



30 March 2007

Councils of the Auckland Region: Joint Submission to the Draft NZ Energy Strategy

The Submitters

This is a joint submission to the draft NZ Energy Strategy (the draft Strategy) from the councils of the Auckland region. The submitters are:

- Auckland Regional Council
- Rodney District Council
- North Shore City Council
- Waitakere City Council
- Auckland City Council
- Manukau City Council
- Papakura District Council
- Franklin District Council.

The Auckland Regional Transport Authority (ARTA) was also involved in developing the transport aspects of this submission.

This joint submission is based on the councils' role under the Local Government Act 2002, which is to promote the sustainable development of our communities. It is also based on the direction provided under the Local Government (Auckland) Amendment Act 2004, whose purpose includes improving the integration of land use and transport, in line with sustainable development objectives.

The Auckland region is the largest economic centre in the nation comprising one third of the nation's population, jobs and economic output. Therefore, the challenges and opportunities for a secure and sustainable energy system for New Zealand are inextricably linked with overcoming challenges in the Auckland region.

The councils of the Auckland region have three key multi-party strategies, developed to deal with the region's challenges, each of which is relevant to the Government's goals expressed in the NZ Energy Strategy. These are the Auckland Regional Growth Strategy, Auckland Regional Land Transport Strategy, and Auckland Regional Economic Development Strategy.

The Auckland Regional Growth Strategy aims to manage the region's growing population in a sustainable way, by accommodating people more densely within regional boundaries, encouraging mixed land use and intensification along major transport routes and in town centres. This is to reduce the adverse impacts of sprawl on the environment and on productive land, and is also about using resources such as energy more efficiently as the region grows. This strategy is currently under review.

The Auckland Regional Land Transport Strategy supports the Regional Growth Strategy, by integrating transport planning with land use planning, and by directing more investment into public transport.

The Auckland Regional Economic Development Strategy is a key mechanism for the achievement in Auckland of the Government's goal of economic transformation for New Zealand. The Metro Project action plan under this strategy aims to improve the region's infrastructure, including improving security for electricity infrastructure through the Auckland Energy Prospectus within the Metro Project, as security of supply is a key concern for Auckland's economic viability.

In addition, the councils of the Auckland region and central government agencies are developing a Long Term Sustainability Framework for the region. This Framework will provide overarching direction to regional strategies. Energy has been a theme in its own right in the development of the Framework, in recognition that energy matters have a strong influence on the region's sustainability and resilience. The challenge posed by climate change is also recognised within the Framework as a major influence on the region's sustainable development. We recognise that development of a sustainable, resilient energy future for the Auckland region will play a critical role in enabling the sustainable development of the region. The current draft Framework proposes that a regional energy strategy be developed, to address the region's key goals and challenges relating to energy in an integrated manner with all relevant parties.

Many of the decisions of local government shape cities for the long term, and shape the choices of citizens as they respond to changes, such as increases in energy prices. Auckland councils' core responsibilities directly influence energy efficiency and climate protection. Our roles in land use management, transport network development, urban design, the quality of the built environment and administering building quality can play a key role in delivering the Government's goals in the draft Energy Strategy. Our roles complement central government responsibilities and we acknowledge the importance of working together.

As such, the councils of the Auckland region seek continued close working relations with relevant central government agencies on a range of initiatives that contribute to the goals of the Energy Strategy.

Detailed Submission Comments

General comments

In brief:

- We welcome a long-term NZ Energy Strategy that takes a "whole of government" approach and integrates energy goals in relation to security of supply, climate change and affordability.
- We expect the final Strategy to reflect the Government's aspirational objective of carbon neutrality.
- We urge the Government to set clear goals and establish a clear direction for pricing carbon into the economy, to provide certainty for investment.
- We request more action-oriented language and a strong mix of policy measures in the final Strategy that give strong direction.
- The draft Strategy fundamentally fails to address the primary challenges facing the transport system, namely reducing greenhouse gas emissions, ensuring

sustainable economic growth while transport energy growth is constrained, and improving the transport system's overall efficiency, including freight and all modes.

- In particular, the potential for energy efficiencies and improved urban form from urban land management and structural changes to transport is underestimated. Urban form considerations are broader than integration of land use and transport.
- Any devolution of central government functions or any new functions imposed on local government need to be accompanied by funding and developed in full consultation with local government.
- We are willing to work with Government to further develop aspects of the draft Strategy relevant to our roles in land use planning and transport in particular.

Detailed comments:

The councils of the Auckland region welcome the NZ Energy Strategy. In our joint submission to the Sustainable Energy discussion document in 2005 we had called for Government to develop a national energy strategy and action plans and we are pleased to see the publication of this draft Strategy. In particular:

- We are pleased to see a long-term focus to 2050.
- We are pleased the draft Strategy integrates security of supply, affordability and sustainability issues.
- We support energy and climate change being dealt with together.
- We support the Whole of Government approach taken and look forward to partnerships with Auckland local government where appropriate.

We support solutions that promote sustainable development and systems thinking. By this we mean outcomes that promote social, cultural, environmental and economic well-being. We suggest, therefore, that assessments of proposed policy measures need to include consideration of the full range of impacts, and preferred policies need to demonstrate co-benefits (where other goals are also achieved), rather than just be the lowest-cost policy measure. Policies with co-benefits for other sectors or issues should be valued more highly than simply the least cost option. The embodied energy sunk into products and buildings also needs to be considered when policies and standards are developed.

