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ENERGY CONSULTING

Submission on:

**Draft New Zealand Energy
Efficiency and Conservation
Strategy**

Making it happen, December 2006

30 March 2007

Preface



Strata Energy Limited specialises in providing services relating to the energy industry and energy utilisation. The company, which was established in 2003, provides advice to clients through its own resources and through a network of associate organisations. Strata Energy's consulting division, Strata Energy Consulting, has completed work on a wide range of topics for clients in the energy sector in both New Zealand and overseas.

More information about Strata Energy can be found on www.strataenergy.co.nz

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Submission on the draft New Zealand Energy Efficiency and Conservation Strategy

Thank you for the opportunity to provide comment and input into the development of this energy strategy for New Zealand. Strata Energy Limited (Strata Energy) considers that the completion and implementation of the combined Draft New Zealand Energy Strategy to 2050 (NZES) and the New Zealand Energy Efficiency and Conservation Strategy (NZEECS) are vital for New Zealand's economic and environmental well being. It is very important that time is taken to develop the strategies into documents that can be applied practically and take New Zealand towards a sustainable energy future.

Strata Energy provides consultancy services to energy stakeholders in New Zealand and overseas. The company's directors have deep experience in the energy industry from both supply and utilisation perspectives. We are developing platforms that will enable distributed generators to gain easy, low cost access to the wholesale and retail electricity markets and thereby provide the option for them to remain independent. We are also developing capability in the identification and management of carbon footprints and the implementation of credible carbon offset projects.

Strata Energy is pleased to provide the following discussion on the Draft NZEECS.

Overview

1. The vision, defined in the NZEECS, towards a sustainable low emissions energy system is definitely heading in the right direction for setting New Zealand's place in the challenging global response to climate change. Strata energy supports and shares this vision.
2. New Zealand is fortunate to have diverse sources of primary energy that provide a secure supply based on a high proportion of renewable resources. The draft strategy identifies these sources and their availability in the future. It will be important to develop an understanding of the appropriate balance of renewable and non-renewable primary energy sources that will move us closer to sustainability and yet ensure secure and reliable supplies for the generations to come.
3. Strata Energy considers that an important aspect of a national energy efficiency strategy is how the existing benefits and advantages will be captured and used to deliver the wider national good policy objectives. As our wealth creating industries face the increasing challenges of meeting the climate change requirements of geographically distant markets, it will be important to support them by making available the advantages of location in New Zealand. This will include guidance in energy efficiency, renewable energy supplies and carbon footprints. **The draft NZEECS does not provide sufficient linkages with other key policies such as the Growth and Innovation Framework.**

4. We consider that the ‘Increased energy productivity in industry’ section is the most important as it underpins the economy and GDP growth and should reflect the recent progress made by New Zealand businesses. We have focused our submission on this section.
5. The relatively low price of energy has produced a perception that it has low value and can be wasted. New Zealand along with all developed countries shares this vice¹. The full value of energy, including the cost to the environment, must be seen by consumers before the virtues of increased investment in sustainable and wise use of energy becomes established practice. Strata Energy supports the use of markets and economically efficient pricing to achieve this outcome.
6. An efficient market must incorporate the dynamics of both the supply and demand-side. New Zealand’s electricity and gas markets have developed a supply-side bias, favouring the development of large supply-side investments over the smaller distributed demand-side response. Generally, big supply-side players have the resources to protect and promote their interests; it is the smaller players that need the support of Government through the NZEECS. **The NZEECS does not address the development of Distributed Energy Resources (DER) sufficiently and appears to consider that sustainability can be provided through the development of major renewable energy projects. This is not the case, sustainability and reliable supply can only be achieved by releasing the full potential of DER.**
7. Capturing DER will require significant policy, governance and market development to provide an efficient and effective framework. Currently, in the electricity market, responsive demand can only capture a proportion of the benefits it delivers. The distributed nature of these resources means that aggregation is required and our market operators have difficulty in accepting that the delivery of such resources has occurred². **The NZEECS does not provide sufficient ‘teeth’ to bite through the barriers that exist to DER.**

