertaken. Instead various alternative funding options were considered and consulted on with the presumption that government funding would be welfare enhancing. The real driver of the programme and agreement to this funding appears to be a political promise by Labour to the Greens.

e) When releasing the draft NZES government also announced an $8m contestable fund for marine energy promoters to apply for subsidies. MEUG understands that no cost benefit analysis was undertaken before Cabinet decided to agree this proposal. This appears to be a case of Cabinet picking, or probably more correctly "gambling," $8m on a bet with very long odds. This does not inspire confidence in the decision making process by government. It will lead to more special interest groups seeking similar subsidies for pet projects.

Marine energy may have merit but its proponents should have been required to argue their case through the MoRST funding process. Bypassing the usual MoRST contestable funding process has possibly undermined the credibility of that process and created uncertainty to researchers about how they can fairly "compete" for research funds.

f) The Regulatory Impact Statement attached to the Cabinet paper[10], "Electricity Market Review: Investment in Generation by Lines Companies (Paper Three)" has a narrative but no quantified estimate of the net national benefit of the proposed change to the current regulatory regime. Assuming the case for allowing lines companies to enter the generation market is as strong as the narrative suggests, then the Regulatory Impact Statement should have included a quantified estimate of the economic costs and benefits. Because the Regulatory Impact Statement didn't include a quantified estimate of benefits

[8] Refer http://www.beehive.govt.nz/ViewDocument.aspx?DocumentID=28357
[9] Refer, http://www.eeca.govt.nz/renewable-energy/solar/programme-outline.html
[10] The Cabinet paper was published on the MED website on 21 December 2006. Cabinet Business Committee considered and approved the recommendations in the Cabinet paper on 27 November 2006.

and costs leads MEUG to question if the benefits of the proposed measures will clearly outweigh the costs.

44. Had the above decisions been subject to robust cost benefit analysis then better decisions would have been reached. Those decisions that are genuinely economic welfare enhancing could then be distinguished from those that are driven by political agenda.

45. MEUG recommends that all proposals be subject to robust cost benefit analysis.

Defensible discount rate for policy analysis

46. MEUG is very concerned that recently some cost benefit analysis of energy policy and climate change policy options have used a base case discount rate other than the conventional 10% rate used by most government departments[11]. For example EECA used 5% for the draft NZEECS concurrently being consulted on. The Cabinet paper forming the basis of why EECA used 5% is unconvincing. Field study research[12] indicates that the public commonly use discount rates much higher than 10% when making energy savings decisions. This suggests that people have alternative uses for their funds that are far higher than 5%. EECA's reasons for asserting that it can spend people's money in this area better than they can spend it themselves need to be scrutinised closely given its conflict of interest on these questions.

47. Treasury are currently considering whether the conventional 10% discount rate should be amended and if different rates might apply to different sectors or issues. This is a complex area and MEUG suggests Ministers should act cautiously to requests to use "better" discount rates. It may well be that Treasury find a lower rate is justified. Making an assumption of a lower discount rate in advance of that work being completed does not give confidence in the decision making process.

48. MEUG recommends that the standard government 10% discount rate continue to be used to evaluate energy policy options until the current review by Treasury is completed

[11] MEUG accepts that in some cases different government institutions can have different discount rates. For example the 7% discount rate used by the Electricity Commission for the Grid Investment Test as defined in the Electricity Governance Rules is similar to but not exactly the same as the Social Rate of Time Preference approach for determining the discount rate government should apply when considering policy options.

[12] Refer Shane Frederick, George Loewenstein and Ted O'Donoghue, *Time Discounting and Time Preference: A Critical Review*, 30 January 2002, section 6.2.1 Field studies: "Some researchers have estimated discount rates by identifying real world behaviors that involve tradeoffs between the near future and more distant future. Early studies of this type examined consumers' choices among different models of electrical appliances, which present purchasers with a tradeoff between the immediate purchase price and the long-term costs of running the appliance (as determined by its energy efficiency). In these studies, the discount rates implied by consumers' choices vastly exceeded market interest rates, and differed substantially across product categories. The implicit discount rate was 17-20 percent for air conditioners (Jerry Hausman 1979); 102 percent for gas water heaters, 138 percent for freezers, 243 percent for electric water heaters (H. Ruderman, M. D. Levine, and J. E. McMahon 1987); and from 45 percent to 300 percent for refrigerators, depending on assumptions made about the cost of electricity (Dermot Gately 1980)."

