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"Kyoto plan bodes ill for growth"

The Employers and Manufacturer's Association (Northern) have sent a circular to their members and put out a press release (which we give in full on page 24), using the heading above. They suggest three questions that members should ask Energy Minister Pete Hodgson:

- *What are the costs and other implications of New Zealand ratifying the Kyoto Protocol?*
- *Why is NZ ratifying the protocol before our trading partners?*
- *What benefits are there for NZ to ratify the protocol and how have these been measured?*

This negative approach also runs through the press release, revealing a narrow world-view, diametrically opposed to the efficient, innovative, clean-green image that NZ business likes to project. Some assumptions are stated specifically:

- *Our standard of living in NZ is dependent to an unusual degree on the emission of greenhouse gases and relatively low cost energy.*
- The cost of ratifying the protocol will be, *anywhere from $ 250 million (the first Government studies) to $ 20 billion (from a study by Solid Energy Ltd).*
- Ratifying before our *"trading competitor countries"* would be unreasonable.

We are reminded of Amory Lovins' phrase: "In God we trust: all others bring evidence."

Other assumptions are implied:

- Marginal costs in the short-term are more important than major costs in the long-term.
- Costs will massively outweigh benefits: there are no business opportunities in the Kyoto Protocol.
- What is good for the EMA is good for NZ.

This is unworthy of an industry association. Do the EMA realise that in the last decade, the rate of increase of NZ's CO_2 emissions has been half again as high as the US? Or that those emissions are a cost? Or that NZ now has a statutory strategy for energy efficiency and conservation? (www.eeca.govt.nz)

They show gross ignorance of the Kyoto ratification process and the climate change web site: (www.climatechange.govt.nz).

A report on that site summarises a series of scenarios modeling the effect on New Zealand of ratification, and suggests that GNP in 2010 would be 0.05 – 0.52% greater than without ratification, but with GDP down by 0.08 – 0.26% (the difference comes from carbon sink profits). But the report points out the unknowns:

- "The policies to be used in NZ's domestic greenhouse gas management programme.
- "The policies that other developed countries would put into place as Parties to the Protocol.
- "The policies that would be put in place by developed countries that did not ratify the Protocol (such as the US), but remained Parties to the Framework Convention.
- "The actions of developing countries (for example, what decisions they would make on capital investment, including the role of the Clean Development Mechanism)."

In practice there will be other responses, from individuals, businesses and governments, making the reality more positive than the modelling. Energy savings will in practice be cumulative, bringing potentially very useful gains by 2010. The indications—there are no certainties in either ratification or business-as-usual—are that real benefits will come from ratification.

A few high energy-use industries will be disadvantaged, and this will be the EMA's real point. Some kind of policy support for these industries may be reasonable, but only if there is benefit to the economy as a whole. In other cases they must be expected to pay the going rate. The days of business-as-usual being its own justification have now gone, if they ever existed.

So why press ahead now? Another recent report summarises for policy makers the work of the UN's Intergovernmental Panel on Climate Change. It is the best, information available, overwhelmingly convincing—and again is on the web, at www.ipcc.ch. The IPCC show that there is now a good fit between atmospheric modelling and observation for the period 1860 – 2000, with an average temperature rise of 0.6˚C in the 20th century. For the 21st century the IPCC predict a range of temperature increase, of 1.4 – 5.8˚C. About half of this range is due to uncertainties in the human response to warming.

We are committed to human-induced climate change continuing for at least a century, and accelerating through much or all of that time. The insurance industry fear world-wide collapse before then, because of the increasing size and frequency of natural disasters. The scale and complexity of the risks is illustrated by articles on pages 17 and 22: part of the Antarctic is warming much faster than expected, and there is a possibility that NW Europe will face not warming but an ice age—caused by climate instability. The problem has been known for a decade, although never in such detail. Now we must decide.

As Michael Zammit Cutajar, the CoP Executive Secretary, put it, "The Marrakech results send a clear signal to business, local governments and the general public that climate-friendly products, services, and activities will be rewarded by consumers and national policies alike."

What is so unreasonable about that?

(See also the articles on pages 6 – 10 EW)

Climate change consultation

The Government is running a nationwide consultation on New Zealand's response to climate change. A consultation paper, *Ensuring our Future*, a series of briefing sheets and a paper consultation form have been widely circulated. Further information is available from: 0800 927 646 or www.climatechange.govt.nz

The closing date for Stage 1 submissions is **21 December 2001**, and an e-mail application form is available from:
consultation@climatechange.govt.nz

Pete Hodgson, Convenor of the Ministerial Group on Climate Change, said, "This process gives New Zealanders the opportunity to express their views on climate change and the international efforts to tackle it by reducing greenhouse gas emissions."
"The Government has stated its intention to ratify the Kyoto Protocol on climate change in September 2002 but we will be listening closely to the views of New Zealanders before making a formal decision on ratification next year."
"We are providing comprehensive information on climate change and policy options to ensure we have a public debate that is as well-informed as possible," said Hodgson. "The issues are complex and very wide-ranging and it is very important that people are able to take a broad view of New Zealand's interests, rather than focusing on narrow sectoral concerns or misconceptions."

Further consultation early next year will follow Government decisions on preferred domestic policies to meet New Zealand's climate change obligations. This will inform a second climate change Bill to be introduced to Parliament by 2003.

The Sustainable Energy Forum

The Forum urges members to make a submission to the NZ Climate Change Programme. A simple message will be enough, supporting the proposals and pressing for the widest practicable use of renewable energy and energy conservation,.

Submissions may be made by e-mail or letter. In either case a form is available.

Energy policy pressures on the US

Edited versions of four recent articles on the energy pressures facing the Bush Administration in their rejection of the Kyoto Protocol

IPCC chairman expects US to revert to the Kyoto Protocol Kyodo News

The head of a UN panel on climate change says he expects the US to revert to the 1997 Kyoto Protocol, due to industrial pressure. Robert Watson, chairman of the Intergovernmental Panel on Climate Change (IPCC), said, "I could envision that the US will sooner or later be part of the international debate on climate because industries in the US will demand it."

Watson said major US companies such as IBM have already committed to reducing greenhouse gas emissions voluntarily. While other countries lead action to fight global warming, US politicians will come to think, "Why should we be outside the international regime?... Some people have argued that President Bush now needs the rest of the world to combat terrorism and therefore the rest of the world needs President Bush to help combat greenhouse gas emissions."

"economic impact will be minimal if countries make use of domestic as well as international emissions trading mechanisms"

Watson pointed out that the economic impact of the Kyoto Protocol will be minimal if countries make use of domestic as well as international emissions trading mechanisms and that it would be advantageous for industries to develop technologies to curb global warming at an early stage.

