



**Submission**

**On the**

**Draft New Zealand Energy Strategy**

**March 2007**

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# 1. Key Messages

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- 1.1. NZCID supports the vision of the draft NZ Energy Strategy to provide “a reliable and resilient system delivering New Zealand sustainable low emissions energy” subject to maintaining security of supply at competitive prices.
- 1.2. In order to provide the necessary industry and community confidence in the deliverability of the Strategy, definition of clear responsibilities and accountabilities for implementation is the critical success factor that must become an essential component of the final strategy following consultation of options.
- 1.3. The Strategy is completely silent on GDP growth expectations and how the strategy will ensure there is sufficient energy to deliver that level of growth.
- 1.4. Electricity demand is projected to grow at around 1.3% per annum. This is markedly lower than recent historic levels of growth which have been at around 2%. It is difficult to reconcile a projected decrease in electricity demand with the government’s stated desire to achieve stronger economic growth.
- 1.5. NZCID considers more detailed analysis of both energy supply and demand, and transmission capacity is required in order to provide investors and users of the plan confidence that the projections are robust and will assure security of supply, by region, in both the short and medium term.
- 1.6. More specifically, energy demand growth and peak loadings in the top half of the North Island have been considerably higher than the national average. Despite this geographic distribution of energy demand has not been addressed in the Strategy. This is a significant security of supply risk that must be addressed prior to commitment of the Strategy.
- 1.7. While the long term goal is to achieve optimum transition to renewable energy sources, the risks associated with removal of existing thermal capacity and the potential impacts on security of supply and pricing need careful evaluation and planning.
- 1.8. New Zealand’s past performance in energy efficiency has averaged 0.5% to 1% per annum. Future efficiency gains resulting from the new National Energy Efficiency and Conservation Strategy (NEECS) are projected at 1.5% to 2.0% - at least double our previous performance. The final strategy needs to clearly demonstrate how energy efficiency targets are expected to be achieved, what specific measures will be introduced, who will be responsible for their delivery, and by when, and what remedial measures will be taken in the event targeted savings are not achieved.
- 1.9. There inconsistencies between the NZ Energy Outlook projections for renewable capacity and pricing as compared with the Strategy. These issues, which principally

centre on access and environmental approvals for renewable generation at prime sites, go to the core of the efficacy of implementation of the Strategy and must be resolved as a matter of priority.

- 1.10. In the event that access to prime sites, resolution of water rights and timely consent processes continue to be problematic, the fundamentals of the renewable energy strategy are significantly undermined.
- 1.11. While the strategy proposes methods for consolidating consent processes, the details and timing are yet to be addressed and there is no consideration of how water access rights are to be addressed in the document. These are key issues that must be resolved to ensure effective implementation of the Strategy.
- 1.12. NZCID supports the need to streamline consents for energy generation and transmission and considers that such processes should be applied to all projects that enhance national security of supply and should not just be limited to renewable generation projects.
- 1.13. The national grid will have an increasingly pivotal role in transporting renewable energy, often from remote locations, to customers. It will also need to balance demand and supply between regions during generation outages as well as balancing supply from wind and other forms of intermittent generation.
- 1.14. Timely decisions need to be made in terms of generation mix, dispatch systems and transmission capacity. Approval processes for transmission upgrades involving Commerce Commission approval for pricing thresholds, Electricity Commission approval for transmission upgrades and RMA consents are complex, circuitous and contradictory and need fundamental reform.
- 1.15. The most significant gains in transport energy efficiency lie in congestion reduction, vehicle efficiency, and alternative fuels. New Zealand requires a step change in the level of investment in each of these areas.
- 1.16. It is not clear how submissions from respondents are to be taken into account and how the detailed implementation plan signaled in the Strategy is to be developed, agreed and finalized.
- 1.17. NZCID considers that following submissions on the current draft NZES, a final proposed draft strategy and supporting implementation plan should be published in the form of a "white paper" for consideration and comment by industry stakeholders before it is finally committed as government policy.
- 1.18. This second iterative process should provide opportunity for consideration of and potentially achieve better alignment on practical implementation issues raised by industry sectors and stakeholders resulting from this first round of consultation.

