

New Zealand Energy Strategy and Bioenergy – Key Points of Note

The Government released its Energy Strategies (the New Zealand Energy Strategy 2011 – 2021 and the Energy Efficiency and Conservation Strategy 2011 – 2016) on 30 August 2011 (see [Minister's media release](#)). The strategies set out the Government's objectives with respect to energy and highlight the important role that Government sees for bioenergy in New Zealand's future energy mix. This note summarises the objectives for bioenergy (biofuel, biomass and alternative fuel) as set out in the strategies and the means for achievement.

Of particular note is the Government's endorsement of the [New Zealand Bioenergy Strategy](#) and specific commitment to support and work with the bioenergy sector in the implementation of the Strategy, as follows.

"Biomass is another resource that has considerable potential. The Government will encourage biomass-to-energy development, including through working with industry to support its bioenergy strategy."

And

"The New Zealand bioenergy strategy, developed in 2010 by the bioenergy and forest industries, is a good example of these industries working across their sectors and with business customers to create greater value from New Zealand's forestry and other biological resources. Over the next five years, the industry will develop markets for existing biomass and waste resources to build the platform for future innovation."

It is important to note that the Government includes energy from forestry biomass and waste resources. The inclusion of waste resources within the scope of the Strategies brings in the opportunities to divert municipal waste from landfills to waste-to-energy plant with their higher efficiencies of energy conversion.

The Energy Strategies for the first time set out a roadmap for bioenergy growth in New Zealand.

New Zealand Energy Strategies

The [New Zealand Energy Strategy 2011-2021 – Developing Our Energy Potential \(NZES\)](#) – has a goal to **Make the most of our energy potential** and sets out four priority areas for the energy sector (see also this [Government factsheet](#)):

- Diverse resource development;
- Environmental responsibility;

- Efficient use of energy; and
- Secure and affordable energy.

These are all areas where bioenergy solutions can add wealth and wellbeing to New Zealand.

The ***New Zealand Energy Efficiency and Conservation Strategy 2011-2016*** (NZECS), a companion strategy sitting under the NZES is specifically focused on the promotion of energy efficiency, energy conservation and renewable energy (see this [Government factsheet](#)).

The NZECS sets out the objectives for the six energy sectors which will contribute to the overall New Zealand Energy Strategy 2011-2021 goal:

- **Transport:** A more energy efficient transport system, ***with a greater diversity of fuels and alternative energy technologies.***
- **Business:** Enhanced business growth and competitiveness from energy intensity improvements.
- **Homes:** Warm, dry and energy efficient homes with improved air quality to avoid ill-health and lost productivity.
- **Products:** Greater business and consumer uptake of energy efficient products.
- **Electricity System:** An efficient, renewable electricity system supporting New Zealand's global competitiveness.
- **Public Sector:** Greater value for money from the public sector through increased energy efficiency.

It should be noted that both the NZES and NZECS are strategy documents that set out objectives and a vision but not Action Plans. Action Plans to implement the strategies will need to be identified and pursued in the manner set out by Government within the strategies.

Further details are available [here](#) on the Ministry of Business, Innovation & Employment website.

The Bioenergy Strategy

The New Zealand Bioenergy Strategy was released on 8th September 2010. (See the joint BANZ and NZFOA Press Release [here](#).) The Government through the NZES has endorsed this industry lead initiative as the focus for increasing the use of bioenergy in the New Zealand energy mix.

The strategy notes the following Vision:

Economic growth and employment built on New Zealand's capability and expertise in forestry, wood processing and bioenergy production - leading to new business opportunities which by 2040 supply more than 25% of the country's energy needs, including 30% of the country's transport fuels.

The strategy will achieve multiple national economic benefits – both through extracting additional value from existing harvest residues, organic wastes, and diversified land use; and through economic growth generated by new energy crops.

To succeed, the strategy requires the sector to work with a common vision and collaboration in partnership with Government. With the endorsement provided through the NZES industry now needs to work with Government to establish mechanisms to support investment and overcome market barriers, particularly through clustering of market participants.

Existing and new forests, and farm-based energy crops, will be utilised to establish regional supply chains - building on the expertise and infrastructure of larger players in the energy, forestry and wood processing sectors. However, it is also important that small industry players are supported.

Collaboration with the forestry sector will be key to reduce growing, collection and processing costs of wood fuel, and to ensure delivery to specified quality standards.