"Japan, brilliantly in my opinion, seized the opportunity in 1973, at the time of the oil crisis, to sell... fuel-efficient cars to the rest of the world. It was the time they penetrated the market in America," he said. "'So I would say to American industries, 'Do you want German or Japanese industries to produce energy technology for the future, or do you want to be part of the revolution?'" Watson stressed the need to raise the awareness of the US public, as well as politicians, of the seriousness of global warming and to demonstrate economically that tackling the issue, "will not be destructive to the US." The scientist said developing countries cannot avoid obligations to cut their greenhouse gas emissions in the future and proposed that countries such as China and India strike a deal with industrialized nations on their future commitment, in return for financial and technological aid. Watson said he expects those developing countries to agree in the next year or two to have obligations, although it will likely take another 10 to 15 years before they actually begin seriously committing themselves to cutting greenhouse gas emissions.

Canada rejects Bush's vision of energy policy Financial Post

Canada will refuse to take part in any discussions about a continental energy policy, says Ralph Goodale, Canada's Natural Resources Minister. Canada is not interested in President George Bush's proposal for a continental policy aimed at reducing dependence on energy from unstable regions such as the Middle East.

"I would underscore, whether it's bilaterally with Mexico or the US, or tri-laterally with both of them, that Canada is not engaged in any discussion about a so-called North American energy policy," said Goodale. "We are not interested in policy subordination and I think that's an extremely important distinction."

In the wake of the terrorist attack on the US, Ottawa is willing to co-operate on a range of security and military issues, but is wary of appearing to give up any sovereignty; for that reason, it wants to avoid policy descriptions termed continental or harmonized when it comes to working with the US. But Goodale said there will be increased demand for energy from the US and Canada is happy to participate. "The further expansion of North American energy markets can certainly hold very significant economic development opportunities for us... But we will insist that as that development opportunity is pursued, that it is pursued on Canadian terms and conditions with full respect for Canadian needs and priorities."

Even a series of acquisitions of Canadian energy companies by American business interests is not a concern. "If there were investment restrictions erected then you would find the investment would go elsewhere and indeed the Canadian energy industry would atrophy," Goodale said.

US may return to Kyoto Protocol after 2003
Kyodo News

The US may begin considering returning to the Kyoto Protocol around 2003, when Russia is proposing to host a global climate change conference. Michael Grubb, climate change professor at London's Imperial College told a meeting in Tokyo that he expects Washington to be pressured to "find a way of compromising," in such forms as "Moscow amendments."

At the G-8 summit in Genoa in July, Russia proposed convening a global climate change conference in 2003 with the participation of governments, business and science as well as representatives of civil society. Grubb said Moscow is discussing a plan to host the ninth session of the Conference of the Parties (CoP-9) to the 1992 UN Framework Convention on Climate Change, a year after the crucial World Summit on Sustainable Development to be held in Johannesburg in September next year. He said the summit will provide an "important political window of opportunity" for the protocol's entry into force. Parties to the convention have set the deadline for bringing the protocol into force at the end of 2002.

Grubb said that if other countries can demonstrate that participation in the protocol will increase their benefits by promoting development of new technology, the US might be alarmed and begin to consider reverting to the accord. The professor said that in order to bring the US back to the Kyoto framework, it is important to show to the country that, "'staying outside would require more cost" in tackling global warming.

Grubb pointed out that the arrival of a new US administration and the start of discussions on greenhouse gas emission cuts beyond the first commitment period (2008 – 2012) could become turning points in US climate. The debate on the second commitment period is expected by 2005.

US could have 20% of energy from renewables by 2020
Edie

The US could viably meet at least 20% of its energy needs through renewables by 2020, according to an investigation by a group of research and energy organisations. A new report, 'Clean Energy Blueprint,' by the Union of Concerned Scientists, the American Council for an Energy Efficient Economy and the research organisation, the Tellus Institute, has shown that renewable energy could solve a variety of US energy problems. The report makes many energy policy suggestions. It states that renewable energy can meet 20% of US energy needs in less than 20 years, saving US$ 105 billion/yr, or $ 350/yr for a typical family by then.

This high level of renewable generation would be achieved through a 'renewable portfolio standard,' which would require utilities to increase non-hydropower renewable energy from today's level of around 2% to 20% by 2020. "Renewable portfolio standards have been a tremendous success in several states, including in President Bush's home state of Texas," said report author Alan Nogee, Director of the Clean Energy Program at the Union of Concerned Scientists. "If there truly is commitment to creating energy security in the US, enacting federal renewable standards will reduce the vulnerability of our energy system to disruption. It is the smart, affordable and effective option... This report shows that there are alternative solutions to the erratic prices and supply of commodities like natural gas," said Nogee. "Adopting a renewable energy standard would diversify electricity generation, as well as reduce air pollution and greenhouse gas emissions. It's time for Congress to follow 12 states and adopt this standard."

"I believe the US will rethink its position before we reach the beginning of the protocol's first commitment period in 2008."
Pete Hodgson, NZ Minister of Energy
(See page 8)

The report also calls for improved energy efficiency standards, with a national minimum standard for a dozen products; enhanced building codes; tax incentives for efficiency improvements for buildings and equipment beyond minimum standards; and measures to encourage industry to increase energy efficiency by 1-2% per year. Other energy policy recommendations include:

- A public benefits fund financed by a 0.2 c/kWh charge on electricity, equivalent to around $1 per month for a typical household.
- Tax credits of 7 c/kWh for renewable energy which would cover all clean non-hydro renewable sources.
- Net metering to pay for surplus electricity fed back onto the grid from consumers who generate their own electricity.
- Incentives to encourage combined heat and power generation, and the removal of

regulatory barriers.

The report also calls for higher spending on renewable energy research and development, with a 60% increase over three years to levels recommended by the President's committee of advisors on science and technology in 1997.

Download the report at: http://www.ucsusa.org/publications/blueprint.pdf

Republicans push for 'energy security' bill

CNN

Seizing on concerns about the security of the nation's energy supply in light of the recent terror attacks, US House and Senate Republicans have called for a modified 'energy security' bill. "We need to act and act quickly," said House Majority Whip Tom Delay, R-Texas. "We suffered a terrible attack. Our military is ready to respond. The airlines are struggling. Economic growth is slowing. American families can't afford spiraling energy costs." As a key to their plan, Republicans are again pushing a controversial measure to open the Alaska National Wildlife Refuge (ANWR) for oil exploration. Delay suggested that opening ANWR, "could meet the daily energy requirements of our armed forces for an entire year," or "it could replace all the oil from Iraq for the next 50 years."

House Energy Committee Chairman Billy Tauzin was adamant about the need to tap domestic supplies of oil. "It is foolish for this country to go into a period of wartime footing and to still have six-tenths of every gallon of gasoline come from foreign sources," said Tauzin. "When the price of gasoline began spiking the day after the September 11 events and we had to go on the floor and assure Americans we had ample supply, the first thing we had to tell them is we'd checked with OPEC and OPEC was gonna keep a supply. "We had to check with Iraq to make sure we'd have oil the next day. Now how stupid is that? What kind of a crazy policy is it for America to face the world of terrorists in the Middle East and still think that six-tenths of every gallon of gasoline that we put in our fuel tanks is safe?"