# 1. Introduction

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- 1.1. The New Zealand Council for Infrastructure Development is a non profit organisation.
- 1.2. Members comprise a diverse range of leading private and public organisations including infrastructure equity owners, financiers, constructors, service providers, public sector agencies, and major infrastructure users. NZCID has a single purpose: to promote world class infrastructure development for the benefit of all New Zealanders. a goal we are committed to achieving by:
  - Raising awareness of the fact that infrastructure underpins our community's quality of life and that inadequate infrastructure holds back New Zealand's economic and social growth
  - Generating valuable debate on the quality and level of infrastructure provision to meet New Zealanders' needs
  - Encouraging the implementation of best practice infrastructure provision and management
  - Identifying the condition of New Zealand's infrastructure and the challenges facing our infrastructure providers.<sup>1</sup>
- 1.2. The submission represents the views of NZCID as a collective whole, and may not necessarily represent the views of individual member organisations, a number of whom will be making their own individual submissions.
- 1.1. That said, the submission has been developed following direct consultation with member organisations and an interactive forum involving MED staff, NZCID member organisations and other stakeholders in Mid March 2007.
- 1.2. It also reflects the findings of research undertaken by NZCID in 2006 on infrastructure development in comparative nations which has highlighted the critical importance on national infrastructure development planning and implementation.<sup>2</sup>
- 1.3. NZCID has been a consistent advocate for the development of a long term strategic development programme to ensure that the nation's infrastructure has the capacity to meet New Zealand social, environmental and economic goals.
- 1.4. It is therefore particularly pleased to see such concrete progress on the development of an agreed energy strategy and we are appreciative of the work that has been

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<sup>1</sup> Information on the Council, its members, policy and work can be found at [www.nzcid.org.nz](http://www.nzcid.org.nz)

<sup>2</sup> Infrastructure Development in Comparative Nations: Insights for New Zealand, NZCID & Kensington Swan 2006 available at <http://www.nzcid.org.nz/reports1.html>

undertaken in support of the development of the Strategy.

- 1.5. NZCID supports the vision of the Strategy to provide “a reliable and resilient system delivering New Zealand sustainable low emissions energy” subject to maintaining security of supply at competitive prices.
- 1.6. The Strategy provides clear direction in terms of fuel choice. Once finalized and supported by a detailed implementation plan the Strategy should provide the necessary direction for future investment and remove the uncertainties of the past.
- 1.7. The purpose of this submission is to highlight areas where NZCID considers the strategy must be strengthened to promote timely investment in the infrastructure that is necessary to meet New Zealand’s social, environmental and economic goals.

## **2. Development of a plan setting out clear definition of responsibility and accountability for implementation of the Strategy is critical its success.**

- 2.1. Research undertaken by NZCID in 2006<sup>3</sup> showed that a feature of most mature and successful economies is that they possess highly developed, well-integrated national planning, funding and implementation programmes that support national infrastructure development strategies.
- 2.2. In such jurisdictions, planning takes a holistic long term approach and has strong “whole of government” direction and support.
- 2.3. Development of national infrastructure plans and programmes is driven by recognition of the need to provide certainty on infrastructure development to enable forward planning, capacity building and innovative project delivery.
- 2.4. This is based on the principle that strategically-focused infrastructure investment will help lead and support social and economic development and achieve key policy outcomes. Plans specifically recognize that in some instances this means implementation ahead of existing need.
- 2.5. Part One of the Strategy sets clear policy direction and priorities for the energy sector including generation, transmission, transport, energy efficiency and new technologies that support a renewables energy future. Part two of the plan provides further detail on initiatives proposed but at this stage does not provide details on timing, resources or accountabilities. Implementation issues are to be considered in the action plan to accompany the final NZES following the current consultation process.

