Powering to a Renewable Future

Labour's Policy for Energy

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Introduction

New Zealand has renewable energy resources that are the envy of the world. Our hydro, wind, and geothermal resources mean we are ideally placed to build an energy system that is affordable, sustainable, and reliable.

The challenge is to transition toward a fully sustainable energy system that weans us off greenhouse-gas emitting energy sources such as imported oil. To that end, Labour has set these goals:

- 90% of our electricity to be generated from renewable sources by 2025
- carbon neutrality in electricity by 2025
- carbon neutrality in the whole energy sector by 2040.

These goals are achievable if we build on foundations laid in the past decade. New Zealand has ratified the international agreement on climate change, the Kyoto Protocol, so we are committed to renewable energy in order to reduce greenhouse gas emissions.

Two energy efficiency strategies and the New Zealand Energy Strategy provide direction and certainty for the sector and have assisted the rapid establishment and growth of wind energy.

An Emissions Trading Scheme and an obligation to sell biofuels will spur sustainable activity in every corner of the economy, while the 15-fold increase in public transport spending, electrifying Auckland rail, and buying back KiwiRail have created the basis of a truly sustainable transport network.

New Zealand does have extensive petroleum resources and these cannot be ignored in a world still heavily dependent on oil. Petroleum exploration has increased, and new oil and gas fields developed with potential for more.

Energy use in our homes and commercial buildings will be cut substantially by applying minimum energy performance standards (MEPS) to a wide range of electrical appliances and through new and more rigorous building code insulation standards.

New Zealand is on the brink of its biggest-ever investment in household energy efficiency. As part of the phasing in of the Emissions Trading Scheme, a massive household energy efficiency fund will be rolled out from 2009, one year before electricity enters the Emissions Trading Scheme.

Current challenges

Globally, energy is becoming more expensive. Demand for oil is increasing and the price of oil has increased along with it. The time of 'peak oil' – when oil supplies have reached a peak and are expected to dwindle thereafter – is uncertain but predictions range from being imminent to the next decade or two. Given our dependence on oil, any of these predictions gives us little time.

The use of traditional fossil fuel energy will need to be limited anyway, as countries strive to reduce the carbon emissions that cause climate change. The Kyoto Protocol puts a price on those emissions.

Affordability and Security of Supply

Labour will put in place measures to maintain **security of electricity supply** and **affordable electricity and transport** for New Zealanders.

We are increasing sustainable electricity generation, investing heavily in energy efficiency, and introducing biofuels. Efficiency across transport modes including rail, shipping, public transport, and cars is another priority.

The Electricity Commission is currently reviewing both retail and wholesale electricity markets. The Commerce Commission is also investigating the wholesale and retail electricity markets, to determine whether market power exists, or is being exercised.

Labour will work with relevant agencies to make **any changes necessary to ensure more competition in the electricity** market prior to winter 2009.

It is also essential that New Zealand's homes and businesses have a secure supply of electricity. A large part of our existing electricity generation has come from renewable hydro stations – but the limitations of lake storage mean that sometimes supply is put under strain during dry years.

Nevertheless, major energy shortages have been avoided, despite some record dry years. Rainfall in 2008 in the southern hydro lakes region was the lowest since 1947, yet better information and good industry co-ordination saw a tight situation well managed. Setting up the Electricity Commission has ensured we don't have a repeat of the failings of the deregulated market of the 1990's.

Labour will work to ensure a secure energy supply that provides for the country's energy needs now and into the future while balancing the impact on the environment through increased use of renewable sources of energy.

Diversity of supply is an important means of ensuring cheap, reliable electricity is always available. This means complementing our existing hydro, wind and geothermal electricity generation capacity with new technologies – including utilising New Zealand's abundant and renewable marine and biomass resources.

Currently plenty of renewable electricity generation is being built - we need about 130 megawatts to keep up with projected demand and there is 400 MW under construction right now, with around 1400 MW on the drawing board for the next four years.

The building of new fossil-fuelled power stations to provide baseload electricity has been restricted until 2018. This closes off the option of burning fossil fuels to generate electricity, and gives further impetus to the development of renewable resources.

New structures to incorporate renewable energy

The volumes of electricity produced by hydro and fossil fuel thermal power stations are highly controllable. This assists our electricity system in matching supply with demand. Moving to renewable sources of energy may require new infrastructure that can manage the variability of solar and wind power.

For example, in the future, homeowners might one day generate more electricity through their own wind turbines or solar panels than they can use. But there is currently no system in place to allow smaller energy producers to sell this electricity back to the national grid. We will also need to create a better system for longer term storage of renewable energy such as wind and solar.

Labour will investigate and develop **new electricity system structures** that can deal with higher proportions of **variable renewable energy sources** such as wind and solar power.

Small Scale Renewable Electricity Generation

Electricity is vital to the functioning of any house, workplace or community. Labour understands that rural communities face specific difficulties in terms of electricity prices due to their isolation and distributors' cost at maintaining infrastructure.