Assessing a range of values for climate change externality

49. Various government agencies have applied different values to describe the presumed negative externality due to climate change effects, eg:

    a) The Energy Outlook to 2030 published in September 2006[13] tested a sensitivity analysis assuming \$15/t CO_2 charge.

    b) The draft New Zealand Energy Efficiency and Conservation Strategy concurrently being consulted on assumes[14]:

    "*When assigning a benefit value, a wide range of economic, social and environmental factors are taken into account, including carbon abatement at \$15 per tonne of CO_2.*"

    c) The Electricity Commission draft assumptions for the second Statement of Opportunities round (to be completed mid 2007) assumes \$15/t CO_2 charge for 2 scenarios (gas and coal/LNG) and \$40/t CO_2 charge for the Renewables scenario and SI surplus scenario[15].

50. These various estimated values for a climate change externality are all based on guesses and or the lapsed \$15/t CO_2 tax. The basis of the latter is also unclear although anecdotally it appears to have been set at a rate below the EU ETS reported bi-lateral market rates during 2005. If this is correct, then based on the latest EU ETS trades[16], the value of the negative externality government agencies should now use is less than NZ\$2/t CO_2.

51. MEUG suggests a more rigorous and consistent approach by government agencies to assessing the range of values for including climate change externality in cost benefit analysis. Assessing this value is a complex exercise.

52. For example it is arguable that as changes in New Zealand's greenhouse gas emissions profile are so small (both increases and decreases) relative to total global emissions that there is no measurable externality effect. Even if there were moderate warming over the next century that arguably could, on average, be a wind fall benefit to the health of New Zealanders and therefore a positive externality. Stern showed under extreme scenarios and assumptions (eg extremely low discount rates with very low probability catastrophic events) that a negative externality could be advanced – but those were under extreme assumptions and a large number of economists have since rebutted the Stern report assumptions and results.

53. MEUG recommend research is undertaken to determine the range (both negative and positive) of externality values to be used by government for climate change effects in cost benefit analysis.

[13] MED, New Zealand's Energy Outlook to 2030, September 2006, p43
[14] Minister of Energy and Government spokesperson on Energy Efficiency and Conservation, draft New Zealand Energy Efficiency and Conservation Strategy – Making it happen, December 2006, p21
[15] Refer EC website, http://www.electricitycommission.govt.nz/opdev/modelling/gpas/index.html#gs , under the heading "Fuel limits and prices, carbon taxes."
[16] As at market close on 27 March 2007 the Point Carbon reported OTC price was Euro1.04 (refer http://www.pointcarbon.com/Home/Market%20prices/Methodology/category745.html). The NZ Reserve Bank mid point exchange rate that day was 0.5378 NZD/Euro (refer http://www.rbnz.govt.nz/statistics/exandint/b1/data.html). Therefore the OTC ETS price was NZ\$1.93/t

External quality assurance on energy policy CBA and RIS for Ministers

54. As noted in paragraph 43 above there have been numerous recent instances where the quality of cost benefit analysis (CBA) and Regulatory Impact Statements (RIS) have been poor or not completed. To improve the quality of CAB and RIS and therefore the confidence of Ministers in reaching decisions:

> MEUG recommends an expert panel is established to provide independent advice to Ministers on the quality of energy policy cost benefit analysis and Regulatory Impact Statements.

55. In addition to the quality of the decision making be improved with such an expert panel, so to will the confidence of consumers and the energy sector in those decisions.

56. In considering this proposal MEUG has not undertaken a cost benefit analysis on such an expert panel. That step would be needed after some thought on the terms of reference and how the panel would be constituted – MEUG suggests there is merit in exploring those next steps.

Concluding comments

57. Answers to the questions in the draft NZES and comments on the proposed actions are set out in the appendix to this submission. Taking a broad view MEUG has identified 2 key themes and 7 specific recommendations to improve the draft NZES and further consideration of proposals arising from the strategy. Those recommended actions are listed in the executive summary on the second page of this submission and the reasoning for those is set out in subsequent pages.

58. This submission does not cover non electricity sectors. Neither does the submission seek to correct inaccurate or contradictory statements in the text of the draft NZES[17].

59. For electricity consumers what matters is that the final NZES will:

    a) Promote ways to ensure the annual power bill that consumers collectively pay of approximately $4.3 billion[18] per annum is as low as possible;

    b) The lights stay on, but not at any cost; and

    c) Other related strategic issues, such as climate change, should have strategic plans developed in their own right rather than dominate the above two energy specific outcomes.