Key points

8. The action plans are very light in analysis and do not demonstrate the accelerated activity needed to beat Business as Usual growth. **The NZEECS does not include ambitious challenge or stretch reflected in the action plans.**
9. It is possible to reduce emissions substantially as long as there are managed actions across all areas. The question is how ambitious should the reduction targets and resulting commitments to investment be? We consider that the ‘Increased energy productivity in industry’ section is the most important.

¹ An example of wasteful energy use is the growing trend for the use of direct heating for external areas in both commercial and residential sectors. These include decking heaters and the heating of external terraces of cafes and restaurants.

² For example; generators get paid through the clearing manager for the electricity they generate and supply to the wholesale market but a provider of demand reduction (which also releases energy to the market) does not.

10. This strategy is a good first step but to get the market to work, both technology solutions appropriate to New Zealand's unique situation and the associated finance must come together to implement the large number of projects required.
11. Up to 2012, we do not need new technology break-throughs to make progress but need the money and resources to get the simple things in place such as more trained people and increased uptake of insulation, fuel efficient vehicles, lighting and industry best practice programmes for motor applications and heating systems.
12. More projects will be needed between the public and private sectors to provide the step-change in accelerated activity.
13. Keys to success will include far more emphasis on measurement and verification of energy use linked to carbon emissions through advanced metering and monitoring. Also targeting techniques with the focus on reporting a continual reduction in carbon emissions. Both businesses and people need access to the tools and guidance in how to use them.
14. Currently, New Zealand has very limited engineering experience, at a professional and trades level, in both energy efficiency and renewable projects and what we have is very fragmented in different companies and organisations in both the private and public sectors. We need to think smartly about how we can increase capability over the next 5 years, for example through major up-skilling and demonstration programmes.
15. People, through their consumer purchasing power, are the untapped resource in tackling climate change. It is important that people are given some clear direction in their choice of products, business actions and life-styles. The new concept of *Carbon Reduction* labelling, just launched in the UK, could start to have an impact on consumer behaviour.

Increased energy productivity in industry

16. Industrial carbon abatement opportunities are critical to maintain the international competitiveness of our industries. They also provide the main area for robust carbon emission reduction projects. We consider that:
 - a. There is substantial scope for energy savings based on best practice and good process engineering. Fonterra has proved this through their energy reduction project initiative.
 - b. The challenge is to beat BaU growth with a demonstrated reduction in carbon intensity.
 - c. The feasibility of achieving results in industry is higher relative to other sectors, especially through to 2012.
 - d. Projects require standardised monitoring systems to report emission savings.
 - e. The projects will be financed by rational investors and must meet economic criteria.

- f. Carbon trades will implications and showing reducing carbon footprints will be a key component for marketing export products.

17. “Making this happen” will require more ambitious thinking and planning with the private sector. This will be considerably wider than just the present BaU EECA programmes presented in the plan. For example, it is feasible to achieve a portfolio of industrial energy efficiency projects delivering over **0.5 MtCO₂ per year savings by 2012** at less than half the costs of other renewable supply-side options. **It does need accelerated activity to achieve such an ambitious target from the private sector.**
18. A growth area is the use of renewable energy by industry, some worked examples are needed in how this could be achieved.

In Summary

19. We believe a new “Making it happen” initiative is needed to help New Zealand’s industries keep step with their competitors around the world. The action plan must deliver this guidance from Government o produce the drive to achieve a low carbon economy in New Zealand.
20. The next document should be more positive about taking action in reducing emissions and start to introduce some fundamental new business challenges about a carbon constrained world.
21. A whole of energy system approach is key rather than a strategy around certain technologies and on-going programmes which may or may not prove to be appropriate through to 2050.