The search for a clean car goes on

Japan Times

The current industry consensus is that fuel cell, which create electricity via a hydrogen-oxygen reaction and emit only water, are the main contenders for replacing conventional gasoline-powered vehicles. The Ministry of Economy, Trade and Industry has set a target for the number of fuel cell vehicles in use in 2010 at 50 000, and 5 million by 2020. The realisation of such targets would spell only good news for the environment, said Hironosuke Ikeda, a lecturer at Saga University and an expert on fuel cell technology. Fuel cell vehicles boast a high tank-to-wheel energy efficiency of 30 – 40%, compared with roughly 12% for gasoline-powered cars, he said.

Automakers are divided on the types of fuel cell mechanisms and the time frame for creation of a clean car. Basically, there are two types, depending on the method of supplying hydrogen: carry a hydrogen tank onboard, or use an onboard fuel converter to derive hydrogen from methanol or petroleum. Onboard hydrogen delivers the best energy efficiency.

A major problem in developing fuel-cell cars is cost. Automakers have started cooperating with each other and sharing their fuel-cell know-how, because of the very high costs.

"If we can set the de facto standard for fuel cell cars, it would be a big business chance. It may enable us to get a 30% share of the global market," said Katsumi Yoshitake, spokesman for Mazda Motor. Naoto Hashimoto, an analyst at Nomura Securities Co, said fuel cell car development is crucial for Japanese car makers to survive in the global market, especially in Europe. "In Europe, where consumers are quite aware of environmental issues, companies that are not Earth-friendly are being expelled from the market," Adopting the highest environmental standards is a must to maintain a cutting edge in the global market. And that is exactly how Japanese automakers rose in the 70s and 80s.

Japanese automakers believe that hybrid car technology can also be applied to fuel cell cars.

CoP-7 at Marrakech

Summarised mainly from reports in The Guardian, Japan Times, Asahi Shimbun and from the International Institute for Sustainable Development

Four years after negotiating the Kyoto Protocol, representatives from 165 countries met in Marrakech, Morocco, and completed negotiations of the ground rules on 10 November. With the isolated exception of the United States, the world has now agreed the most complex environmental treaty ever, and the first which is legally binding. The Russians and Japanese gained extra concessions, and environmentalists were left with all-too-reasonable concerns, but the treaty is an unprecedented step in world-wide cooperation to face a common threat. A legal framework has been put in place which is likely to last for decades, with the details renegotiated every five years, and with the ambitious goal of ultimately achieving emissions cuts of 60 – 80%.

The initial target is much more modest, with reductions to an average 5.2% below 1990 emission levels in the 'first commitment period' (2008 – 2012). New Zealand's target is more modest still. It will be enough if we can get back to 1990 emission levels, but even that will be a challenge—if we are to gain from the carbon credits negotiated for us—because we have been so profligate in the decade since 1990. Our carbon dioxide emissions have been rising half again as fast as in the US.

The final text of the protocol is lengthy and complicated, but it has teeth. While some environmentalists argue that various components of the treaty are mere loopholes, the negotiations have produced a document with legally enforceable standards. The final agreement will reduce greenhouse gas emissions: it is an important first step.

The protocol does not come into force until it has been ratified by 55 developed countries, who in 1990 were together responsible for 55% of greenhouse gas emissions by developed countries. Ratification is expected at the Environmental Summit is to be held next September, 10 years after the 1992 Earth Summit in Rio de Janeiro.

To bring the Kyoto Protocol into effect, almost every industrial country will have to ratify, because the US—the biggest single source of greenhouse gases—has opted out. However, there are grounds for cautious optimism that the US will return to the agreement: see page 3.
The defining element of the Kyoto Protocol is that it has the potential to transform modern societies, making them far less wasteful of energy. People, manufacturers and nations will approach energy policy, plant and appliance design, and individual lifestyles in the context of the protocol.

For the first commitment period, the protocol is heavily dependent on CO_2 absorption by forests, as a result of compromises needed to reach agreement. The result is that the accord is much less effective than it could have been.

Another obvious weakness is that the protocol only requires developed nations to reduce greenhouse gas emissions. Even if all targets are achieved, total greenhouse gas emissions— including those of developing nations—will increase. Emissions by the developing nations are likely to overtake the developed nations emissions in 10 years, before the end of the first commitment period *(see the 'Contraction and convergence' diagram in EnergyWatch 21, page 19—EW)*. This is one of the concerns expressed by President Bush when the US pulled out of the negotiations, but conveniently ignores the realities of population and energy use. The US emits 5200 kg of carbon per head of population per year, India emits 200 kg and the IPCC target is a global average of perhaps 400 kg.

There is still much to be done, in negotiating agreements for the second and subsequent commitment periods, after 2012:

- Above all, bring the US on board, preferably in time for the first commitment period.
- Set new and tougher objectives for developed countries.
- Bring in objectives for the developing countries, to reduce emissions, or to keep below an agreed annual ceiling of perhaps 400 kg of carbon per head of population.
- Close the loopholes, especially carbon sinks.

Despite these unresolved problems, the next stage is to bring the protocol into effect. Developed nations could then be able to press the US and developing nations to join them.

Opposition

"Many business leaders oppose ratification without US involvement," says Asahi Shimbun, and the same is true in NZ. Unlike Japan, we have the luxuries of an easier target and of being too small to make a difference—our 0.2% of emissions is unlikely to be crucial. But also unlike Japan, we

have a 'clean green' image to maintain. That image supports major industries such as tourism and primary produce exports. It could probably also support—and be supported by—innovative responses to the new situation, such as developing renewable energy industries or a vaccine for the emissions due to what the protocol negotiations called 'ruminant physiology.' Can we afford to stay out?

To many observers, the real value of the Kyoto Protocol lies not in its direct impact on limiting greenhouse gases, but rather as a precedent for concerted, coordinated global action. In this sense the CoP-7 outcome is very positive. As Jan Pronk was overheard saying at the close of the meeting, "CoP-7 now provides the US with a suitable legal structure to join the process of combating global climate change."

Michael Zammit Cutajar, the Convention's Executive Secretary, said, "After several years of tough negotiation, the institutions and detailed procedures of the Kyoto Protocol are now in place. The next step is to test their effectiveness in overseeing the 5% cut in greenhouse gas emissions by developed countries over the next decade... We have also made important progress on strengthening the flow of financial and technological port to developing countries so that they can move towards a sustainable energy future. The Marrakech results send a clear signal to business, local governments and the general public that climate-friendly products, services, and activities will be rewarded by consumers and national policies alike."

