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# EMISSIONS TRADING SCHEME REVIEW

## SUBMISSION TO THE EMISSIONS TRADING SCHEME REVIEW SELECT COMMITTEE

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### BACKGROUND TO IPENZ

The Institution of Professional Engineers New Zealand (IPENZ) is the lead national professional body representing the engineering profession in New Zealand. It has approximately 10,000 Members, including a cross-section from engineering students to practicing engineers to senior Members in positions of responsibility in business. IPENZ is non-aligned and seeks to contribute to the community in matters of national interest giving a learned view on important issues, independent of any commercial interest.

### EXECUTIVE SUMMARY

- Due to the potential impact on the economy, exacerbated by the economic recession, the Emissions Trading Scheme (ETS) should not be introduced at this point in time. New Zealand should defer implementing an ETS at least until after the Copenhagen conference in December 2009.
- IPENZ believes that further consideration needs to be given to the relative merits of an ETS versus a carbon or energy tax as the actual costs to the NZ economy of a tax are able to be estimated more reliably in contrast to the costs of an ETS. Also with a carbon tax most of the revenue generated could be allocated to funding genuine renewable energy or other emissions reductions projects here in New Zealand.
- If the government still decides to continue with an ETS, consideration could be given to a price cap or fixing the price of emissions, with the government covering the cost differential, or possibly isolating the New Zealand ETS.
- In the meantime, there are a range of other mitigation initiatives that New Zealand can undertake, particularly by promoting technology. These include supporting the current emission reduction initiatives using existing technology. In addition new technologies can be promoted by setting challenging minimum standards for vehicles, electricity users and building stock, placing a high priority on research and technology programmes tailored to New Zealand's needs, identifying and supporting leading-edge researchers, taking part in international co-operation initiatives, and ensuring New Zealand has the skill base to deliver technical solutions.

- The promotion of technology-based solutions needs to be supported by the reduction of barriers to innovation – further investment in research, increasing access to capital and reducing skill shortages.
- For adaptation there needs to be a co-ordinated approach to our climate change strategies. To ensure information sharing, consistent advice, cross agency consensus on approaches, a collaborative response and leadership, IPENZ proposes a strategic and high-level resilience to climate change project.
- More research is needed, not only on localised climate change, but also on the localised impacts of climate change on communities and infrastructure. This is important to ensure that the major investments in local mitigation measures are both cost effective and appropriately directed.

## **SUBMISSION**

### **TERMS OF REFERENCE ITEM – IMPACT ON THE NEW ZEALAND ECONOMY**

In the submission to the Finance and Expenditure Select Committee in February 2008, IPENZ stated that the New Zealand emissions trading scheme (ETS), its early introduction, and our ambition to lead the world and be the first country to tackle agricultural emissions, placed the New Zealand economy at a considerable and unnecessary risk.

It was, and still is, IPENZ's view that New Zealand should not take the international lead, but be a fast follower and move forward only as more is known about international policy responses. The rate of introduction and the targets we set for ourselves should depend on the progress our trading partners and other countries make to reduce emissions, the emergence of new technology and the changes in international agreements and commitments.

By its very nature, the future price of emissions is a great unknown, due to profound uncertainties about the international regulatory regime, technology developments and global economic growth and income distribution. These uncertainties of future prices pose considerable potential consequences for the economy.

In view of the current recession, our earlier comments on the impact on the economy take on a greater significance. We note that a report by the New Zealand Institute of Economic Research in April 2008 indicated that the ETS, as proposed at that stage, would result in the loss of 20,000 jobs by 2012. When this figure is added to the Treasury's December forecasts for 5.4 per cent unemployment in 2012 (up from 4.2 per cent in September 2008), it adds a further one per cent unemployment, which will leave 140,000 New Zealanders out of a job. Thus, the introduction of an ETS has a significant impact on unemployment, relative to the impacts of the recession.

In addition, the Treasury forecasts a lower demand from overseas customers, and consequently, fewer exports, lower profitability, reduced corporate tax and cutbacks by firms in investment – all of which will be exacerbated by additional costs imposed on firms by the proposed ETS.

It is noted that the National Party policy on the ETS sets out principles that include striking a balance between environmental and economic interests, New Zealand not being a world leader, closer alignment to Australia's ETS scheme, and being responsive to international negotiations and the positions of foreign competitors. IPENZ supports these principles.

Therefore, IPENZ believes that the ETS should not be introduced at this point in time. Our recommendation relating to timing is discussed under the heading “Terms of Reference Item – Timing of the Introduction of Any New Zealand Measures”.

## **TERMS OF REFERENCE ITEM – THE RELATIVE MERITS OF MITIGATION OR ADAPTATION TO CLIMATE CHANGE**

IPENZ believes that New Zealand needs to both mitigate climate change and adapt to climate change – there is little benefit in weighing up the relative merits of the two.