We expect the NZ Energy Strategy to recognise and reflect the Government's aspirational objective of carbon neutrality, announced since the launch of the draft Strategy.

We also expect the NZ Energy Strategy and the Government's climate change policies to set clear goals and establish a clear direction for pricing carbon into the economy. Clear, stable policy will provide certainty for investment and for consumers. Within that stability, it is also important to ensure policies can be responsive to changes in technology and international events.

We are supportive of, and willing to work with the Government in delivering these aspects of the Strategy as is appropriate given our roles.

We expect more action-oriented language and stronger measures in the Strategy's final form, particularly in its action plan and in the NZEECS. A strong mix of policy measures is required that gives strong direction to achieve the ambitious goals. By this we mean that greater use of financial incentives and appropriate use of

mandatory measures will influence better choices more than information and education initiatives alone.

We believe the draft Strategy fundamentally fails to address the primary challenges that must be faced by the transport system if the stated goals for transport are to be achieved. These challenges are:

- Ensuring sustainable economic growth while transport energy growth is constrained.
- Reducing greenhouse gas emissions from transport.
- Improving the energy efficiency of the whole fleet, including freight and all modes of transport, not just the light vehicle fleet.

The proposed transport policies focus on some areas where central government has direct control, namely the vehicle fleet and fuel efficiencies. The Strategy needs to take a far broader view and incorporate all levers that can be used to achieve its goals. This is where the “whole of Government” approach will be extremely helpful. In particular, the draft Strategy underestimates the role that urban land management and structural changes can have in improving the energy efficiency of transport. It is a primary role of councils to invest in transport and to shape the built environment. Our contribution to the transport goal of the NZ Energy Strategy can be very large. The nature of this contribution, and how central government can assist us in this contribution, needs to be the subject of direct discussions, leading to a section on shaping urban form and the built environment in the Strategy. We would welcome invitations to discuss this matter further.

Good urban design includes far more than simply an energy efficient urban form that focuses solely on the connection between land use and transport. While this is critical, it is only one part of the role that better urban design can play in achieving improved sustainability. The scope of the Government’s focus on urban design and urban form within this draft Strategy needs to be broadened to acknowledge the other benefits of good urban design, being health benefits, improved amenity, social cohesion and identity, reduced crime, improved productivity and ability to attract investment and talents and improved general wellbeing. To deliver good urban design, local government is the key partner to the Government. Greater recognition is needed of this role of local government and the expertise that exists within local government to bring about positive change in this area. We consider that the NZES should specifically address the important contribution that urban form and good urban design have in developing sustainable communities, including their energy use.

Local authorities also have the potential to contribute significantly to the stationary energy aspects of the Strategy, through the many local connections we have with our communities and through our responsibilities under the Building Act and Resource Management Act.

Government’s stated “whole of Government” approach to climate change and energy is supported from a sustainable development perspective. Local government can get more traction in meeting community outcomes if these issues are being dealt with in an integrated manner by Government and if local government is part of this “whole of Government” approach. However, there are areas we have highlighted in this submission which show that the approach is not always embedded successfully. For long term credibility, these gaps need to be addressed in the final Strategy.

In this joint submission, we have some suggestions to strengthen the draft Strategy, and we welcome further discussions with the appropriate agencies to further develop sections, in particular relating to urban form.

We are concerned (particularly given the current discussion of local authorities' ability to fund basic infrastructure and other functions) that any devolution of central government functions or any new functions imposed on local government need to be accompanied by funding, and developed in full consultation with local government.

Finally, we note that the structure of the vision section does not align with the action plan, which makes reading difficult and weakens the draft Strategy. We suggest that a timeline be included within the action plan, and better links be created between the vision and the action plan.

Part 1: Vision

In brief:

- We support the vision and goals.
- Place more emphasis on demand side measures and energy conservation.
- Reference the vision to other key government strategies and programmes.
- Include responses to climate change adaptation in the vision.
- We dispute the robustness of modelling and implied conclusions of the graph on page 21 – figure 4.1 – ‘Illustration of emissions reduction opportunities in transport energy’ as not placing sufficient weight on potential efficiencies from structural change to urban form.
- We welcome Government taking the lead to reduce its carbon emissions.
- Responses to “peak cheap oil” need to be more precautionary.
- Add another section to advance the potential of planning tools (particularly urban planning) to “build in” energy efficiency and to note how central government can support local government in this responsibility.

Detailed comments:

We support the Government's vision, “A reliable and resilient system delivering New Zealand sustainable, low emissions energy”.

We note that the vision of the draft Strategy is supply-focused and that this reflects the focus of much of the document. We request that more emphasis be placed on the role that the demand side measures can play in meeting energy objectives. Energy conservation also needs a greater emphasis.

We also support the six goals of the draft NZ Energy Strategy:

Goal 1: Provide clear direction on the future of New Zealand's energy system.

Goal 2: Maintain high levels of security and reliability at competitive prices

Goal 3: Maximise efficiency of use to safeguard affordability, productivity and the environment

Goal 4: Maximise the proportion of energy that comes from renewable sources

Goal 5: Reduce our greenhouse gas emissions

Goal 6: Promote environmentally sustainable technologies.