60. The members of MEUG would welcome an opportunity to brief or answer questions of Ministers or officials on the contents of this submission.

Yours sincerely

Ralph Matthes
Executive Director

[17] An example of misleading data in the draft NZES is table 5.1, p59 listing energy intensities and realizable reductions. To the lay person this table would indicate the greatest reductions were possible in heavy industry and by implication heavy industry at present was grossly inefficient. MEUG believe this to be incorrect. For example evidence from the NGA rounds indicated large energy intensive businesses to be at or near to world best practice. In the final NZES table 5.1 should be withdrawn and replaced by a table that better reflects the likely opportunities for efficiency gains.

[18] Refer MED, Energy Data File, September 2006, table G.13: Electricity end use for the 2005 March Year. This table is an estimate of total cost to all sectors excluding GST.

Appendix: MEUG comments on proposed electricity sector related actions and questions in the draft NZES

The left hand column lists the page reference in the draft NZES for the proposed action or question.

Where proposed actions have already commenced, the MEUG comments are often paraphrased as business-as-usual (BAU). BAU implies that in considering and implementing existing actions that best practice processes will be used, eg robust cost benefit analysis and unbiased consultation.

Refer.	Draft NZES proposed action or question listed by theme set out in the draft NZES	MEUG comments
Theme 1. Resilient, low carbon transport		
Proposed actions		
p.34	New Zealand will work to remove barriers to the early adoption of low emissions vehicle technologies, including hybrid plug-in and electric vehicles.	A number of possible barriers are listed on p.34. the only electricity sector related possible barrier listed was "the development of appropriate time-of-use metering for electricity charging in order to avoid motorists all recharging their batteries at peak times." MEUG agrees this may be a barrier and should be considered by the EC.
p.34	The government will consider establishing a group of experts drawn from research and industry to advance consideration of implications of moving to significantly higher levels of biofuels beyond 2012 and the introduction of plug-in electric vehicles (hybrids or wholly electric) in significant numbers.	Agree further work needed and a collaborative government and private sector task force if properly constituted could be a good approach. If it's sensible to split the work between biofuels and hybrid electric vehicles, then MEUG suggests a working group constituted by the EC or perhaps a sub group of an existing EC working group may be sufficient to investigate plug in electric vehicles.
p.37	It is proposed that New Zealand continues to investigate the utilisation of coal supplies, (especially lignite) in an environmentally responsible way, particularly for the production of chemicals or electricity.	BAU – agree continue work
p.37	The government recognises the contribution that biofuels, electricity and LPG can make to improving energy security for the transport sector.	Agree diversifying transport fuel base, including contribution of electricity, might improve security of supply. Costings still need to be considered.
Questions		
p.38	On electric powered vehicles: Do you agree with a policy to encourage early uptake and use of hybrid plug-in and full electric vehicles? If so, what should these measures be?	The private sector should be allowed to exploit any opportunities first. This would include private sector companies identifying and seeking to remove unnecessary impediments (eg rules that were drafted when hybrid vehicles hadn't been though about). The government might be able to assist identify these barriers to entry – and rather than government undertake that task alone, a joint work force with private sector hybrid vehicle promoters might be a way forward. At the same time Government should be wary of subsidizing private sector promoters of hybrid vehicles.
Theme 2. Security of electricity supply		