Economic modelling of the Kyoto Protocol for New Zealand

Climate Change Programme

In early November the New Zealand Climate Change Programme released economic modelling on the likely effects of the Kyoto Protocol

Two economic modelling reports, one by the Australian Bureau of Agricultural and Resource Economics (ABARE) and the other by PA Consulting, are supported by an officials' working paper which backgrounds the modelling reports and discusses the advantages and limitations of the analysis techniques used. All three reports are available on the Government's climate change website: www.climatechange.govt.nz.

The ABARE report considers six scenarios, three with Australia signing the protocol and three without. All assume that the US will not sign. Both reports model a policy based on a single response: an emissions price applying to all greenhouse gas emissions in particular sectors. The models are not predictions because they cannot account for the policy options that the Government may consider, or international responses to the Kyoto Protocol.

Key findings are:

- Placing a cost on greenhouse emissions could reduce New Zealand's Gross Domestic Product (GDP) in 2010 by around 0.08 – 0.26% (depending on the scenario chosen) relative to what GDP would be under 'business as usual.'

- However, Gross National Product (GNP), a more complete measure of national income than GDP, rises relative to 'business as usual' by between 0.05 – 0.52%, depending on the scenario.

- The positive result for national income arises because the modelling allowed for the possibility of NZ exporting 'sink credits' gained through conversion of land into new forestry since 1990. The modelling indicates that reduced income from domestic economic activity would be more than offset by the gain from international sales of sink credits.

However, note some of the limitations of modelling:

- The results do not take into account policies that could offset any adverse effects of applying an emissions price.

- The model also does not allow for the effects of other policies that will assist New Zealand to meet its Kyoto obligations, such as the National Energy Efficiency and Conservation Strategy, or other incentives for the reduction of emissions.

- Modelling does not account for changes in technology, the development of new industries, or the full economic effects of New Zealand's forest sinks (forested areas that absorb and store greenhouse gases).

Responding to climate change

Pete Hodgson

An edited version of the Minister of Energy's speech to the Resource Management Law Association Conference in October

In October the IPCC released their latest report, *Climate Change 2001: Synthesis Report*, which completes their compelling five-yearly assessment of climate change science, the impacts of global warming and the adaptation and mitigation options. An enormous amount of research, analysis and knowledge is crammed into this report, but the work can be summarised easily:

- The world's climate is changing, and will change further and further, because of greenhouse gas emissions caused by human activity. This finding is robust, despite existing uncertainties around the degree and pace of change.

- The impacts of climate change will become steadily worse if we do nothing to reduce emissions.

- There are many ways to reduce emissions that can bring other benefits to society and minimise costs.

That is why the international community reached agreement on the Kyoto Protocol in Bonn. We now have a protocol that is ratifiable. Early next year the government will take a formal decision on whether to ratify it.

In Bonn the international community was not prepared to wait for a new US position. So without the US we finished work on the Protocol's rules. We nailed the rules on its flexibility mechanisms—those involving emissions trading, joint implementation and the clean development mechanism. NZ wanted unfettered trading rules and that was achieved. Importantly for NZ, we also secured rules on the forest sinks that will give us valuable credits for our post-1990 forest plantings. I don't know of any other country's plantation forestry industry that has more to gain from the protocol.

We also agreed on extra support for those few developed countries that were clearly going to have the most trouble meeting their obligations. Japan and Canada were the main benefactors, though both still have tighter targets than New Zealand.

A vital issue was compliance—how to ensure that big countries do what small countries like ours will do. We found a way forward that should ensure that compliance is legally binding, with credible consequences for non-compliance. While the legal texts remain to be agreed at CoP-7 in Marrakech, I do not expect that the political deal will unravel *(It did unravel a little, especially on credits for the Russian forests—EW).* The Protocol is happening and a new world of lower emissions and better energy use will become a reality.

Ratifying Kyoto

This Government has consistently said it intends to ratify the protocol. With the decisions taken in Bonn, the case for ratification is all the more compelling. NZ is too small to make the protocol come into force, or to stop it. In all likelihood the trigger nation will be Japan. Our job is to state our preparedness to ratify and then to be well prepared when it comes into force. While the US may wish to remain outside for the present, the agreement at Bonn showed clearly that other developed nations believe it is the best mechanism on offer. It will gather momentum and I believe the US will rethink its position before we begin the first commitment period in 2008. My view is that technology will be the driver of the global response to Kyoto. If the US stays aloof it may find itself at the edge of future technology shifts, rather than at the centre, where it ordinarily expects to be.

I can't emphasise this message enough. The Kyoto Protocol is now happening—and New Zealanders should be thinking and doing things about making our response to it a successful one.

The answer to the question that many people put to me—*why move so soon?*—is that we have wasted far too much time already. NZ is as dependent on energy as every other advanced economy but, sadly, less efficient with it than many of our competitors. We will only get further behind if they respond to climate change by improving the efficiency of their energy use, while we do not.

We have to take a broader view of the benefits and costs of NZ's climate change response than many commentators are inclined to do. The global response to climate change will affect nearly every aspect of human activity by challenging the ways we use energy. And the changes that this will bring about are likely to be quite profound. How we deal with climate change will be emblematic of how we improve our position and role in the world

economy. It will be an important part of the way NZ integrates the concept of sustainable development into our economy and society.

There is a lot to be done. I would have liked NZ to be heading towards a far more energy-efficient economy much sooner. Last week I released NZ's first ever National Energy Efficiency and Conservation Strategy. If we meet the targets it sets we will cut by 30 – 40% our current expected excess CO_2 emissions over our protocol target.

Benefits of ratification

Those who insist on portraying the protocol as a hair shirt must take note. Improving energy efficiency is a benefit, not a cost. Any investment is a matter of spending money to save money. We can make significant progress towards our protocol target by doing something that improves our international competitiveness rather than detracting from it. And the commercial opportunities that will arise from addressing climate change will be a significant new part of the NZ business scene. Officials have begun working with business to find where our best prospects lie and make the most of them. There will be two main sources of business opportunities:

- Increased domestic and international demand for climate-friendly, higher-technology products and services.

- Demand for products and services to prepare for or mitigate the impacts of climate change.

I'm proposing that business and economic opportunities be a central part of our upcoming consultation on ratification of the Kyoto Protocol and future policy options. It needs to be. We are looking for a policy environment for Kyoto that works for NZ businesses, not against them. On one side of the ledger is a list of opportunities, some of which are crying out for a bit of private sector focus, on the other side there are the threats posed by putting a price on carbon, and the uncertainty around that price. Kyoto presents many uncertainties and some of them will be persistent and considerable. Other countries, businesses and individuals are getting used to this fact. Our situation is no different.