The vision section of the draft Strategy needs to reference other key Government strategies and programmes. This Strategy has strong links to, for example, the NZ Transport Strategy, the National Waste Strategy, the Economic Transformation Agenda, the Sustainable Water Programme, and The Digital Strategy. These links need to be explicit both in this Strategy and in any subsequent reviews of the other strategies. For example, the principles and objectives of the NZ Transport Strategy have been passed into legislation through the enactment of the Land Transport Management Act, which transport agencies must then comply with through their programmes. While transport related, these principles and objectives also have linkages to the vision and goals of the draft Energy Strategy.

There is no discussion of climate change adaptation for the energy sector in the vision section. We request that the draft Strategy does address the adaptation of the stationary energy and transport sectors to climate change impacts, just as adaptation is a pillar in the Ministry of Agriculture and Forestry's document on sustainable land management and climate change. For example, some parts of the transport network may be vulnerable to sea level rises. Again, this is an expected outcome from a "whole of Government" approach.

We would like Figure 4.1 on page 21 to be altered or removed. This graph provides an "illustration of emissions reduction opportunities in transport energy". We have been informed that this graph is merely illustrative and is not an accurate representation of where the Government expects gains to be made. This qualification is not clear. The graph appears to suggest that far greater reductions in CO₂ can be achieved by fuel efficiencies and alternative transport fuels over 25 years, than by a transport modal shift or by reducing demand. Our points are:

- For urban areas, we dispute the impression given by this graph, that investment in transport modal shift is relatively unimportant. The analysis behind the Auckland Regional Growth Strategy and Auckland Regional Land Transport Strategy indicates that transport modal shift and reductions in travel due to urban form changes will reduce CO₂ emissions as well as achieve a range of other benefits.
- The modelling behind the graph is based on two scenarios from the Energy Outlook: one of a future with greater use of renewable fuels, one with electric vehicles. We question that this modelling is sufficient and request far more robust analysis to inform the transport aspects of the draft Strategy. For example, there is no modelling of a scenario where urban form is more compact and there is a far higher walking, cycling and public transport mode share of total trips. We request more modelling work be undertaken, as we consider we have valuable data that can contribute to government modelling.
- We request future modelling clearly state underlying assumptions and account for the time it takes for new policy interventions to have effect. We also suggest that there is increased collaboration with other governments in relation to modelling approaches, particularly with Australian federal government agencies such as Environment Australia, the Australian Bureau of Statistics and ABARE.

We welcome the Prime Minister's February 2007 announcement that use of government agencies' considerable purchasing power and other actions will be undertaken to "walk the talk" and lead the way in reducing carbon levels. Auckland

local government is pleased to see the Government taking the lead. As participants in the Communities for Climate Protection – NZ programme, we would appreciate clearer direction on how these two programmes in the public sector will work together and be supported long term.

We note the Government mentions peak oil in this section. We agree that there is uncertainty around when “peak cheap oil” will occur; however, the Auckland region is highly dependent on imported fuels and consequently extremely vulnerable to volatility in price and availability and hence we request a greater level of response to peak oil. The likely increase in volatility of imported oil availability and affordability in the future is recognised as one of the key risks impacting on the region’s long-term resilience in the Auckland region’s draft Long Term Sustainability Framework. The analysis behind the Framework also recognises that an organised transition away from imported fossil fuels will take years. In the face of uncertainty, we request that Government model the impacts of a range of oil prices, timeframes for price rises and reduced supply, and develop scenario-based responses for the end of “peak cheap oil”, as an action under this draft Strategy. (We would also like to access the data behind this modelling, to assist with developing “significant forecasting assumptions” for Long Term Council Community Plans.)

Location of energy supply is important to the Auckland region. We are managing a region with a growing population, economy and growing energy needs and are currently vulnerable given the bulk of Auckland and Northland’s electricity is sourced from the south along a single transmission line. We want greater provision of energy generation within or near to the region. The Resource Management Act (RMA) and the Electricity Act are both reactive and do not address continuity of supply nor proactively determine locations of new generation. The market determines location based on economic factors and ease of getting consents, not based on government strategy. We suggest that local and central government work together to ensure that location decisions are informed by policy rather than led by the sector (on a regional scale). The Auckland Regional Council is currently undertaking scoping work for a regional energy strategy within the context of the region’s draft Long Term Sustainability Framework.

We propose that there be a separate section that recognises and advances the potential of planning tools (particularly urban planning) to “build in” energy efficiency and that recognises the co-benefits that can be achieved. There is scope to amend the RMA to provide greater support to councils’ urban form and design requirements. Energy efficiency improvements include transport and stationary energy. The location of key infrastructure and the design of the built environment fundamentally influences energy use.

Much of this work falls within local government’s mandate. We request a greater acknowledgement and a commitment to the role that land use planning, urban design, building design, and networks such as digital connections and transport play in shaping energy demand; there should be more emphasis on “building in” energy efficiency. (This is true for transport efficiency and efficiency of electricity use.) The relationship between employment land and residential population has huge potential to gain efficiencies (environmentally, economically and socially). Urban design measures to promote walking and cycling are also important.

Central government levers that would support the local government role in urban form could include:

- providing long-term funding mechanisms and certainty to enable increased levels of investment in public transport, directed by regional land transport strategies.