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<sup>3</sup> Ibid note 2

- 2.6. It is not clear from the Strategy document how submissions from respondents are to be taken into account and how the detailed implementation plan signaled in the Strategy is to be developed, agreed and finalized.
- 2.7. NZCID considers that following submissions on the current draft NZES, a final proposed draft strategy and supporting implementation plan should be published in the form of a “white paper” for consideration and comment by industry stakeholders, before it is finally committed as government policy.
- 2.8. This second iterative process should provide opportunity for consideration of and potentially achieve better alignment on practical implementation issues raised by industry sectors and stakeholders in the first round of consultation.
- 2.9. Previous national strategies such as the NZ Land Transport Strategy and the first National Energy and Efficiency Conservation Strategy have been strong on setting a vision for the future but have been seriously lacking from an implementation perspective. The result has been that the aspirations set out in the respective strategies have not been delivered within the timeframes stated and the strategies have required subsequent review and redevelopment taking into account implementation and deliverability issues.
- 2.10. In order to provide the necessary industry and community confidence in the deliverability of the Strategy, definition of clear responsibilities and accountabilities for implementation is the critical success factor that must become an essential component of the final strategy following consultation of options.
- 2.11. The NZ Treasury together with the Department of Prime Minister and Cabinet and the State Services Commission recently compiled a primer for national strategy development which was published in November 2006. The primer sets out principles for designing, executing and updating strategies and states that major strategies designed to achieve goals and drive performance will:
1. Focus on big, tractable issues that dominate other issues in the sector.
  2. Target significant change for New Zealanders (measurable results based on tangible goals).
  3. Use evidence to justify the big interventions (e.g. of need, impact and cost-effectiveness).
  4. Be clear about what must happen, and when, i.e. present or outline a credible:
    - Performance management plan showing when and how major results will be demonstrated;

- Implementation plan and budget covering delivery and performance measurement outputs;
- Risk management plan showing how major constraints and risks will be managed.

5. Lay out clear governance, assessment and feedback processes to adjust the plan.

- 2.12. While the Strategy generally satisfies items one to three of the requirements of an effective strategy, the detail on timing, resources, or accountabilities for actions in the draft plan are critical to its success but have yet to be agreed and committed.
- 2.13. The Strategy requires an implementation plan showing when and how actual performance in delivering a renewable energy future will be monitored and how major constraints and risks will be managed. It should not be finalised until such a plan (or series of plans) is agreed and committed.

### **3. Alignment with Government's Goals for Economic Transformation and GDP Growth**

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- 3.1. NZCID supports the sustainability focus of the strategy and the emphasis on emissions reduction however we consider comparable emphasis needs to be placed on ensuring the energy strategy will support economic growth and create an environment for investor confidence both within the energy sector itself and across economy as a whole.
- 3.2. In its current form, the Strategy does not clearly link projected GDP demand growth to energy supply and demand and for this reason fails to provide the necessary level of confidence that it will deliver reliable and resilient energy supply at competitive prices sufficient to deliver New Zealand's economic growth targets.
- 3.3. The government has clearly articulated its aim to lift New Zealand's living standards into the top half of the OECD. Development and implementation of the national energy strategy is a critical element to delivering on this goal.
- 3.4. If this goal is to be achieved within a decade, the short term GDP growth rate needs to exceed 4%. The Strategy is completely silent on GDP growth expectations and how the strategy will ensure there is sufficient energy to deliver that level of growth.
- 3.5. Given the strong historical link between GDP growth and energy demand, it is of concern that there is no mention of a targeted GDP growth rate anywhere in the strategy.

- 3.6. NZCID considers Section 3 of the Strategy needs to include discussion of the projected rate of GDP growth, and the consequential impact on energy supply and demand in both the short and medium term.
- 3.7. Within that context the Strategy should clearly demonstrate how it will ensure reliable and resilient energy supply at competitive prices to achieve short term and long term economic growth targets taking into account realistic savings in energy consumption resulting from improved energy efficiency.

#### **4. Role of existing thermal generation capacity and timing of transition to renewable energy**

- 4.1. The role of existing thermal generation capacity needs to be clearly stated within the Strategy.
- 4.2. Of particular concern is the future life expectancy of the Huntly plant given its existing base load supply function within the current energy system.
- 4.3. Investment in Huntly is largely a sunk cost and the generation costs are almost totally variable. Replacement of such base load capacity from renewable energy sources is likely to be extremely costly.
- 4.4. While the long term goal of the strategy is to achieve transition to renewable energy sources, the risks associated with removal of existing thermal capacity and the potential impacts on security of supply and pricing needs need careful evaluation and planning.
- 4.5. These issues are not currently addressed in the strategy. Failure to do so will put security of supply at considerable risk and severely impact business confidence and investment.

#### **5. Realism of projected growth in energy demand**

- 5.1. Section 4 of the Strategy states that if New Zealand continues on its current path electricity demand is projected to grow at around 1.3% per annum.<sup>4</sup>
- 5.2. This is markedly lower than recent historic levels of growth which have been at around 2%, driven by a combination of population growth and an average GDP growth rate of around 3%.