The question is: What mechanisms best help us to deal with uncertainty? Clearly research and development will be crucial. So will contingency planning. So will an inclusive and transparent policy development process. What won't help is doing nothing. *Wait and see* is not a strategy.
One area where uncertainty is reducing steadily is the science. You wouldn't know it from the news media, but the evidence that humans are causing global warming by digging up fossil fuels and setting fire to them has piled up steadily and overwhelmingly, and continues to build. Doing nothing would mean sleepwalking into the climate change hazards that are already being identified. For a country as dependent on primary production as this one, that would be nothing short of negligence.

The expected impacts of climate change on New Zealand include:

- Drier conditions in the east

- More frequent extreme events such as floods and droughts

- Rising sea levels, with increased risk of erosion and saltwater intrusion

- Biosecurity threats from the spread of warmer climate pests and diseases.

Consultation and legislation

The legislation required for ratification will be done in two stages:

- The first Bill will cover the minimum requirements for ratification by September 2002. These will include enabling the Government to buy greenhouse gas emission units on the international market, and setting up a national system to monitor and report on emissions.

- The second Bill will set out domestic policy to help New Zealand meet its obligations.

In terms of policy, the first Bill can be thought of as how NZ can meet its Kyoto commitments, while the second is how NZ intends to meet its commitments.

Consultation on ratification and domestic policy options is scheduled from mid-October to mid-December. This will inform the development of a National Interest Analysis that will present the effects of ratification to Parliament and will be up for review by a parliamentary select committee. Feedback from this initial round of consultation will be used to undertake a second round on the Government's preferred domestic policy package. The second climate change bill would be introduced after that, with the expectation that it will be passed in 2003.

The Resource Management Act

The Government does not see the use of RMA controls and mechanisms as being cost-effective for managing greenhouse gas emissions. We have yet to take final decisions on this, but let me give you three reasons for signaling that view:

- Climate change is an international issue, so it should be dealt with consistently on a national level. The RMA consenting and planning process means that there will always be a risk of inconsistent treatment between regions, with variable implementation costs.

- Just as NZ has flexibility in the way it can meet its Kyoto commitments, so should emitters within NZ. These flexibilities are national and international by their nature and this does not fit well with regional or local decision-making.

- The national instruments available under the RMA are unlikely to be cost effective for controlling greenhouse gases because of the time involved in implementing them.

We will still be examining with local government the options for providing guidance on the appropriate use of the RMA. The National Energy Efficiency and Conservation Strategy, for example, contains measures to improve implementation of the RMA with respect to energy efficiency—especially in new buildings and urban infrastructure—and development of renewable sources of energy. These are expected to contribute to reducing emissions. Councils will also continue to use the RMA for infrastructure planning to manage the effects of climate change itself.

On all aspects of policy, we will be actively pushing for submissions.

Big questions about climate change risks and policy consequences will stay with us for a long time. The price of carbon, will not be known until an international market is well-established. That price will have a fundamental impact on the economics of responding to climate change, and will itself change as the years turn into decades. But we can start out with practical policy solutions—ones that address growth in emissions, use wisely the benefits of our Kyoto forests, recognise and deal with the impacts of the principal measures we put in place, and create or enhance opportunities for New Zealand business.

Enlightenment on energy

New York Times

The events of September 11 have inspired some serious rethinking of a whole range of issues, from airline safety to intelligence gathering. On the face of it, this should also be the perfect time for a measured reassessment of the nation's energy strategy. Turmoil in the Middle East has again raised fears about disruptions in the oil supply while providing yet another reminder of the country's increasingly precarious dependence on imported oil. Regrettably, Congress and President Bush, transfixed by the notion that America can drill its way to energy independence, are in danger of letting this opportunity for enlightened policy-making slip away.

Tom Daschle, the Senate majority leader, has actually been forced to go to great lengths to prevent his colleagues from making the country's energy policies worse than they already are. Fearful that a coalition of Republicans and conservative Democrats on the Energy Committee would approve a bill authorizing drilling in the Arctic National Wildlife Refuge, Mr. Daschle took the bill away from the committee with the promise that he would write a more balanced measure and present it to the Senate in the coming months.

Congress's basic problem is that it tends to look at only one side of the energy equation—the supply side—while giving short shrift to the demand side. That means giving the oil and gas industries more money and broader license to punch holes in the ground, while shortchanging investments in energy efficiency. Lawmakers have also shown little interest in the development of alternative energy sources. In August, for example, the House approved an alarmingly one-sided bill that contained US$ 27 billion in subsidies for traditional energy producers and only US$ 6 billion for conservation.

That is neither a sensible energy policy nor the right strategy for reducing our reliance on imported oil. Since the first oil crunch of 1974, America's dependence on overseas oil has grown. Imports account for 60% of daily oil consumption today compared with 47% 10 years ago. A bit less than one-quarter of that imported oil comes from the Persian Gulf, and the volume is growing. In 1974 America imported 1 million barrels a day (160 000 m^3/day, or 2 m^3/s) from the Persian Gulf; now the figure is more than 2.5 million (4.5 m^3/s)

Proponents of Arctic drilling say that the wildlife

refuge alone could make up a good part of this deficit—1.5 million barrels a day at peak production in, say, 2020. That is a significant amount of oil. It also assumes the discovery of 15 billion barrels (2.3 km^3) under the refuge's coastal plain, which the United States Geological Survey regards as an extremely remote possibility. Official estimates of 'economically recoverable' oil are much lower. Yet even if the most optimistic estimates prove to be right, the Arctic reserves—or any other major domestic discoveries for that matter—would not guarantee anything approaching energy independence. The reason is simple: the US, which accounts for about 25% of global oil consumption, has about 3% of proven global reserves.

Plainly, the road to reduced dependence leads in a different direction—toward conservation (meaning increased efficiency) and development of non-oil energy sources. Increasing fuel-efficiency standards for automobiles to 40 miles per gallon (7 litre/100 km)—a reasonable expectation, even with existing technology— would save about 2.5 million barrels a day by 2020. That is considerably more than the refuge can be expected to yield in the same time frame, and just about what we are now importing every day from the Persian Gulf.

In addition to making conventional cars and trucks more efficient, there is much more we can do to reduce our dependence on imports—including a serious national effort to develop hybrid cars or cars powered by fuel cells. The House bill pays no attention to ideas like these. It is to be hoped that Mr. Daschle will include them in his. What is needed here is a sense of history. The oil shocks of 1974 led not only to the creation of the Strategic Petroleum Reserve but also to the first set of fuel economy standards. This crisis should lead to equally enlightened results.

US energy demand to increase a third by 2020

US energy demand will increase by 32% in the next 19 years, according to the US Energy Department. That is an annual average of 1.5% over all sectors. Coal is expected to decline from 53% of all energy use to 46%. Natural gas use is expected to increase sharply, while oil imports increase from 53% to 62% of total oil supply.