Proposed actions		
p.44	The government will consider further options to improve the security of supply in electricity generation capacity in the first half of 2007, before finalising this strategy.	The EC has commissioned Castalia to undertake an independent review of security of supply as required by the Government Policy Statement. This proposed action in the draft NZES will lead to the MED also reviewing security of supply. The potential risk of overlap of responsibilities and different objectives between MED and EC needs to be worked through.
p.44	The government will consider the outcomes of the regulatory control provisions in the Commerce Act, as they relate to the incentives on lines companies and Transpower, by the end of 2007.	BAU - essential robust cost benefit analysis is undertaken of all options
p.44	The EC will continue its current work programme to advance wholesale market design issues. The Commerce Commission's investigation into the retail and wholesale electricity market is expected to be completed during 2008.	The EC has recently announced a Market Design Review. MEUG has still to consider this in detail but initial impressions are that the scope is not broad enough and the EC may not be sufficiently independent to make a comprehensive review of the market.
p.44	The government will relax some of the conditions around investment by lines companies.	BAU - essential robust cost benefit analysis is undertaken of all options. At this stage government has not provided any cost benefit analysis. For example the Regulatory Impact Statement attached to paper, "Electricity Market Review: Investment in Generation by Lines Companies (Paper Three)," and considered by Cabinet Business Committee on 27 November 2006 contains no quantifiable cost benefit analysis. Without a clear net benefit statement, it would be difficult for parties such as MEUG to support the proposal to relax electricity line monopolies re-entering competitive markets.
p.45	The EC is currently assessing the likely impact of wind generation development over the next 5-10 years. The study will identify wider power system implications of additional wind generation and how it can be developed on a level playing field with other generation sources.	BAU
p.45	The EC is overseeing the development of policies and processes to efficiently manage the frequency, voltage and reliability of the NZ generation and transmission system.	BAU
p.45	The Government will continue to address undue barriers to distributed generation and further options to facilitate its development	BAU - MEUG is still unclear if there are barriers that can be solved by regulation (ie regulation might hinder rather than assist distributed generation)
p.46	The GIC is developing gas wholesale and transmission market arrangements that will make it easier to establish more flexible and secure gas supply arrangements	BAU
p.46	The GIC is reviewing the adequacy of the current arrangements in the case of a national gas outage	BAU
p.46	The government will investigate opportunities for allowing cost-effective demand-side response. A range of actions to improve demand-side response has been included in the EC's forward work programme	The risk of an overlap of work between EECA and EC needs to be avoided.
Questions		

p.47	On security of supply: • How should New Zealand balance the trade-off between the consequences of supply being interrupted and the consequences of spending slightly more to further reduce the risk of interruption	Best approach is to allow individual consumers to elect the price they are prepared to pay for different levels of security. The second best approach is to have regulatory mechanisms that facilitate consumers choosing the level of security. An example of this is for grid connection assets where consumers in a region can elect to have differing reliability standards for some aspects of power supply (other aspects are common across all of New Zealand). Another regulatory approach is to use a transparent economic test like the Grid Investment Test the EC applies to consider Grid Upgrade Plans.
p.47	On wind generation: • Wind generation cannot guarantee firm capacity to meet loads and is less able than other types of generation technologies to provide contingency services. However, it is a promising technology that offers many benefits. How great a part should wind play in our generation mix?	Wind should contribute to new supply to the point at which the marginal cost of the last wind generator equals the cost of the next cheapest alternative. The cost of wind should include any additional back-up generation or grid strengthening needed to offset the relative low load factor and unpredictable availability of wind compared to say thermal power stations. The cost of investigating and adapting the Electricity Governance Rules and any industry protocols (eg connection agreements, dispatch arrangements etc) should also be borne by the wind industry.
p.47	On public confidence: • Does more need to be done to improve consumer and investor perceptions of security of supply?	The EC propose repeating the UMR survey that considered views on the hedge market and perceptions of market power and security. A new survey will give a trend of whether views have changed and therefore if further work is needed to improve investor confidence.
p.47	On demand-side response: • The level of demand-side response currently provided by the market is thought to be well below its potential. What, if anything, should be done to boost levels of innovation and institutional arrangements to promote demand-side management?	The EC work on electricity efficiency potentials should continue and at that point we will know a lot more about whether there truly is a significant gap between observed market behaviour and theoretical estimates. MEUG is very concerned that government is prepared to fund a range of energy efficiency projects without having undertaken this core research first.
p.47	On the gas market and availability: • Are any more measures needed to encourage more exploration for domestic gas supplies? Are any new initiatives required to minimise the impact of a potential national gas outage?	In an increasingly security conscious world, access to domestic gas supplies is becoming more valuable. It may be appropriate to have an earlier review of the petroleum exploration regime than that required by statute to ensure NZ is not falling behind the petroleum exploration regimes of other countries. Any change to the petroleum regime should be mirrored in changes to exploration and development policies for other domestic energy sources such as coal and geothermal.
Theme 3. Low emissions power and heat		