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<sup>4</sup> Draft New Zealand Energy Strategy to 2050 p49

- 5.3. The potential demand for electricity to energise plug in electric cars posited in the Strategy would further add to potential energy demand in the medium term, especially in the growth centres.
- 5.4. On this basis it is difficult to reconcile a projected decrease in electricity demand growth from 2% to 1.3% particularly noting the government's stated desire to achieve stronger economic growth.
- 5.5. More specifically, energy demand growth and peak loadings in the top half of the North Island have been considerably higher than the national average. Despite this peak loading, geographic distribution of energy demand has not been addressed in the Strategy. These significant implementation issues need to be addressed prior to commitment of the Strategy.
- 5.6. NZCID considers more detailed analysis of both energy supply and demand, and transmission capacity is required in order to provide investors and users of the plan confidence that the projections are robust and will assure security of supply, by region, in both the short and medium term.

## **6. Deliverability of projected energy efficiency targets**

- 6.1. New Zealand's past performance in energy efficiency has averaged 0.5% to 1% per annum. Future efficiency gains resulting from the new National Energy Efficiency and Conservation Strategy (NEECS) are projected at 1.5% to 2.0% - at least double our previous performance.
- 6.2. The previous NEECS strategy has been assessed as overly ambitious. Aspirational energy efficiency goals which lack accountability for non delivery have been an unhelpful diversion in the past causing investment deferral and uncertainty, particularly in respect of the national grid. It would be of concern if this situation was to be repeated.
- 6.3. The final strategy needs to clearly demonstrate how energy efficiency targets are expected to be achieved and who will be responsible for their delivery and by when.
- 6.4. Given previously overly optimistic energy conservation targets, a conservative approach is recommended.

## **7. Issues over inconsistency of projections between NZES and the Energy Outlook, access to prime sites, and tortuous consenting processes raises concern about the deliverability of renewable energy potential**

7.1. The Strategy projects significant potential for renewable electricity at competitive prices. Renewable potential is shown on table 4.1 on p51 of the Strategy to be 26,100 GWh/yr including 11,100 in geothermal, 9,200 in wind and 5,800 in hydro.

7.2. On the other hand, the following quotes from Section 8 of the Energy Outlook generally indicate much lower potentials at higher prices...<sup>5</sup>

Hydro...

Options for further expansion of hydro generation are limited, as many of the best sites have already been developed and there are resource consenting issues associated with the remaining sites. The East Harbour consultants identified 925 MW of hydro projects that they judged could be built with 'high confidence' (that is, have well-proven resources and are likely to be consentable), and 1790 MW that could be developed by 2015 with high or medium confidence.

Geothermal...

The potential of geothermal electricity is limited by the available sites and resource sustainability. East Harbour Management estimates that 365 MW of additional geothermal capacity could be developed with high confidence and 435 MW with high or medium confidence by 2015. Capacity in addition to these estimates may become available for both electricity generation and direct heat as improved economics and knowledge enables better access to resources. Examples include deep geothermal and ground source heat pumps.

Wind...

New Zealand is a windy country, so it has lots of potential for wind generation. East Harbour Management estimated up to 2450 MW of wind generation could be installed with high confidence and 4585 MW of wind generation could be installed with high or medium confidence by 2015. The main limitation of wind generation is that electricity can only be produced when the wind is blowing. Wind generators generally operate at only 20–50% load factors. For wind to make up a significant share of electricity generation, it would have to be carefully integrated with other forms of generation and wind generators would have to be widely dispersed around the country.

7.3. In respect of the renewable energy scenario page 102 of the Energy Outlook concludes:

"The bottom line on the Renewable Electricity Case is that it could be done, and the greenhouse gas emission reduction would be significant. It would, however, be costly in terms of higher electricity prices. In fact, it would be costly enough that it would be likely to result in the loss of the aluminium smelter and perhaps some other heavy industry (see Chapter 10). (This case did not, however, assume any impact on industrial demand.) There might also be electricity security issues with a system so dependent on hydro and wind, both of which are subject to considerable natural variation."