Reuters

The UK energy debate

The Guardian

It's nuclear versus renewables. Away from the war on terrorism, an exhaustive debate about the future of power is under way in Whitehall, company boardrooms, think tanks and eco-groups. The power in question is energy and the debate has been triggered by the government's review of UK energy needs over the next 50 years. There are more than 150 submissions available on the website of the cabinet office's performance and innovation unit which is conducting the review. But, stripped to its essentials, this is a debate about how we intend to live our lives in 2050. Even more starkly, it's about how to square security of energy supply—as our own gas and oil reserves are rapidly depleted—with the recognised need to cut greenhouse gas emissions by 60% by then.

Unfortunately, the debate has become a polemic between proponents of nuclear energy and renewables. The atomic lobby, using some heroic assumptions about cost, planning consents, waste disposal, and public acceptance, has led the field, arguing that a dozen or more new power stations should be built to replace old plants. The existing nuclear crop, supplying a quarter of present energy needs, will be closed by 2025 at the latest; new ones cannot only guarantee that share but, uniquely, help meet the necessary emission targets; renewables are said to be too unreliable to supply base-load power generation. But the green lobby is striking back. This week the European Photovoltaic Industry Association, which includes BP, Shell and Greenpeace, argued that solar power alone could provide energy for a billion people globally by 2020 and replace the output of 75 new coal-fired power stations and 664 million tonnes of carbon dioxide.

This would imply annual investment of NZ$ 270 billion—another heroic assumption based on huge trans-national government support to create a global industry delivering economies of scale and price cuts and, ironically, on exponential energy consumption. Greenpeace's unheroic assumption is that Brian Wilson, the UK energy minister chairing the review, is dead-set on the nuclear renaissance. He is. But Mr Wilson is equally keen on a growing role for renewables. It's time to help him settle the matter. This debate needs to be held in public.

Electricity reform after a dry winter

Pete Hodgson

An edited version of a speech by the Minister of Energy, to the Electricity Networks Association AGM

Over the past year, the industry has gone through the growing pains of progressing industry self-governance. Steady and hard-won progress has been made, albeit at a rather slower pace than I would like. At the same time, the industry and its institutions have been subject to the stresses of an exceptionally dry year. It has come through that challenge largely intact, though not without damage to some market participants.

Fixed Charges

Let me begin by reminding you about the Government's overall objective for the electricity industry. It is to ensure that electricity is delivered in an efficient, fair, reliable and environmentally sustainable manner to all classes of consumer. Sometimes these are competing goals, so we must be careful to balance them appropriately.

The Government Policy Statement requires all retailers to offer a low fixed charge tariff option to domestic consumers—that is, a fixed charge less than or equal to 10% of the bill of the average domestic consumer, or less than about 30 c/day. Although the requirement is expressed as an obligation on retailers, distributors must also ensure that their own charges assist retailers in complying with the policy, so distributors' fixed charges must be considerably less than 30 c/day.

In some cases retailers are offering a low fixed-charge option, but very few customers have taken it up, often because they are not aware of its existence. One of the requirements on retailers is to advertise their low fixed charge tariff so that consumers who can benefit are able to take it up. So far that isn't happening consistently and officials are monitoring retailers' advertising as part of the overall monitoring of compliance.

I am pleased that most distribution companies are now offering an appropriately low fixed charge. I understand that some more will be introducing pricing changes within the next few days, and I look forward to seeing those changes come into effect.

But the latest information I have from officials shows that three distribution companies have not responded to the Government's requirements. Those companies should be on notice that my patience is running thin. I believe I am entitled to give notice. The Government Policy Statement is now almost one year old. The Electricity Amendment Act 2001 was passed three months ago. I am now able to regulate. The industry should be aware that if fixed charges are regulated you will lose a significant amount of control over your own pricing methodology. It's your call, but I suggest you act quickly. It would be a pity if regulations have to be introduced just to deal with a few recalcitrants.

The large majority of the industry have moved promptly, on request, without regulation, without fuss or fanfare, to meet the low fixed charge requirement. Thank you for your responsiveness and co-operation.

Winter Review

The prospect of electricity supply shortages was a potent reminder of New Zealand's heavy reliance on hydroelectricity and consequent vulnerability to dry years. A review is now in progress, designed to examine, amongst other things, the effectiveness of existing market arrangements during the winter and whether any further changes should be made.

Those of you who have read the submissions to the review will have seen that they tend to fall into two distinct camps:

- Those who think that the market and market institutions worked just fine, and that any problems experienced over winter were brought about by poor risk management decisions by some parties.

- Those who maintain that there are serious flaws in the current structure of the industry and the market, and that radical surgery is required.

I don't yet have a firm view. What I am sure about is that the market would have performed better and with less trauma had the reforms in the Government Policy Statement—like demand side participation and greater transparency— been fully implemented. With Cabinet, I will need to make decisions on whether changes additional to those required by the Government Policy Statement are needed to improve the market and deliver the Government's overall objectives in electricity. I expect to announce those decisions before Christmas.

Electricity Governance Establishment Project

While I have been concerned about the pace of progress, there is no doubt that the Electricity Governance Establishment Project has come a long way in the last year. One example is the work on model Use of System Agreements.

Once the Electricity Governance Board is established, it will have responsibility for developing model Use of System Agreements, and I'm sure it will find the work of this Association to be invaluable. New Zealand electricity consumers will benefit from the hard work put in so far. But it is important that the industry continues to work hard on making the new arrangements a success. I would be concerned about any further slippage in the timetable. The alternative to the new arrangements is not the existing arrangements; it is regulation. If the EGEP approach fails to get industry support, I will have no option but to establish a Crown entity Electricity Governance Board and rules in a wide range of areas.

I believe that the contractual approach and industry self-governance have important advantages over regulation. Contractual arrangements are likely to be more flexible and responsive than a regulatory approach. They are also quite likely to be cheaper. Unlike the issue of low fixed charges, I am not signaling that my patience is running out. There is plenty of hard work going on and plenty of goodwill. But I am gently reminding you that progress must continue. If the industry stalls I will have to act, however reluctantly.

Complaints Commission

I am glad the industry has at last made some progress on establishing an Electricity Complaints Commission. An independent chair has been appointed, along with consumer and industry representatives. The Commissioner is likely to be appointed before Christmas.

Many but not all line companies have signed up to the scheme, and I urge all those who have not signed to do so as soon as possible. Again, the choice is to handle the scheme through contractual arrangements and industry self-governance or to have it imposed by regulation.

Rating Powers

Another topic of particular interest to you at the moment is the power of local authorities to levy rates based on a valuation of line network assets. Following a Court of Appeal decision in 1998, the option of levying rates on network assets is a matter for each local authority. At present I understand that the Auckland City Council is the only local authority to do so.

In developing the Local Government (Rating) Bill, the Government decided not to alter the status quo. The select committee considering the Bill has received submissions on this issue and they will be considered carefully. The committee's report to Parliament is due on November 15 and no doubt many of you will be reading it closely.