- clarifying and supporting the role that both regional and territorial local authorities can play with respect to urban renewal, e.g. in setting up development corporations, or in empowering local authorities to apply inclusionary zoning¹ in appropriate locations to encourage affordable housing and energy efficiency.
- directing central government agencies who make or influence locational decisions of key infrastructure (e.g. of schools, hospitals, social housing, prisons) to work closely with local councils to ensure the decisions support the goals of regional growth strategies and regional land transport strategies in creating more efficient urban form.
- developing regulatory measures to ensure the Urban Design Protocol and council efforts to improve urban form have statutory mandate. This could include ensuring the Building Act enables local councils to mandate stronger measures than in the Building Code.
- working with local government at a regional level to proactively determine potential locations for new renewable electricity generation, to enable location decisions to better follow central and regional government policy rather than be determined solely by market feasibility.
- continuing to work with the region's councils in the review of the Auckland Regional Growth Strategy.
- strengthening central government capacity with respect to urban issues.

We would like to have further discussions relating to this list.

Part 2: Action Plan

(2) Resilient, low carbon transport

In brief:

- This plan does not provide a package that will meet the goal of resilient, low carbon transport and does not articulate what a sustainable transport future looks like.
- Beef up policy measures for infrastructure, land management, public transport and behaviour change as well as fuels and vehicles.
- Recognise urban areas and rural areas function differently re transport.
- The plan should recognise that reducing transport “overhead” costs to economy will increase economy's productivity and support economic transformation.
- ARTA's plans to double public transport patronage in 10 years are quoted; however, there are still funding issues to be resolved before these can be fully delivered, for which Government support is critical.
- The first transport objective: “continue to meet the demand for transport services” is not feasible; influencing demand would be more practical.
- There are limitations to sustainably-sourced biofuels and these won't solve alternative fuels problem.
- Ensure fuel efficiency measures address the whole fleet, not just light vehicles.

¹ Allocation of a set minimum of affordable housing in a development or subdivision.

- Develop a NZ Freight Strategy to address Government’s goals across all freight modes in integrated way.
- We particularly support the objective: “continue to manage other effects of transport, such as exhaust emissions that affect local air quality”.
- As such, we are deeply concerned at the proposal to increase use of diesel over petrol, as this will increase fine particulate emissions in Auckland region.
- Provide more guidance for transport agencies through this Strategy and the NZEECS.
- We would like to see the setting of clear targets for transport energy.

Detailed comments:

The draft NZ Energy Strategy fails to provide measures that will result in its goal of “resilient, low carbon transport” by 2050. It does not provide a way for the country to reduce its greenhouse gas emissions from transport, or reduce its vulnerability to imported oil supplies by 2050. It does not have a vision of what a sustainable transport system would be like in 2050, and does not describe an overarching strategic approach to get there. While there are a number of positive initiatives planned or underway, those appear to be ad hoc with little articulation of the interactions or impacts within a broader transport and environment strategy.

A more holistic approach is required. The Transport and Environment Select Committee report in 1998 on reducing the environmental effects of transport, noted actions in all of these areas are required to reduce environmental effects:

- Reduce need to travel
- Switch to lower impact modes of travel
- Switch to lower impact fuels
- Improve fuel efficiency.

The draft Strategy needs to include a wider and more comprehensive range of measures relating to infrastructure (including urban form changes that support public transport, walking and cycling, and broadband), travel behaviour change. It also needs to consider freight and vehicle efficiencies more broadly.

Actions relating to local government need to be worked out in consultation with local government. The councils of the Auckland region are willing to be involved in this process.

The draft Strategy should acknowledge that transport systems in large urban areas function differently from those in rural areas, and that different approaches are needed to urban and rural areas to achieve the Government’s goals of reducing carbon emissions. Congestion and population growth are also major drivers for transport policy in Auckland, and need to be factored into a strategy that is aiming for reductions in transport energy emissions. Transport options for rural productive land owners need to be realistic and sustainable.

Transport costs are an “overhead” to New Zealand’s economy. Decoupling economic and transport growth (i.e. ensuring sustainable economic growth while transport energy growth is constrained) should be a key focus of Government as it will lead to improved sustainability and increased productivity. If we can reduce transport costs as a proportion of GDP, our economy would be more profitable and sustainable.

Compared to other cities globally, New Zealand cities spend a relatively high amount on transport in relation to our GDP – cities in Oceania spend on average 13% of GDP on transport, the US and Canada spend 12%, Western Europe spends 8% and wealthier Asian cities spend 5%². The draft Strategy needs to promote ways to improve transport efficiency, and use a measure of efficiency as an indicator.

It is noted that the NZ Energy Strategy quotes the Auckland Regional Transport Authority (ARTA)'s plans to double public transport patronage in Auckland in 10 years. This will result in public transport's mode share shifting from 7% to 11% of peak trips. However, current funding levels do not support this plan. Current funding levels are anticipated to result in a mode increase to 9% by 2016, and do not enable groundwork to be done to set up the region for greater public transport mode shifts in the longer term. We look forward to more Government support to resolve funding issues to ensure public transport patronage gains occur.

There is insufficient focus on behaviour change as a tool in this draft Strategy and in the NZEECS. The Auckland Regional Land Transport Strategy (ARLTS) sets targets for school, workplace and community travel plans which equate to 20,000 fewer car trips each morning peak. Through travel demand management programmes such as school travel planning, ARTA and local councils are already achieving 3,200 fewer car trips each morning peak, equating to 790 tonnes of CO₂ reduction. These programmes are expanding rapidly, and we expect to achieve the ARLTS 2016 target within the next two years.