The analysis concluded that adding additional medium probability renewable capacity reduces prices but potentially sacrifices legitimate local environmental concerns:

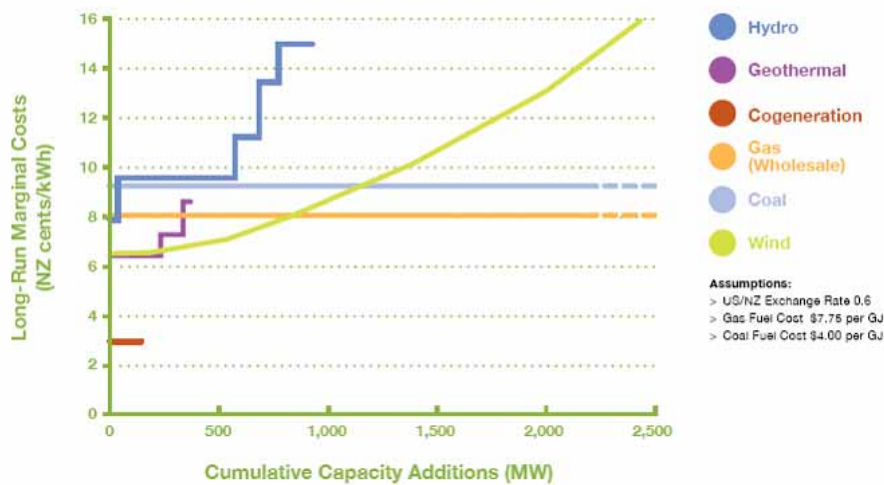
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<sup>5</sup> New Zealand's Energy Outlook, Ministry for Economic Development, September 2006 pp94-97

“At first glance, this Additional Renewable Electricity Case suggests that it may be possible to ‘have our cake and eat it, too’ – that is, have a low-emission, primarily renewable, electricity system without substantial increases in electricity prices. However, it also suggests that there may be another trade-off that needs to be considered. If resource consenting issues are the primary impediment to low-cost renewable electricity, and if there are legitimate local environmental concerns behind these resource consenting issues, then there may be significant trade-offs between local environmental impacts and the global impacts of climate change.”

- 7.4. These conclusions vary significantly from the fundamental thesis set out in the Strategy that New Zealand has ample renewable energy resources that are readily available at competitive prices.
- 7.5. Figure 4.1 in the Strategy document shows the typical costs for renewable (wind, geothermal and hydro) to be lower than thermal generation up to 1500 cumulative MW. In contrast, the Energy Outlook shows the LRMC of thermal generation to be lower than renewable energy options for cumulative capacity additions of 800 MW or more (see Fig 8.1 extracted from the Energy Outlook below)

**Figure 8.1: New Plant Generation Costs Assumed in Base Case to 2015**



- 7.6. While we understand that the generation costs contained in the Strategy have been updated following industry input, the variation between estimates is significant and raises concerns over the veracity of the information provided to readers of both documents and the comparative advantage of renewable generation over thermal generation from a cost perspective.
- 7.7. NZCID notes that a recent report by Meridian Energy concluded:<sup>6</sup>

<sup>6</sup> OPTIONS CHOICES DECISIONS Understanding the Options for Making Decisions about New Zealand’s Electricity Future, Meridian Energy, October 2006

In general, the economic cost variation between various projects of the same generation technology, whether a coal, gas or renewable generation project, is greater than the cost variation between technologies. From an economic perspective, this implies that New Zealand's future electricity production is likely to come from a range of generation plant.

- 7.8. The Meridian report highlighted that the key determinant of generation costs and the consequential electricity generation mix will be dependent on the discovery of gas for thermal generation on the one hand and the ability to gain access to prime renewable energy sites at an acceptable cost on the other.
- 7.9. The importance of these issues has been clearly demonstrated by Contact Energy's recent announcement of a potential \$2 billion renewable generation investment programme conditional upon a streamlined consenting process being put in place for such projects.
- 7.10. In addition to the consenting issues facing renewable generation capacity, we note with some concern that the strategy is silent on water rights and the potential impact on existing and future hydro capacity. This is a key issue that needs resolution from an implementation perspective.
- 7.11. While NZCID supports the proposal to streamline consents for energy generation it considers that such processes should be applied to all projects that enhance national security of supply, including transmission, and should not just be limited to renewable generation projects.
- 7.12. In the event that access to prime sites, water rights and timely consent processes continue to be problematic, the fundamentals of the renewable energy strategy are significantly undermined.
- 7.13. While the strategy proposes methods for consolidating consent processes, the details and timing are yet to be addressed and there is no consideration of how water access rights are to be assured. These are key issues that must be resolved to ensure effective implementation of the Strategy.