Renewable Generation

Finally I want to mention the new possibilities that have opened up for line companies to invest in generation. By amending the Electricity Industry Reform Act the Government has eased the constraints on ownership of generation by line companies, including allowing more investment in new renewable generation plant.

Although there are restrictions on ownership of hydro- and geothermal plant, it is now possible for a line company to own other new renewables, including solar and wind generation, without size limits. The only requirement is that cross-subsidisation from the lines business is avoided. This opens up a range of new options for supplying power to remote areas and for relieving network constraints. I hope you will consider the new options available to you, especially in light of the increased competitiveness of renewable energy sources that is likely to follow from ratification of the Kyoto Protocol on climate change.

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Lake levels

In a separate statement on 1 October, Pete Hodgson said that he does not regret calling off the Government's power saving campaign, despite national hydro storage of only 54% of the average for this time of year. According to M-Co the amount of water flowing into the lakes was 83% of average, and lake levels were not rising. However, water levels were expected to rise as a result of snow melt and spring rainfall.

Global warming may bring a new variety of class actions

New York Times

Taking a cue from broad-based class-action lawsuits like those filed against tobacco companies, a group of environmental lawyers is exploring novel legal strategies to adopt against global warming. What makes the approach of this environmental fight extraordinary is that the plaintiffs would be not just people who live near a source of pollution but those who are thousands of miles away. Lawyers from around the US have met to explore the avenues they might pursue to force the US or corporations to reduce emissions.

The lawyers, representing groups like Greenpeace, the World Wildlife Fund and the Natural Resources Defense Council, envision winning damages for people or whole countries that have suffered adverse effects of global warming. They say they were inspired by Bush's refusal to go along with the Kyoto Protocol.

The UN estimates the costs of global warming at more than US$ 300 billion a year. "Those who are directly injured in a very concrete way by the impacts of climate change are concluding that they won't get the remedy they need through the political process, whether it's the international or domestic political process," said one organiser of the strategy session. Legal suits could be brought, for example, on behalf of Tuvalu, a tiny nine-island nation which is home to some 10 000 people, but which might vanish within 50 years. Plaintiffs could also include residents of other low-lying nations; or the frail elderly, whose health is at particular risk on very hot days. Defendants could be federal agencies like the Environmental Protection Agency or the Energy Department, for subsidising the use of fossil fuels or accused of failing to regulate emissions. Or they could be industries, like power companies.

One delegate said, "Whenever you have a diverse population being injured and not getting the remedy they need through the political process, or when you need to protect a minority from the majority, that's why the courts were set up. Until the courts intervened in the civil rights movement, there was stalemate." Spokesmen for federal agencies declined to comment, saying the idea was for now hypothetical. Privately, they suggested that a defence could include the arguments that there were no binding laws regulating global warming and that plaintiffs had no legal standing.

Dan Esty, a professor of environmental law and policy at Yale Law School, was skeptical that the courts would look with favor on the initiative, although he added that, "there is always the possibility that new legal theories can be brought to bear." Proponents of the initiative have been focusing in part on a 60-year-old landmark case involving a Canadian smelting plant that was damaging crops, timber and livestock in Washington State. An international arbiter found that one country could not pollute another without being held liable.

The high, hidden cost of Saudi oil

Neela Banerjee, New York Times

During his presidential campaign, George Bush warned that the nation faced an oil crisis. He was right, but not in the way he foresaw. The crisis that came has nothing to do with prices at the gas pump, or environmental obstacles to drilling in the Arctic National Wildlife Refuge in Alaska. Rather, it has to do with the political and military price the US must pay for its dependence on oil from the Persian Gulf. The terms of that dependence have been glaringly obvious since the attacks on New York and Washington. Immediately after September 11, the Organization of the Petroleum Exporting Countries, led by Saudi Arabia, assured the US that it would keep oil supplies stable.

In turn, the Bush administration has refrained from criticizing Saudi silence over the American-led counterattacks against Osama bin Laden and the Taliban, nor has it spoken out about evidence that Saudi citizens financed bin Laden's al-Qaeda network and other radical Islamic organizations. Moreover, although the FBI identified most of the hijackers in the September attack as Saudis, Saudi Arabia has refused to provide passenger lists of flights to the US, an act that Bush has been unwilling to criticize. "The stark truth is that we're dependent on this country that directly or indirectly finances people who are a direct threat to you and me as individuals," said Edward Morse, former deputy assistant secretary of state for international energy policy under President Ronald Reagan. "They won't give us information, won't help track people down, and won't let us use our bases that are there to protect them."
A major reason for that reticence is oil. Five percent of the world's population lives in the US, but it

burns about 25% of global consumption. American oil companies helped create Saudi Aramco, the state oil company. They were kicked out during the 1973 Arab oil embargo, but the US and Saudi Arabia quickly reconciled. Several groups of Western oil companies, led by ExxonMobil, will soon develop Saudi Arabia's huge natural gas fields.

Saudi Arabia has all along made certain it was the largest supplier of oil to the US. They could make more money selling to East Asia, but have preferred to sell to the US in order to retain their coveted role. Over the decades, the Saudis' pursuit of American money and military protection melded perfectly with America's ever-growing oil appetite to turn the two nations into reflexive allies. Saudi Arabia and the US worked together for years to shape the balance of power in the Middle East and Central Asia.

From 1980 to 1988, the US and Saudi Arabia armed Saddam Hussein in his war against Iran. In 1979, after the Soviet Union invaded Afghanistan, the Saudis were part of an alliance formed by the US to drive them out. "We collaborated in the war in Afghanistan: the Saudis, the US and Pakistan," said Gregory Gause, director of Middle Eastern studies at the University of Vermont. "The Saudis had the money, the Pakistanis had the bases and we had the political oomph to get it together."

Because its interests were so densely intertwined with Saudi Arabia, the US turned a blind eye to its ally's unsavory foreign liaisons and brewing domestic trouble. The US looked the other way, for instance, as the Saudi government and individuals sent money to the Taliban. Starting in 1999 and extending at least into mid-2000, Saudi Arabia exported 150 000 barrels/day (24 000 m^3/day), gratis, to Pakistan and Afghanistan as foreign aid, according to Petroleum Intelligence Weekly, a trade publication. Among oil traders, it is widely believed that the shipments exceeded war-ravaged Afghanistan's needs, and that oil may have been resold to arm the Taliban.

Saudi Arabia's aid to the Taliban points up the ruling al-Saud familys' balancing act between its foreign and domestic interests. The Saudis consider themselves allies of the US. But the glue that holds their kingdom together is a puritanical strain of Islam called Wahhabism. By supporting the Taliban and other Muslim groups, the al-Saud dynasty is able to retain the goodwill of the country's clerics. Already, in response to the tacit Saudi backing of the American anti-terrorism campaign, a powerful mainstream mullah in Saudi Arabia has issued a fatwa excommunicating the royal family. Fearful of protests, the Saudis have not tried to arrest him. In fact, fear of losing power has led the Saudis to pay off just about everyone, which makes oil revenues so crucial. There is the welfare state to coddle the citizenry; toleration of extremist clerics so that they do not stir up the masses; and payoffs to other regimes—including Pakistan with nuclear capability—to keep them friendly. But that protection money has not stemmed a growing domestic restiveness, as many Saudis have become fed up with a sprawling ruling family they believe is insatiably corrupt.