We query the first proposed transport objective for the NZ Energy Strategy: “continue to meet the demand for transport services”. It is not feasible to fully meet the demand for transport services (such as roading) in the Auckland region, nor would this reduce fossil fuel use. We suggest that this objective instead be, “influence and guide the demand for transport towards lower impact modes and alternatives to travel to respond to climate change and to align with projected future liquid fuel availability”. It is the region's goal to improve access and mobility, while minimising negative social, health, economic and environmental impacts of transport. Shaping urban travel demand to encourage more walking, cycling and public transport use will achieve greenhouse gas reductions as well as reduce congestion and improve outcomes in areas such as health.

It is useful to separate issues of resource depletion (such as oil security) from issues of access and mobility. We need to examine what people want access to and design ways to improve access and mobility, for example by ensuring an increased density of population to support public transport with the introduction of integrated ticketing to facilitate ease of use for passengers. Other approaches, which do not require use of transport fuels include greater access and local provision of internet services, and urban design and land use changes that reduce the need for travel and facilitate walking and cycling.

In relation to the fifth direction for transport, “increase the transport system's resilience to higher or more volatile fuel prices”, we note that a decline of liquid fossil fuel supply is likely to occur in the medium to long term, until such time as alternatives become commercially available. Many studies have shown that biofuels cannot be produced in sufficient quantities to replace a significant component of existing demand without disrupting food production here or overseas. In fact, some biofuel sources will have unintended and perverse side effects that may exacerbate climate change.

We support the actions proposed to improve fuel efficiencies for the domestic vehicle fleet. However, we note that improvement of fuel efficiencies and encouragement of

² Source: UITP Millennium Cities Database for Sustainable Transport

alternative lower impact fuels need to be equally considered for all vehicle types, including the commercial light vehicles and heavy trucks and for passenger transport as well as for the private vehicle fleet. For example, the draft Strategy should promote cleaner fuels and engines for trains and buses in addition to current vehicle standards.

Electrification of the Auckland passenger rail network is a good first step and is necessary to ensure a significant shift to public transport.

We are concerned about actions to influence freight modal shifts happening without the context of a freight strategy for New Zealand. We suggest that the Government develop as priority a New Zealand Freight Strategy that looks across all freight modes. Mode-based strategies tend to result in each strategy aiming to promote that mode. A cross-modal strategy should aim to encourage freight to be carried by the most appropriate and lowest-impact mode for each freight type. It should aim to encourage efficiencies and best practice across all modes and seek to avoid perverse impacts.

We strongly support the transport objective, “continue to manage other effects of transport, such as exhaust emissions that affect local air quality” and the measures that support this. Any initiative for climate change should not result in a trade-off of another aspect of the environment, such as air quality or water quality.

As such, we are very concerned about the proposal to encourage a switch to diesel vehicles over petrol vehicles. While we acknowledge that diesel is more fuel efficient and therefore reduces CO₂ emissions, an increase in diesel use will worsen the particulate (PM₁₀) and NO_x levels in the Auckland region. Emissions from the transport sector are the largest contributor to PM₁₀ in the region. Already, we estimate that 91% of PM₁₀ from transport is from diesel powered vehicles. Particulate levels are the cause of a range of adverse health impacts on the region’s population. The region’s particulate levels are required to be reduced by 53% by 2013 to meet the Air Quality National Environmental Standards. If the standard is not reached, the ARC will be required to decline subsequent industry resource consents for particulate discharges.

Imported used diesel vehicles have considerably higher PM₁₀ emissions than new diesel vehicles, so new diesels should be preferred over used imports. However, even new diesel vehicles still emit between five and 10 times the particulate levels of a new petrol vehicle of an equivalent standard (such as Euro 4). Until PM₁₀ emissions from petrol and diesel vehicles are equivalent, an increase in diesel vehicles will raise the region’s PM₁₀ emissions.

The issue is complex and we urge full consideration of the health and local air quality impacts, prior to this proposal being enacted. If the Government does decide to introduce measures to increase the percentage of diesel vehicles in the New Zealand fleet, we urge that particulate increases be at least partly mitigated through the introduction of comprehensive emissions tests for in-use vehicles, and requirements for maintenance of emissions control equipment.

More guidance in the NZES and NZEECS would be very useful for the preparation of regional transport strategies and plans. In consultation with transport agencies, the NZES and NZEECS could set a target for emissions reductions for the transport sector and the transport sector could plan how to achieve it.

Auckland local government wish to see clear targets set for transport, and to be involved in further work to develop actions to support more efficient transport networks and urban form. Targets may include percentage increases in public transport mode share for urban areas and increases in teleworking.

(3) Security of electricity supply

On security of supply and public confidence:

In brief:

- Electricity supply is not secure for Auckland and is key to economic development.
- Diversifying location of supply to be more from the north and within the region is part of the solution.
- A fresh approach to transmission planning – to be more customer-focused – is needed to create better reliability in transmission and increase public confidence.
- The substitutability of electricity for other energy sources needs to be part of the solution.
- Long term, improved security will come from a greater proportion of local supply and diversity in renewable and environmentally sustainable electricity supply.
- Enhancement of repair and maintenance services to ensure fast and efficient repairs when necessary (this is a particular issue for Auckland given recent blackouts due to equipment failure).