Bioenergy in the New Zealand Energy Strategies

The table below summarises the Bioenergy objectives in the NZES and NZEECS. The objectives are spread through several sections within the documents as follows and should be read together to get their full impact and within the context of the surrounding text:

Context	Page number	Quote
NZ's renewable energy opportunities	NZES 2011-21 (page 2)	We have untapped solar energy and could potentially harness the power of the oceans that surround us. Extensive farming and forestry options mean biomass could be a source of electricity, heat or biofuels . The country has real opportunities in newer, emerging technologies, such as marine, solar and biofuels .
Endorsement of the Bioenergy Strategy	NZES 2011-21 (page 6)	<i>Biomass is another resource that has considerable potential. The Government will encourage biomass-to-energy development, including through working with industry to support its bioenergy strategy.</i>
Embrace new energy technologies	NZES 2011-21 (page 7)	The Government will prioritise research funding to areas based on New Zealand's resource strengths and unique characteristics, and where there is commercial potential. Government priorities for energy research, development, and deployment support are with bioenergy , marine, geothermal, petroleum, smart electricity network technologies and energy efficiency (at all levels of supply, infrastructure and demand).
Reduce energy related emissions of ghg's	NZES 2011-21 (page 7)	The Government's policies, to facilitate development of renewable energy in all forms, including for electricity, biofuels and direct heating, will also assist in lowering emissions. Continued promotion of energy efficiency will also contribute to reducing greenhouse gas emissions from energy, where it leads to fossil fuel savings.
Priority: Secure and affordable energy	NZES 2011-21 (page 12)	High standards of energy security are critical to New Zealand's economic performance and social well-being – particularly in relation to oil and electricity. Affordable energy is also fundamentally important to people, at home and in business. The Government considers that secure and affordable energy is best achieved through competitive markets. In the longer term, investment in oil alternatives will boost transport energy security . An ongoing focus on the reliability of electricity is also needed to ensure we have robust electricity infrastructure in the 21st century.
Heat Sector Objectives and Targets	NZEECS 2011 – 2016 (page 18 and page 20)	SECTOR - Business - Enhanced business growth and competitiveness from energy intensity improvements. TARGET - By 2025: We will utilise up to 9.5 PJ per year of energy from woody biomass or direct use geothermal additional to that used in 2005. RESPONSIBILITY

		<p>Lead: Ministry of Economic Development; Energy Efficiency and Conservation Authority.</p> <p>Support: Department of Building and Housing; Ministry of Agriculture and Forestry; Ministry of Science and Innovation.</p> <p>Opportunities also exist for firms to consider using renewable energy sources, such as biomass or geothermal heat on-site for their heating, fuel, and electricity needs. The economics and performance of many technologies are established. These options are particularly relevant for agricultural, horticultural and primary processing industries where local materials – often waste products – are available. With better access to information,</p> <p>POLICY Assisting businesses to improve their energy productivity is a high priority. The Government will improve its programmes for business to ensure the right mix of information, incentives, codes, and standards are in place.</p> <p>The means by which the Government will work with businesses to achieve the business objective and targets includes work to:</p> <ul style="list-style-type: none"> Assist industry to recognise and exploit opportunities for utilisation of geothermal and bioenergy sources. <p><i>The New Zealand bioenergy strategy, developed in 2010 by the bioenergy and forest industries, is a good example of these industries working across their sectors and with business customers to create greater value from New Zealand’s forestry and other biological resources. Over the next five years, the industry will develop markets for existing biomass and waste resources to build the platform for future innovation.</i></p>
<p>Transport Sector Objectives and Targets</p>	<p>NZEECS 2011 – 2016 (page 18 and page 19)</p>	<p>SECTOR - Transport A more energy efficient transport system, with a greater diversity of fuels and alternative energy technologies.</p> <p>TARGET - By 2016: The efficiency of light vehicles entering the fleet has further improved from 2010 levels.</p> <p>RESPONSIBILITY Lead: Ministry of Transport. Support: New Zealand Transport Agency; Ministry of Economic Development; Energy Efficiency and Conservation Authority; Civil Aviation Authority.</p> <p>RATIONALE Oil provides 51 percent of New Zealand’s total consumer energy. The transport sector is the primary user of this energy.</p> <p>Most of this oil is imported, which exposes the New Zealand economy to volatile international energy prices. More efficient use and greater use of alternative transport fuels can reduce our exposure to oil prices.</p> <p>It is therefore a long-term strategic priority for New Zealand to ensure</p>

		<p>that energy efficiency opportunities in the transport sector are fully realised.</p> <p>POLICY</p> <p>The means by which the Government proposes to achieve this strategy’s objective and targets for the transport sector include a mix of information, incentives, capability building, and codes and standards.</p> <p><u>An integrated mix of policies is required to achieve energy efficiency gains in the transport sector. No one policy can make the most of the transport sector’s energy efficiency potential.</u></p> <p>The Government will:</p> <ul style="list-style-type: none"> • <i>Encourage the entry of alternative transport fuels and electric vehicles in the New Zealand market.</i> <p><i>The Government recognises that alternative transport fuels derived from a range of sources have the potential to contribute to the development of a more energy efficient transport system.</i></p> <p><i>The Government supports the actions of industry, such as the aviation industry’s efforts to develop sustainable alternative fuels and to implement fuel and energy efficient measures, as air transport is strategically important to New Zealand industry.</i></p>
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