Regarding **mitigation**, New Zealand needs to reduce emissions as a responsible global citizen and this makes good business sense as an exporter into international markets. Arguments remain over the science of climate change, and as a result, there is no agreement that emission reduction can be classified as mitigation. Irrespective of these arguments, following the precautionary principle, there is also a wide and growing international acceptance that action to reduce emissions is warranted.

While IPENZ generally supports the mitigation mechanism of pricing to incentivise emission reductions, such as an ETS or a carbon tax, our concern is one of timing. In the meantime there are alternatives.

Currently there are a range of initiatives using **existing technologies** that are underway to reduce emissions and these need the continuing support of government. These include:

- The promotion of public transport, walking and cycling, and travel demand management strategies to reduce private vehicle travel
- The support of energy efficiency measures including home insulation
- Promote low emissions electricity generation including renewables
- Support sustainable urban communities initiatives and sound urban design
- Reducing emissions from waste management activities and landfills

**Technology improvements** should also be pursued to reduce emissions. Investing in new technology does not necessarily require the incentive of a pricing mechanism such as the ETS, and can be promoted by the government in its own right.

The sectors that will benefit most from technology improvements are the agricultural, forestry and biotechnology sectors, which will be at the forefront of the development of new carbon-friendly technologies.

In addition, emphasis needs to be placed on research and development (R&D). New renewable energy technologies that will benefit from this R&D emphasis are alternative energy sources such as wind power, marine energy, new solar technology, deep geothermal, and carbon capture and storage. There are already low-carbon technologies and practices that can make a difference, such as vehicle technologies, second-generation biofuels, clean fossil fuels and hydrogen.

It is clear that no single technology will make a sufficient difference on its own. Pursuing a range of technologies will increase the opportunities and decrease the risks.

IPENZ believes that several approaches can give greater emphasis to mitigation mechanisms that promote technology-based solutions.

- Continue to set tight minimum energy performance standards to promote available cost-effective technology for vehicles, electricity users and building stock. Increase

these periodically to encourage technological innovation and energy efficiency, and the uptake of efficient technologies.

- Support assessments of potential emission reductions in various industries, which will highlight the most attractive candidates for technology-based solutions.
- Further invest in or incentivise research that determines how overseas technology can be adapted to achieve maximum benefit in our local conditions. These initiatives would benefit the country no matter what the technology future holds. The government should also support research that explores opportunities to conserve New Zealand's unique energy resources.
- Prioritise research and development resources in areas where emission reductions will have the greatest benefit – clearly agriculture, transport and energy generation are the areas to focus on.
- Provide financial support to implement technology improvements.
- Identify and support leading-edge researchers with the capability to contribute to breakthrough technologies in a global sense.
- Co-operate on research and technology development with other nations that have a high potential for or dependence on energy recovery from fluid flows (wind, tidal flows, geothermal).

The promotion of technology-based solutions needs to be supported by **the reduction of barriers to innovation**. These include the following:

- More research – the government should consider reinstating the tax credit on R&D for research on emission reduction technologies. New Zealand's investment in research and development, both by industry and government, as a percent of GDP, is in the lower third of OECD countries.
- Increase access to capital – financial investment in technology-based solutions needs to be attractive to private sector capital. With the decline in the Official Cash Rate, and the lower cost of capital, emission reduction and energy efficiency projects are now more viable. To create more investment opportunities, innovative ideas based on sound R&D need to be supported and encouraged with a particular emphasis on investment in technologies and industries that have the greatest potential for emission reductions.
- Reduce skill shortages – investment in addressing the considerable science, engineering and technology skill shortages in New Zealand. Without creating a pool of technicians, advanced trades people, engineers, technologists and experienced technical managers, it will be difficult to develop innovative solutions.

We note that the National Party policy on the ETS favours incentivising new technologies. Two examples provided in the policy are exempting electric vehicles from Road User Charges, and promoting solar water and heat pump technologies. As discussed above, IPENZ supports incentivising these forms of technology-based emission reducing initiatives.

Regarding **adaptation**, the primary thrust of our strategy should aim to build resilience to climate change, so we can both manage adverse impacts and take advantage of the opportunities. An essential part of the strategy will be to understand the nature, magnitude and probability of the possible impacts, and as information becomes available and analysis improves, distinguishing those impacts from others that we would have expected to occur anyway. In terms of the potential impacts of changing climate and the engineering dimension, hazards that need examining include floods, rising sea

levels, changes in climate patterns (droughts, incidence of rainfall), storm events and erosion.

It may not be practical to isolate our communities from such hazards. Instead, we may need to design measures that allow our communities to live with hazards and rapidly recover. We need good quality analysis so that we make good choices. Where investment is needed, we have to ensure that the investment is timely and well directed.

At present, government advice on infrastructure policy and performance is largely provided on a sector specific basis with responsibilities spread across many government agencies, State Owned Enterprises, local government and utility companies. The new challenge from changing climate calls for a comprehensive and co-ordinated response to manage the hazards and to obtain agreement on socially and economically acceptable levels of risk across society.