Detailed comments:

Security of electricity supply is important for the Auckland region, and recent history has demonstrated that it is not secure. Repeated electricity outages in Auckland over several years have an adverse impact on Auckland and New Zealand's international reputation. We expect a reliable and affordable supply of energy that is sustainable. We consider greater priority should be given to ensuring greater security of supply for the Auckland region, which would support the Government's economic transformation agenda.

The draft Strategy needs to recognise the importance of diversifying the location (both within and to the north) and scale of electricity generation, preferably from renewable sources, in relation to improving the Auckland region's security of electricity supply.

The resilience of Auckland's electricity supply needs to be resolved with some broader thinking in relation to transmission and sources of energy supply. Security of supply should be interpreted as a combination of energy efficiency, demand management and a diversity of supply solutions.

In relation to transmission, a new approach to grid reliability is requested: one that is customer-focused, and related to the frequency and duration of outages for individual locations. The top-down, centralised approach to grid reliability based around the "n-1" standard does not consider how long the power will be out, or whether some suburbs have a higher frequency of failures than others and what impact that has on those living and working in those areas.

A customer approach to security of supply would likely result in further design work to transmission networks to create more dispersed, multiple pathways to reduce reliance on a few (or one) central and vulnerable entry point (e.g. Otahuhu B). This would require electricity engineers to take a more organic view of system design and design to fit local circumstances rather than off-the-shelf conditions. Auckland is the largest centre by far that suffers from the inadequacy of the "n-1" system, but not the only one. The reconfiguring of Orion Energy's network in Christchurch provides a

working model of a more customer-focused transmission and distribution system design.

In relation to energy sources: the substitutability of electricity with other sources needs to be considered as part of increasing security of supply. Other sources can include wood or direct use of solar energy for space and water heating, and energy efficient building design. The draft Strategy needs to consider the potential benefits and impacts of substitutable sources. We suggest it adopt some principles that promote direct and more efficient use of primary energy sources over indirect and inefficient use. It needs to balance local air quality and climate change goals with resilience goals (such as reducing vulnerability to reliance on single energy sources), and promoting renewable sources over fossil fuels. Scenario modelling to test various options should be undertaken. Auckland councils have collected data on a wide range of home heating initiatives and issues which could be useful in scenario modelling.

As articulated in the draft Long Term Sustainability Framework for the Auckland region, in the longer term, we want to improve the resilience of our communities (including the social and commercial viability of local centres) by enabling the efficient use of economically viable, local sources of energy, that are delivered and used in a sustainable way (for example, to meet health and local air quality goals).

On wind (and other renewable) generation:

In brief:

- Proactive planning of future electricity supply is important and we want to be involved in this for the Auckland region.
- We support facilitation of greater investment in renewable generation, including distributed generation, and removal of barriers.
- We consider there is potential in marine energy.

Detailed comments:

We would like to be involved in discussions that seek to increase electricity supply into and within the Auckland region, including the appropriate location of generation. We consider that proactive planning of electricity supply is important.

We support the Government's proposed reviews of electricity market arrangements to facilitate greater investment in new renewable generation. We consider that there is potential in distributed generation, and support the government's continued efforts to address barriers to distributed generation (including market barriers), and options to facilitate its development.

We consider there is potential in marine generation of electricity, though we note generally that environmental impacts of any marine generation still need to be considered. We support the government taking action to facilitate its development as part of enabling a level playing field between various renewable energy options.

On demand-side responses:

In brief:

- The risk of system failure at peak load times is a concern for the Auckland region.

- We support the introduction of smart meter technology and urge that it be implemented along with pricing plans that enable residential consumers to have more control over the cost of their electricity and to have clear price incentives for them to shift from peak time use.
- Smart meters must not limit consumer ability to choose retailers.
- We support greater Government emphasis on other demand side measures including the targeted use of incentives, for example, to encourage the uptake of solar hot water heating.
- We request consideration of the impact of urban land use (current and planned) on energy efficiency to be included in the draft Strategy.

Detailed comments:

For the Auckland region, the risk of system failure at peak load times is a concern. We support the introduction of smart metering as a demand management mechanism that will assist in spreading peak loads. We also request that the Government ensure that the introduction of smart meter technology facilitates greater consumer choice and control over the costs of their electricity. Smart meters, with time-of-use tariffs, can enable greater choice for residential consumers. Providing choice to consumers through variable pricing regimes will incentivise residential customers to reduce their use at peak times. Smart meter technology should provide information to the retailer, distributor and to the consumer. The technology enables an expansion of residential consumers' rights and would reinforce desired behaviour change.

We request that the Government also ensure that the introduction of smart meter technology does not introduce any barriers to consumers who wish to change retailers. We are concerned that some arrangements emerging in the ownership of smart meters may impose a significant penalty on consumers who subsequently wish to change retailers. The appropriateness of the retailers owning smart meters should therefore be reviewed and common protocols for smart meter technology should be required to ensure these factors do not create barriers to consumer choice. Smart meters provide a significant opportunity for energy users in helping them to manage energy use more efficiently. It has the potential to enable consumers to make informed decisions regarding the time of use and to respond to pricing signals, for example to manage peak loads. It is therefore important that smart meters allow consumers to see the electricity used (or exported to the grid), rather than smart meters simply providing information for energy retailers.