Because of the high cost in maintaining supply to the most isolated areas, it is sometimes not economic for a distributor to do so. In our view, distributors have a responsibility to ensure that those people currently on the grid have their supply maintained.

Labour will ensure that the **obligation for suppliers and distributors to continue supply to customers** under section 62 of the Electricity Act, does not end on its original expiry date of 2013.

We will ensure that the obligation will be an enduring one with no end date, and we have introduced an Electricity (Continuance of Supply) Amendment Bill to ensure this.

We recognise that for some customers and communities it may make little sense to remain on the grid, and that local sources of generation are more appropriate. In some situations, it is cheaper to build these sources than to maintain existing electricity lines.

The bill that would ensure security of supply after 2013 also allows those remote communities to agree with lines companies to build local generation instead. This cannot be forced on the local community, and will happen only where the community (normally with a subsidy from the lines company) agrees to the new alternative arrangement.

Labour will **promote small scale renewable electricity generation** for rural and isolated locations.

Labour will work in partnership with rural communities, distributors and generators to identify and promote opportunities for localised alternative sources of generation, and the Electricity (Continuance of Supply) Amendment Bill promotes this. We will also investigate other opportunities to support investment in renewable generation that is not connected to the main distribution network.

Energy Efficiency

Labour is committed to energy efficiency and conservation so that less electricity is wasted.

In the past, the automatic response to our growing demand for energy has been to build more generation. A cornerstone of our New Zealand Energy Strategy, however, is to invest in improved energy efficiency where this is cheaper than the cost of producing extra energy or extra energy infrastructure. An assessment of these costs should include environmental costs. Investments in household energy efficiency, so that households consume less energy, are an example of this approach at work.

Labour will further entrench the **energy efficiency principle in all sectors**.

The Energy Strategy also goes beyond electricity generation. For instance, our vehicle fuel efficiency measures are designed to reduce fuel consumption so that less fossil-fuelled energy is required for New Zealand's vehicle fleet.

Energy efficiency at home

Labour now intends a major extension to the home insulation programme.

We have brought in energy efficiency measures, such as insulating existing homes known as 'retrofitting'. We are scaling up this programme to ensure New Zealanders have warm, dry homes. These measures are timed with introduction of the Emissions Trading Scheme in mind.

Ten years ago… insulation standards were weak and few, if any houses built before 1978 had adequate insulation.
Today… insulation standards have been strengthened and, through the insulation retrofit programme, 42,000 New Zealand families now live in warmer, healthier, and more energy efficient homes.
Ten years from now… hundreds of thousands more houses in New Zealand will be insulated to the recommended standard to help households stay dry, healthy and warm.

Labour is prioritising the **insulation of state houses** so that the remaining homes without insulation are retrofitted within 5 years.

Labour recognises it is important the government sets an example for other landlords to follow. That is why the 2008 Budget provided for the state house insulation programme to be significantly accelerated, improving tenant health and reducing power bills.

The new timeframe will see 21,000 state houses insulated within five years. Almost 12 homes a day will be insulated, doubling the pace of Housing New Zealand's previous Energy Efficiency Retrofit campaign which began in 2001.

Many homes in the South Island, where it is colder, have already been insulated. Houses in Auckland, Wellington and Manawatu, where there are significant concentrations of state housing, will be targeted next.

A retrofit includes insulation of floors and ceilings, hot water cylinder wraps and "lagging" around hot water pipes. Efficient heaters will also be installed where appropriate.

With the New Zealand economy clearly facing challenges from the global financial turbulence and economic slowdown, we have begun work on an economic stimulus package which will be implemented if the projected impacts on the New Zealand economy remain as they appear to be at the moment. The state housing insulation programme could have a role to play in this economic stimulus package.

Labour is prepared to **bring forward the current spending programme** on home retrofitting, upgrading the State Housing stock, and planned development on Housing New Zealand land, as part of the economic stimulus package to be presented to Parliament in December.

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We have also announced a one billion-dollar fund over 15 years to assist families to insulate their homes and improve the efficiency of their heating.

This fund is the largest-ever investment in household energy efficiency in New Zealand's history. It is not just a one-off cut to a household's power bills but a long-term plan to reduce the amount of electricity every household uses. The fund will start in 2009, a year ahead of the electricity sector entering the Emissions Trading Scheme.

The one-billion dollar fund to help New Zealanders make the most efficient use of energy will be targeted according to energy needs and income. Spread over 15 years, it will take private household energy efficiency to a whole new level.

It will not only save energy, it will also reduce dampness in homes and the health problems that causes. For sufferers of respiratory diseases such as asthma, that means fewer visits to the doctor, fewer hospital admissions and fewer days off school or work.

This is a great example of how actions to tackle climate change can benefit us in other ways. More New Zealanders than ever before can enjoy the benefits of a well-insulated home and efficient heating while at the same time lessening their impact on the environment.