Proposed actions		
p.51	Implement measures to limit emissions from fossil-fuel-based electricity generation and industrial heat, with the aim of facilitating the transition to an expected longer-term cost on greenhouse gas emissions	Only if benefits > costs. Government should not pick winners. Instead a generic policy within which the market decides the mix of new renewables and thermal power stations is preferred.
p.51	Invite major electricity generators to establish a working group to respond to the government's proposal that all major electricity generators prepare triple bottom line reports, including providing an inventory of greenhouse gas emissions.	Not supported. If triple bottom line reporting is to become mandatory then it should be across all sectors and aligned with international best practice.
p.53	In 2007, the government will introduce draft regulations to facilitate the connection of distributed generation to local lines networks. These regulations will provide a process for obtaining approval to connect, regulated terms that will apply in the absence of contractually agreed terms, and pricing principles to ensure connection charges are fair and reasonable.	BAU - MEUG is still unclear if there are barriers that can be solved by regulation (ie regulation might hinder rather than assist distributed generation)
p.54	The NEECS will explore initiatives to increase the uptake of distributed generation. These include removing barriers, developing targeted incentives and other support measures.	Refer separate MEUG comment on draft NEECS
p.54	In respect of small-scale electricity generation, the government will identify existing barriers to uptake and develop options to facilitate and encourage its development.	BAU - MEUG is still unclear if there are barriers that can be solved by regulation (ie regulation might hinder rather than assist distributed generation)
p.54	The government is to provide greater support for the use of solar water heating. As a result, EECA will expand its activities to achieve a step change in the uptake of solar water heating. This work also considers greater support for heat pumps or wetbacks where solar is not the most appropriate alternative	BAU. MEUG opposed this as no cost benefit analysis had been undertaken to support the case for funding. The whole work programme appears to have been to honour the Labour Party agreement with the Greens to gain support in the House.
p.54	The Department of Building and Housing will develop guidelines on Building Code compliance for the installation of solar water heating, including exploration of a water heating efficiency standard	Provided this passes a cost benefit analysis, then appears reasonable
p.54	The NEECS will also implement initiatives in the medium term to increase the uptake of renewable direct use fuels, including proposing to expand the FIDA programme to include financial support to encourage greater use of bioenergy within the wood-processing sector	No details provided in the draft NSES on what this is and therefore cannot form a view on this proposal
p.55	The potential for deployment of CCS (Carbon Capture and Sequestration) storage in NZ will be explored in order to ensure the necessary technical, regulatory and legal framework is in place to adopt low carbon technologies once they are proven and economic	BAU
p.55	Consider a consolidated consenting process for wind and/or geothermal generation projects. Further consider the merits of national guidance under the RMA for renewable energy. In the near term, ensure that RMA decision-makers are provided with information held by central government on the energy sector implications, environmental effects and trade-offs associated with renewable	Further information is needed on what is a consolidated consenting process, who will pay for consolidated consenting processes and whether rights of affected parties to exercise objections are diminished or made easier. There are no barriers at present to generators seeking fast track processes through

	energy projects.	the RMA; therefore those developers rather than government should be the initiator of fast track proposals.
Questions		
p.56	On meeting future electricity requirements: • What are the key drivers for deciding which energy resources New Zealand should use to meet its future electricity generation requirements?	Market mechanisms. Where externalities, such as climate change detriments, can be proven and valued then an appropriate mechanism to ensure market prices reflect the externality should be considered
p.56	• What sort of electricity generation mix do we want over the next five, 10, 15, 20 and 30 years?	Least cost for a level of security consumers are prepared to pay for
p.56	• What is the future role of fossil-fuel-based electricity generation over the same time period?	Up to the market to decide
p.56	• Is it possible to meet future annual electricity load growth with renewables only?	Possible for a few years but very unlikely to be the lowest cost supply path
p.56	On the Resource Management Act: • Does the RMA have a role to play in providing national guidance to help meet the strategy's objective of maximising renewable generation?	No
p.56	• How should greater use of renewable energy and reducing greenhouse gas emissions be reconciled against local environmental effects?	No need for additional changes to the way these projects currently considered under the RMA
p.56	On regulatory issues • What are the main regulatory barriers faced by renewable electricity and heat generation now? What barriers are likely to emerge in the short term?	Not aware of any barriers that are not already the subject of review (eg the DG regulations)
p.56	• What could the government do, over and above the actions in this plan, to address this?	Properly identify barriers to competition and if any are found to exist, then consider options. Even when barriers are identified it may be the detriments of intervening outweigh the detriments of doing nothing.
p.56	On distributed and small-scale generation: • How important is distributed generation to achieving a low emissions energy future?	Unsure. The draft NZES provided no data on historic rates of investment in distributed generation to assess if there has already been a shift away from very large power stations.
p.56	• What can the government do to reduce barriers to distributed generation?	Properly identify barriers to competition and if any are found to exist, then consider options. Even when barriers are identified it may be the detriments of intervening outweigh the detriments of doing nothing.
p.56	• To what degree should "smart meters" be supported by government?	No support needed as electricity suppliers are already investing significantly in trying to gain a competitive advantage
p.56	• How do you see the future role of small-scale generation in the electricity and heat sectors?	Economics will remain dominated by lack of economies of scale compared to conventional thermal; therefore likely proportion of total supply mix will continue to be