The councils of the Auckland region also support more effort going into other demand side management initiatives – including increasing solar heating and ripple control for water heaters, clean burning wood fires (providing they fit with the Auckland Regional Council's goals to reduce domestic fire emissions to comply with national emission requirements) and domestic hot water heat pumps. We also support the raising of energy efficiency standards in electronic devices and implementation of the Packaging Accord.

We consider that there is significant scope for greater recognition of the potential for encouraging and promoting the development of energy saving initiatives through the use of energy savings companies. These are where companies provide free energy audits and assistance with capital investment for energy efficient systems and equipment with the money saved through energy savings being shared between the client and the energy savings company. This approach operates successfully in New South Wales and in California. Such schemes have also been used to assist

government agencies and companies to meet energy savings targets that are mandated through performance agreements or through regulation.

The chapter on security of supply also needs to address the considerable impact that structural changes (to land use and urban form) can have on improving or worsening security of supply.

(4) Low emissions heat and power

In general, we support the intentions and proposals in this section.

On meeting future electricity requirements:

In brief:

- Location of supply is very important – opportunities for local energy capture within the Auckland region should be explored.
- We support promotion of greater investment and more new entrants in supply side at all levels of generation size.
- We request research into the economic viability of and barriers to medium and community scale generation in urban areas.
- We prefer incentives for renewable generation that do not favour particular technologies or sources.
- We support incentives for energy efficiency improvements as they have great potential.
- Increase funding support for training and apprenticeships to build renewables industry capacity.
- Promote better utilisation of direct renewable sources (e.g. solar) through better building design.

Detailed comments:

The draft Strategy needs to recognise that the location of generation and not just the generation mix needs to be considered. The location of generation close to demand is preferable as it results in lower transmission losses, greater security of supply and improved system resilience. For example, there are acres of rooftops in industrial and commercial parts of the Auckland region that could be utilised for harnessing solar energy or wind energy for electricity at a local scale. Latent opportunities that would locate supply close to demand and also lead to community-based and smaller-scale energy generation should be explored.

To promote a sustainable Auckland region, we strongly support policies that encourage more new entrants and a greater diversity in the scale of the generation of renewable energy, and of local distributed generation. There is considerable potential for smaller scale generation within urban areas as well as remote locations. We request further investigation into the economic viability and barriers to market place participation of medium and community scale generation and co-generation within urban areas.

We support incentives for renewable generation and request that there is equitable contestability for incentives between various types of renewable technology and renewable sources to establish a level playing field.

We note that improvements to end-use efficiency have the potential to release more electricity for new use, more quickly, than development of new generation. We support actions that facilitate the uptake of energy efficiency technology.

We support increased government funding for training and apprenticeships to support renewable industry capacity and labour market supply.

We support better utilisation of direct renewable energy sources (such as solar and woody biomass, providing local air quality standards are met) for heat and power. To this end, we request that clearer and firmer direction be given to building and urban designers through relevant mechanisms such as the Building Code, Urban Design Protocol, and green building codes under development as well as clear direction under this Strategy and the NZEECS. We request that passive design features enabling direct use of renewable sources for heat and light be promoted, facilitated, supported and possibly eventually mandated where possible.

On regulations and the RMA:

In brief:

- We support efficiency and consistency in resource consenting and consideration of local community views and reduction of implementation costs to local government.
- We request more information about the proposed “consolidated consenting process” prior to establishing our position on this; and note we wish to be involved in the development of any such process.
- We would appreciate more central government information to assist resource consenting processes.
- We see practical difficulties in relation to consideration of greenhouse gas emissions in local government consenting processes under the RMA due to considerable workability issues, unless there is clear national guidance to support local decision-making.
- We would appreciate more national guidance through national policy statements or national environmental standards.
- Triple or quadruple bottom line reporting for major generators should be strongly encouraged and needs to be prepared in consistent way, even if voluntary.
- We request that Government direct major generators to invest in new renewable generation close to areas of major demand, and to provide time-of-use pricing for residential customers.

Detailed comments:

In principle, we support an efficient and fair approach to resource consenting processes and we support consistency in decision-making, while also providing for consideration of local situations and local community views.

As such, we note with interest the draft Strategy’s proposal to consider a “consolidated consenting process” for wind projects. We would like to be involved in more detailed discussions as to what this might entail prior to establishing a position as to whether we support this for the Auckland region.

We appreciate the offer from central government to local government to supply more information about the various trade-offs involved in RMA decisions.

We note that there are proposals to introduce consideration of greenhouse gas impacts as part of the Resource Management Act (RMA) planning and consenting processes. There are considerable workability issues for local government to overcome to administer such proposals. We would only support such a proposal where clear national guidance for the assessment of greenhouse gases is provided through a statutory instrument, e.g. through a national policy statement or national environmental standard. Climate change is primarily of national and international significance, so local decision-making over projects will require national guidance.

We would appreciate greater levels of national guidance (such as through national policy statements and national environmental standards) in determining how to strike the balance between competing objectives, such as protecting areas of outstanding natural character and encouraging local new renewable generation. A national policy statement on renewable energy generation (including small scale renewables) may address this issue. Guidance under a national policy statement might assist in deliberations relating to non-quantifiable issues, such as visual amenity effects of wind turbines, and in balancing protection of areas of outstanding natural character against providing for local new renewable generation. A national environmental standard may be suitable for establishing noise levels appropriate for wind turbines in various types of locations, providing it can adequately cover the complex and unique locational issues involved in each decision. We would like to be involved in the establishment of any national instrument that may affect local council resource consent functions, as from past experience we have found local government involvement has led to more useful and helpful guidance. A hierarchical structure to these policies would be of assistance.