This programme is relatively labour-intensive and people can be trained for the work in a relatively short time period. This makes the work ideal for generating work around the country. Improving the energy efficiency of our housing stock also contributes to the sustainability of our nation overall. It not only reduces demand for energy, but also it improves health outcomes.

Labour will bring forward access to the **$1 billion home energy efficiency fund** so that schemes for retrofitting older houses can be expanded in those areas where unemployment is emerging.

Electricity enters the Emissions Trading Scheme in 2010. Labour plans to compensate for any price rises that may result from that, bearing in mind that boosting energy efficiency reduces electricity use forever.

Labour will deliver to all households in 2010 **a one-off electricity rebate** to assist with power bills, with those receiving benefits, superannuation and Working for Families tax credits also receiving a **targeted one-off cash payment**.

The financial assistance will be broadly equivalent to the total amount of the increased electricity costs faced by the household sector in 2010.

Labour will **install 15,000 - 20,000 additional solar water heating** systems by 2010.

New Zealand has abundant solar energy resources. Heating water can account for up to 40 percent of a household's electricity bill and three-quarters of that can be saved by installing a solar water heating system. Labour has increased the grant for installing a solar water heating system to $1000.

Energy efficiency in businesses

We believe that businesses can be competitive and more productive by adopting energy efficiency and conservation measures and increasing their uptake of renewable energy. In doing so they can better manage energy and emissions prices and become more profitable.

Labour will continue to helping businesses to save energy, and money, through information and incentives to **increase the uptake of cost effective energy management practices and technologies**.

A Drive towards Sustainable Transport

Forty four percent of all the energy consumed in New Zealand is used to transport people and products. Energy and climate change policies overlap in the dual need to reduce energy use and greenhouse gas emissions.

The foundations for a sustainable transport network have been laid this decade with a 15-fold increase in public transport spending, electrifying Auckland rail, and buying back KiwiRail.

Labour will continue to increase funding for **public transport** and energy-efficient freight transport modes such as **rail**.

This will help to make transport more affordable, reduce greenhouse gas emissions and reduce oil imports. It will not only reduce the cost of transport but decrease our dependence on imported fuel which in turn reduces our international trade deficit.

Lifting the use of indigenous energy resources for transport through, for example, locally produced biofuels, will have positive spin-offs throughout the economy. An obligation to sell biofuels at the pump took effect from 1 October 2008. Introducing sustainable biofuel blends of petrol and diesel will both reduce our dependence on oil and cut our greenhouse gas emissions.

Electric Cars and Other Vehicles

An exciting initiative in transport is the development of electric cars. Electric vehicles have significant potential because electric motors convert electricity to energy much more efficiently than the combustion engine converts petrol or diesel.

Our ambition to be among the leading countries to widely deploy electric vehicles and plug-in hybrids marks the beginnings of a new era of energy independence and low emissions in transport.

Labour intends to prepare the way for a large-scale roll-out of electric vehicles. We have already established a vehicle emissions reduction group focussing on electric vehicles.

We expect to see electric cars starting to arrive and being used in New Zealand between 2010 and 2015. The numbers will grow slowly at the start, but volumes will increase as supply increases and costs decrease. As production of electric vehicles ramps up internationally, the cost of the electric battery, which is the main driver of cost, can be expected to reduce markedly, and prices will come down.

Labour will also build on our clean green electricity generation to develop partnerships with electric vehicle manufacturers. While it will be up to industry to develop electric vehicle technology, there is a role for government in establishing an environment that facilitates its uptake.

Labour will plan for the introduction of a nationwide infrastructure to **recharge electric vehicles**.

Electric vehicles used for local travel can be re-charged from the owner's home. Vehicles used for longer distances, however, will need a supporting infrastructure of 'charging stations' to enable recharging.

We will need to work through a variety of issues about the public infrastructure required for people to charge their vehicles during a journey. The cost of the technology is likely to be expensive, especially for the sort of high voltage facilities that would allow shorter charging times. Questions about how these facilities will be funded, where they will be located and relevant health and safety issues will also need to be addressed.

Major centres with an interest in electric vehicles such as California, London and Tokyo are likely to confront many of these challenges first and we will be able to learn from their experience. New Zealand could, however, be in a position to be the first country to set up a nationwide infrastructure for charging electric vehicles.

Oil Resources: exploration and sale during transition

The measures set out in this policy will lessen our dependence on petroleum imports and make New Zealand more resilient to international oil price shocks. Kiwi consumers will enjoy lower transport costs.

Today, however, oil remains the overwhelmingly dominant source of energy in the transport sector.

Labour will continue to **develop contingency plans for short- to medium-term management** of Peak Conventional Oil.

The world is in transition to a post-oil future. Developing our resources should not slow our internal transition but oil will continue to have an important role for some time to come. New Zealand has valuable resources which ought to be developed to our economic advantage.

Labour will encourage exploration and **ensure New Zealand benefits from our oil resources**.