		relatively small, ie periodic large power station development (eg a 380 MW gas fired generator or geothermal equivalent every 3 to 4 years) with small distributed generation (this includes large local wind farms) in between.
p.56	• What are the main barriers to the greater uptake of small-scale generation?	Not aware of any barriers that are not already the subject of review (eg the DG regulations)
p.56	• Are current incentives for small-scale generation sufficient?	Not aware of what the current government "incentives" are.
p.56	On energy prices: • Should energy prices reflect costs and include environmental externalities?	Yes, provided there is a robust approach to pricing the externality
p.56	• How should cost-reflective pricing be balanced against the issues of affordability and fairness?	Affordability and fairness aspects should be managed through social welfare policy not energy policy
Theme 4. Using energy more efficiently		
Proposed actions		
p.62	The government to ensure that roles and responsibilities are clear and distinct	Agree that departments need to ensure there are no overlaps or gaps in policy design, implementation or accountability
Questions		
p.63	On priorities: • How should energy efficiency measures be evaluated and compared, both against other energy and climate change actions and against other types of energy efficiency measures?	Standard cost-benefit analysis using NPV of dollar values to compare options
p.63	• Specifically, do you agree there is a need to compare different forms of energy in terms of their potential to reduce greenhouse gas emissions?	Yes using a range of values to account for climate change externalities. There is debate about the range of values that should be tested for this externality. In the covering letter to this appendix MEUG recommend research is undertaken to determine the range (both negative and positive) of externality values to be used by government for climate change effects in cost benefit analysis.
p.63	On capital stock: • What actions should be taken to increase energy efficiency in capital stock (buildings and appliances)? How urgent and stringent should these actions be?	Actions should only be considered after robust cost benefit analysis demonstrates that government intervention is needed. Apart from possibly some information asymmetry market failure, it's unclear what other issue would necessitate interventions.
p.63	• What barriers exist presently to further measures to increase energy efficiency in capital stock? How could these be removed?	Refer above answer where possibly only information asymmetry and high information gathering costs might be described as a market failure or barrier – although this should be carefully researched before interventions made.
p.63	On institutional issues: • Should energy suppliers have an obligation to carry out energy efficiency	No. Suppliers that think they have a competitive advantage meeting the demand of

	activities with their customers? If so, how should the obligation be implemented and targeted at customer groups?	consumers for this service will enter that market if there is a margin.
Theme 5. Sustainable technologies and innovation		
Proposed actions		
p.71	The government will further consider the criteria and arrangements for the contestable fund for marine energy	No supported. Funding for this should be sought through the MORST bidding processes
Theme 6. Affordability and wellbeing		
Proposed actions		
p.73	The government is considering changes to the Low Fixed Charges Regulations to take account of regional climate variations that impact on heating costs, and hence better target the benefits of the low fixed charges.	Not supported. The Low Fixed Charges Regulations are distortionary because they variablise sunk fixed line costs. The Low Fixed Charges Regulations therefore should be repealed.
p.74	Government to consider provision of a one-stop information service for consumers on energy options and choices	The recent web site www.solarsmarter.org.nz is a good example of a low cost information service that is useful. MEUG would not support more extensive information services as that will compete with product offering from suppliers and intermediaries' providing that service – they will be far better at customizing that service to meet consumer needs than a government department.
Questions		
p.74	Access to services: • Are additional measures required to reduce unavoidable disconnection?	No. The EC work on this issue has and is worthwhile.
p.74	• Are regional heating costs an important factor in differing access to energy services?	Don't know and until evidence is provided to just amending the Low Fixed Charges Regulations; no action should be take. Note the comment above on the proposed action on the Low Fixed Charges Regulations (refer p.73) – MEUG recommend the Regulations be repealed because they are distortionary.
p.74	On underlying causes: • Do you agree that further initiatives are required to help low-income households by targeting underlying causes of high spending on electricity, such as inadequate house insulation? If so, what should these be?	If there is an identifiable energy market failure that needs fixing, then yes. If the issue is expenditure priorities for low-income households do not include insulation, then the issue is a social welfare issue not an energy policy issue.
p.74	On the provision of information: • Do consumers have adequate access to comparable information about energy options?	Refer above for comments on proposed action for one-stop information service
p.74	• If not, what further measures are required?	Refer above for comments on proposed action for one-stop information service