## **8. Need to enhance transmission and generation approval processes and protect rights of access**

- 8.1. Transmission capacity will also be critical to the success of the Strategy. The grid needs to have sufficient capacity to provide confidence to investors in generation that they will be able to get their product securely to market.
- 8.2. The national grid will have an increasingly pivotal role in transporting renewable energy, often from remote locations, to customers. It will also need to balance demand and supply between regions during generation outages as well as balancing

supply from wind and other forms of intermittent generation.

- 8.3. For these reasons, timely decisions will need to be made in terms of generation mix, dispatch systems and transmission capacity.
- 8.4. The potential of renewables capacity in the South and Central North Islands emphasises the importance of the grid upgrade programme for both islands and the critical importance of HVDC north south link.
- 8.5. NZCID is concerned that the current approval processes for transmission upgrades involving Commerce Commission approval for pricing thresholds, Electricity Commission approval for transmission upgrades and RMA consents are complex, circuitous and contradictory. For example:
  - 8.5.1. Local Authorities are responsible to issue consents under the RMA but are requiring increasingly higher standards of mitigation in favour of their local communities.
  - 8.5.2. These processes are often inconsistent between local authority jurisdictions, time consuming, tend to favour local issues over national interests, and add significantly to cost.
  - 8.5.3. While the RMA has been strengthened to enhance “call in” provisions for projects of national importance, these powers have yet to be exercised and national policy standards and / or national environmental standards are still under consideration.
  - 8.5.4. Neither the Commerce Commission nor the Electricity Commission considers RMA cost drivers in significant depth within their respective approval regimes, although the Electricity Commission is required to consider sustainability issues. Rather, the statutes controlling both agencies including the CPI-X pricing threshold and the Grid Investment Test emphasise cost minimisation.
  - 8.5.5. The Electricity Commission is required by statute to consider generation alternatives to transmission upgrade proposals before approving transmission upgrades; however commitments to generation investments, particularly renewable generation opportunities in remote locations, are dependent on transmission capacity being available.
  - 8.5.6. It is concerning to note that despite the strong support given by electricity generators to Transpower’s 400 KV transmission proposal, (who were seeking certainty of their ability to get energy to the market), the Electricity Commission disregarded investor confidence and competition benefits of the proposal on the basis that neither could be adequately quantified and assessed as part of the Grid Investment Test.

- 8.5.7. The Commerce Commission will generally not approve price increases to fund transmission investment until grid upgrades have been approved by the Electricity Commission and, even then, and price increase will be subject to CPI-X price thresholds which may or may not conform to the level of investment approved by the Electricity Commission.
- 8.5.8. The result of this circuitous “chicken and egg” approval process means that timely investments in transmission capacity may not occur<sup>7</sup> or conversely, generation investment may be constrained by lack of transmission capacity and or access.
- 8.5.9. These issues are further compounded by the timing differences in the deliverability of transmission upgrades which are currently requiring five to seven year lead times versus generation capacity which can often take as little as two to three years.
- 8.6. Approval processes for transmission upgrades involving Commerce Commission approval for pricing thresholds, Electricity Commission approval for transmission upgrades and RMA consents are complex, circuitous and contradictory and need fundamental reform.
- 8.7. NZCID considers that a long term transmission grid upgrade plan needs to be developed as a subset of the agreed energy strategy which clearly sets out the grid upgrade path over the next 20-30 years. This plan would require approval in principle by one regulator - Electricity Commission or the Commerce Commission. The single regulator would then be responsible to approve upgrade projects on a case by case basis as part of the implementation process. Responsibility for transmission pricing to fund the projects should also be the responsibility of the single regulator.
- 8.8. Assuming the finalised Strategy retains its current emphasis on renewables, it would be logical to conduct an analysis of the optimum renewable energy sites taking into account property rights, social, cultural and environmental affects and existing and potential transmission capacity. Access rights to land and water for both generation and transmission might then be protected in the national interest (at least for a minimum period) with appropriate compensation provided.
- 8.9. The main point is that these implementation issues need to be resolved with some urgency in order to give effect to the objectives of the Strategy.
- 8.10. If, on the other hand, if it is considered that such access rights are too problematic, then the renewables emphasis within the Strategy will need to be reassessed.