We are conscious that while under the Resource Management Act, the benefits of renewable energy can be considered for a windfarm application, the costs of greenhouse gas emissions or a comparative assessment of non-renewable energy in relation to renewable energy generation cannot be undertaken. A carbon pricing scheme would balance that environmental cost and would assist with ensuring that the balancing of environmental costs is taken into account, albeit within a framework outside of the RMA.

The Government is proposing to invite major electricity generators to consider preparing triple bottom line reports and inventories of their greenhouse gas emissions. This could be included in the Government Policy Statement on Electricity Governance as part of the oversight role of the Electricity Commission for the sector. We would like a consistent approach to be taken to reporting, even if voluntary, and be consistent with any measurement and reporting framework established for a greenhouse gas pricing mechanism. This will provide comparability of generators for customers and reinforce better choices regarding energy efficiency.

We also strongly request the Government direct major generators to deliver the Government's low emissions goals by investing in new renewable generation, close to areas of major demand, and to introduce time-of-use pricing regimes to provide residential consumers with choices.

On distributed and small scale generation:

We support the Government's proposals to remove barriers to small scale generation, and to facilitate development of small scale generation.

On energy prices:

We support a price being put on climate change gas emissions, as a first step towards reflecting externalities associated with environmental social impacts. We request that it be put on all forms of greenhouse gases, not just CO₂.

We support new electricity generation facing a price signal for its carbon impact. We support new entrants and existing generators facing equal carbon prices within a defined time period. This will provide certainty and direction to the electricity generation market.

(5) Using energy more efficiently

We fundamentally support measures that improve the efficiency of energy use. We will comment on energy efficiency in more detail in our submission to the draft NZEECS.

We strongly support the Government's proposal to lower government discount rates used in cost-benefit analyses, which will better support energy efficiency improvements.

We note that end-use efficiency and demand side management is normally more cost-effective than new generation. We request that the Government investigate measures to overcome barriers to commercial plant owners upgrading their capital plant to support energy efficiency improvements. Upgrades could be supported by accelerated depreciation.

(6) Sustainable technologies and innovation

In brief:

- We support Government's intention to increase deployment of sustainable technologies.
- We request that a range of incentives be provided.
- We request that funding be directed more to renewables than into fossil fuels.
- We support the proposed contestable fund for marine technology, providing other renewable sources are not disadvantaged and environmental impacts are considered.
- We request that Government also incentivise deployment of energy efficiency technologies.
- We request that Government also support R&D into new technologies, and not just see New Zealand as a technology taker.

Detailed comments:

We support this section in general.

We support the general intent to increase deployment of new and existing sustainable technologies. We support direct government investment in research and development. We would like to see the Government view research investment in terms of the whole life-cycle – from primary research through to commercialisation, i.e. to cover short-term deployment of existing technology; medium to long-term development; and deployment of new and emerging technology.

As part of the Government's economic transformation and growth and innovation framework, there should be a greater range of policy measures to incentivise and encourage innovation. We support more boldness and action and a monitoring framework to ensure the implementation of measures is reviewed.

We request a significant switch in emphasis in the quantum of research money to move away from fossil fuels towards renewable sources of energy. We consider the focus for research in the short to medium term (i.e. to 2020) should be on renewable energy and improved energy efficiency and conservation.

We support the contestable fund for marine technology fund (covering both wave and tidal power), providing environmental impacts are considered with marine energy development. The process needs to be applicant friendly and with limited transaction costs. We would like any new renewable energy technology development to have equal access to contestable funds.

Technologies to augment efficiency exist but are currently not being installed. We support the intent to encourage a more dynamic environment for private sector energy innovation (including for energy efficiency measures), including through targeted tax credits for R&D activities.

We do not accept that New Zealand must only be a technology taker. We strongly believe research and development should be provided for new renewable technologies where New Zealand researchers are showing signs of innovation (geothermal, reduction of methane, efficiency etc). This is an integral part of New Zealand's economic transformation. There are a number of areas where New Zealand is a market leader and we should build on our strengths, identify niche areas and be a technology developer. This will require a "whole of government" approach. More boldness is required – this could be an export and economic growth area.

(7) Affordability & Wellbeing

In brief:

- Evaluate effect of increased prices on various socio-economic groups and mitigate or minimise pain where possible.
- Provide alternatives prior to pricing measures being enacted to ensure lower income groups are not excluded.

Detailed comments:

Acknowledging that energy prices will increase long-term, the shift needs to be stepped to mitigate economic hardship. The Government needs to consider the variable impact its energy and climate change policies on various socio-economic groups as well as on other sectors. For example, the impact of any proposal to allow small consumers choice through time-of-use pricing need to be analysed for its impact on low income households, and compensatory measures considered if there are significant adverse impacts.

When considering transitional arrangements, alternative options need to be in place to ensure low income families are not unfairly disadvantaged. Social support structures need to be in place to support transitions and comprehension of choices available. For example, a price on carbon should not be put onto petrol without alternative transport options being available.

The councils of the Auckland region thank the Government for this opportunity to comment on the draft NZ Energy Strategy, which is addressing some of the most important challenges facing New Zealand today.