There needs to be a co-ordinated approach to our climate change strategies. To ensure information sharing, consistent advice, cross agency consensus on approaches, a collaborative response, and leadership, IPENZ proposes **a resilience to climate change project**. This will develop a national strategic approach to dealing with climate change, in a resilient and cost-effective manner including emission mitigation, and understanding and living with the impacts.

#### **TERMS OF REFERENCE ITEM – INCREASING RESOURCES FOR NEW ZEALAND SPECIFIC CLIMATE CHANGE RESEARCH**

The impacts of climate change in New Zealand are based on the Intergovernmental Panel on Climate Change's Fourth Assessment Report 2007 downscaled for New Zealand, since the global average does not necessarily apply to a given location in New Zealand. However, the science is very uncertain. As well as the uncertainties in global greenhouse gas emissions and concentrations, local and regional uncertainties also arise because of prediction differences between different regional climate models. These uncertainties relate to the risks of high rainfall, sea level rises and strong winds, potentially acting in unison.

Because of these uncertainties, the Ministry for the Environment is appropriately promoting a risk management approach – evaluate mitigation measures against the probability of the event and its consequences. Protecting communities and infrastructure from the impacts of climate change and natural hazards can involve major costs, and the better the information on regional and local risks, the more cost effective the mitigation measures can be. Such mitigation measures include stop banks, seawalls, greater capacity in stormwater systems, and increased water storage.

An example of a localised impact analysis is at Ohope in the Bay of Plenty, where it is argued that despite rising sea levels, Ohope is safe from sea encroachment because of the uplift caused by the Pacific Plate, and river and coastal sediment mechanisms. (Kear, 2006).

IPENZ believes that more research is needed, not only on localised climate change, but also on the localised impacts of climate change on communities and infrastructure. This is important to reduce the local climatic uncertainties and ensure major investments in local mitigation measures are cost effective.

## **TERMS OF REFERENCE ITEM – THE RELATIVE MERITS OF AN EMISSIONS TRADING SCHEME OR A TAX ON CARBON OR ENERGY**

IPENZ believes that further consideration needs to be given to the relative merits of an ETS versus a carbon or energy tax for three reasons

- The actual costs of a tax can be determined in advance and budgeted for, whereas the cost of implementing an ETS cannot be so determined because of the likely wide fluctuations with time in the international asking price for carbon credits.
- Most of the revenue generated by an ETS (after deducting commissions charged by carbon traders) will be remitted overseas for the purchase of emissions credits, whereas most of the revenue generated by a carbon or energy tax could, if the Government so chose, be allocated to funding genuine renewable energy or other emissions reductions projects here in New Zealand.
- With an ETS, sending the money overseas to purchase emissions credits (on a "one-off" annual basis) is a temporary palliative only for our shortfall in meeting emissions reduction targets. On the other hand, effective, locally implemented emissions reduction projects funded by a carbon or energy tax will have an ongoing benefit in achieving emissions reductions every year for many years to come.

If the government still decides to continue with an ETS, consideration should be given to limiting the exposure of New Zealand exporters to the level and volatility of international prices. This would give confidence and certainty to business capital investment, and investments in emission reducing technology.

The government can limit exporters' exposure through a price cap or by fixing the price. This could be achieved by isolating New Zealand's trading scheme or by the government buying international emission units and selling them to New Zealand firms at the level of the price cap or the fixed price and then absorbing the cost differential.

However, while providing a price incentive for reducing emissions and addressing the volatility issue, this mechanism builds an additional cost element into our export prices and may still leave New Zealand exporters at a disadvantage in international markets.

## **TERMS OF REFERENCE ITEM – TIMING OF THE INTRODUCTION OF ANY NEW ZEALAND MEASURES**

The Kyoto Protocol to prevent climate changes and global warming runs out in 2012. At the conference in Copenhagen in December 2009, the parties of the United Nations Framework Convention on Climate Change will meet to develop a new Copenhagen Protocol.

Following the recent Poznan climate change talks, Labour Spokesperson on Energy and Climate Change, Charles Chauvel, reports that it will be some time before the array of domestic emissions trading regimes in developed-world countries can link into a global scheme. Given the time it will take to implement the United States and Australian responses, he believes the Copenhagen Conference is likely to produce a series of "agreements to agree" rather than a comprehensive treaty.

IPENZ believes that in view of the slowly evolving international approaches to emissions trading schemes, the limited prospects for a comprehensive Copenhagen Protocol, and the international economic climate, New Zealand should defer its implementation of the ETS, at least until after the Copenhagen conference.

## CONCLUSION

IPENZ appreciates the opportunity to make this submission and is able to provide further clarification if required. IPENZ does not wish to be heard in support of our submission.

## REFERENCES

Kear David, 2006, *Ohope – Safe From the Sea*

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