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<sup>7</sup> The obvious example being the lengthy consideration and tentative approval of the Whakamaru to Auckland transmission upgrade (which has still to undergo the RMA approval process).

- 8.11. NZCID considers that the implementation plan to deliver on the Strategy must address and find agreed solutions to these fundamental issues.

## **9. The most significant gains in transport energy efficiency lie in congestion reduction, vehicle efficiency, alternative fuels.**

- 9.1. NZCID supports transport initiatives that optimise the relative contribution passenger transport, walking and cycling transport modes.
- 9.2. Significant gains will also result from increased roading infrastructure reducing congestion on critical motorway linkages, particularly in Auckland.
- 9.3. NZCID considers progress on completion of key transport projects, both roading and passenger transport is too slow, and a further step change in investment is required.
- 9.4. While these potential gains need to be taken advantage of, New Zealand's decentralised urban form, and rural population base mean that the nation will continue to be car dependent for the foreseeable future. By far the most significant reduction in greenhouse emissions will therefore result from improved vehicle technology, vehicle efficiency alternative fuels and better roads.
- 9.5. NZCID supports measures that will incentivise motorists to conserve fuel such as through better consumer information of fuel consumption rates, and imposing higher costs on less fuel efficient vehicles.
- 9.6. Similarly NZCID supports the introduction of road pricing and a distance based charging regime for all vehicles to meet land transport costs and encourage more effective use of the land transport system.
- 9.7. The modelling of emission reduction opportunities illustrated in Figure 4.1 in the Strategy clearly demonstrates that emissions reductions rely heavily on improved petrol efficiency, increased diesel uptake and transition to biofuels, hybrid, electric and potentially hydrogen powered vehicles and that these reductions in emissions are far more significant than demand management and transport modal shift.
- 9.8. NZCID supports a focus on improving New Zealand's uptake of technology improvements by means of support for research and development and international collaboration.

## **10. Support for transitional move to greenhouse gas pricing subject to certainty about the regime that will apply and the timing of its introduction**

- 10.1. NZCID supports a transitional move to greenhouse gas pricing and favours a market approach rather than a regulatory approach.
- 10.2. Markets have the potential to encourage innovation of response whereas regulatory methods tend to be overly rigid and lack flexibility to changes in circumstance.
- 10.3. That said, the Energy Outlook modelling demonstrated that a \$15/tome carbon charge had only a marginal impact on energy demand. NZCID would be concerned that more punitive rates run the risk of constraining economic growth.
- 10.4. The cost benefits of any additional charges imposed on the economy need to be carefully evaluated before any action is taken and should only proceed on the basis the benefits exceed the costs .
- 10.5. NZCID is aware of the research commissioned by Business New Zealand and others on the relative merits of trading schemes versus carbon tax regimes and will leave comment on the merits and demerits of alternative schemes to those parties who have undertaken the substantive analysis.
- 10.6. As noted in a previous section of this submission the key drivers of investment in electricity generation are the availability of fuel at competitive prices, the ability to gain consents for projects and the level of unserved demand as opposed to marginal tax imposts.
- 10.7. The most important issue from an investment point view is certainty as to what greenhouse gas pricing regime will apply and when any proposed changes will take affect.
- 10.8. NZCID would stress the critical importance of a “no surprises” environment to foster investment confidence.

## **11. Conclusion**

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NZCID supports the long term goal set out in the strategy to transition New Zealand to a renewables based energy system subject to maintaining security of supply at competitive prices. Key issues need to be resolved to give effect to this plan. These include:

- Development of a detailed implementation plan and policy programme to support the strategy with responsibilities and accountabilities for implementation clearly defined by

agency.

- Ensuring the plan will provide sufficient energy to deliver the Government's short and medium term economic growth targets
- Verification of the deliverability renewable energy potential and determination of an agreed transition path for replacing existing thermal generation with either more efficient technology or renewable generation
- Streamlining of consent process for generation and transmission projects of national or regional importance
- Simplifying the regulatory processes for transmission
- Achieving a step change in the investment in transport infrastructure that will provide congestion relief and a focus of improving fuel efficiency and keeping pace with developments alternative fuels
- Defining an agreed transition path to pricing for greenhouse gas emissions subject to substantiation of the relative environmental and economic cost benefits
- Providing a stable "no surprises" policy environment to foster investment confidence.

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Thank you for the opportunity to make this submission and we look forward to input into the next iteration of the process.

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