"For many of the princes," said one former cabinet secretary in Washington, "the advantages of getting money exceed the advantages of keeping internal unrest down." Many people in Saudi Arabia and the Middle East loathe the US because they see it as the protector of a degraded regime in Riyadh. This has put pressure on the Bush administration, intent upon preserving the stability of its largest oil supplier and the appearance of Middle Eastern approval for its fight against terrorism, to toughen its stance on Israel. Prior to the assassination of an Israeli cabinet minister, some kind of shift had been expected by many, including the Israelis. "To a certain extent," said Philip Verleger, an independent economist and a senior adviser in the Carter administration, "we let US foreign policy be dictated to us by the house of Saud."

It is unclear what the US can do to loosen its ties to the Saudi regime, so long as it remains reliant on Saudi oil, but Bush and most Republicans want to focus on domestic oil supplies. Given the fact that the US has only 3% of the world's known reserves, increased drilling will do little in the long run to decrease dependence on the Middle East.

"September 11 should be an alarm bell that we need a balanced, comprehensive energy policy that addresses things we don't like to do: mandating more fuel-efficient vehicles, more domestic oil and gas drilling, becoming more energy efficient as a nation," said Bill Richardson, energy secretary under President Bill Clinton. That in turn could give Washington a bit more leeway in its relations with Saudi Arabia, freeing it to press for a reduction in official corruption or for reining in radical Islamic groups.

The question now is, whether Washington can find the political will to act before an oil crisis explodes.

Now do we get serious on oil?

Robert Samuelson, Washington Post

If politics is the art of the possible, then things ought to be possible now that weren't before September 11. Or perhaps not. For three decades, Americans have only haphazardly tried to fortify themselves against a catastrophic cut-off of oil from the Middle East, which accounts for about a third of world production and two-thirds of known reserves. Little seems to have changed, although the terrorism highlighted our vulnerability. Oil is barely part of the discussion.

Over the past 30 years, we have suffered Middle East supply disruptions caused by the Yom Kippur War of 1973, the fall of the Shah of Iran in 1979 and Iraq's invasion of Kuwait in 1990. How many times do we have to be hit before we pay attention? No one can foresee what might lead to a huge supply shutdown or whether the present attack on Afghanistan might trigger disastrous changes. A collapse of the Saudi regime? A change in its policy? Massive sabotage of pipelines? Another Arab-Israeli war? Take your pick.

Even if we avoid trouble now, the threat will remain. In 2000 the US imported 53% of its oil *(there seems to be some doubt about this figure: see the bottom of page 10—EW)*; almost a quarter of that came from the Persian Gulf. Without Middle Eastern oil, the world economy would collapse.

Countries that have oil can sell it on their terms, which might include a large measure of political or economic blackmail. But they, too, run a risk. Oil extortion might provoke a massive military response. It is precisely because the hazards are so acute and unpredictable for both sides that Persian Gulf suppliers have recently tried to separate politics from oil decisions. But in the Middle East, logic is no defense against instability. We need to make it harder for them to use the oil weapon and take steps to protect ourselves if it is used.

The outlines of a program are clear:

- Raise CAFE (corporate average fuel economy) standards. America's cars and light trucks consume a tenth of global oil production. Tempering oil demand requires lowering the thirst of US cars. The current CAFE standards are 27.5 miles per US gallon for cars and 20.7 mi/gal for light trucks (8.6 and 11.4 litres/100 km). With existing technologies, fuel economy could be raised by 17 – 36% for cars and by 27 – 47% for light trucks without harming safety and performance, according to the National Research Council. Changes would have to occur over a decade to give manufacturers time to convert.

- Impose a gasoline or energy tax. People won't buy fuel-efficient vehicles unless it pays to do so. Cheap gasoline prices also cause people to drive more. An effective tax would be at least 35 – 50 cents a gallon (NZc 22 – 31/litre). It ought to be introduced over two or three years beginning in 2003. (To impose the tax now would worsen the recession.) A 50-cent-a-gallon tax might raise about $ 60 billion a year. Some of this might be returned in other tax cuts; some might be needed to cover higher defense and 'homeland security' costs.

- Relax restrictions on domestic drilling. The other way to dampen import dependence is to raise domestic production. It peaked in 1970 and has dropped about 28% since then. The easiest way to cushion the decline is to open up areas where drilling is now prohibited, including the Arctic National Wildlife Refuge (ANWR) and areas off both the Atlantic and Pacific coasts.

- Expand the Strategic Petroleum Reserve. Tapping the SPR is the only way to offset a huge oil loss until a military or diplomatic solution is reached. Created in 1975, the SPR was envisioned to reach 1 billion barrels *(try thinking of 100 tanks, each 200 m diameter and 50 m high—EW)*. At the end of 2000, it had 541 million barrels, roughly where it was in 1992. The failure to increase the SPR in the Clinton years was astonishingly shortsighted. When oil prices are low—as now—the SPR should be slowly expanded to at least 2 billion barrels. Other industrial countries should also raise their oil stocks.

What prevents a program such as this is a failure of political imagination. There ought to be a natural coalition between environmentalists and defense groups. Environmentalists want to reduce air pollution and greenhouse gas emissions. Defense groups want to limit our vulnerability to oil cutoffs or blackmail. A common denominator is the need to control cars' gasoline use. But these groups aren't allies, because their dogmas discourage compromise. Environmentalists don't like more drilling in places such as ANWR, despite modest environmental hazards; and defence types such as the Bush administration want to expand production and dislike CAFE, because it compromises the freedom they seek to defend. Another problem is that both shun unpopular

energy taxes.

The American way of life doesn't depend on $1.50 gasoline. It does depend on reliable sources of energy. The dangers have been obvious for years, and our failure to react ought to be a source of deep national embarrassment. This is a long-term problem; anything we do now won't have significant effects for years. But if we fail to heed the latest warning, the neglect would be almost criminal.

Australia keeps its bad record of emissions

The Age

Australia has lengthened its lead as the world's worst per capita greenhouse polluter, UN figures show. Analysis of national greenhouse inventories shows Australia's emissions per person rose from 26.7 tonnes in 1995 to 27.6 t in 1998, while the average for industrialised countries fell from 13.6 t to 12.9. Australia's per-capita emissions are now 30% higher than the US, where emissions per capita fell slightly over the period. Australia's high emissions are due to its reliance on coal-fired power for 90% of its electricity, a large agricultural base and widespread land clearing. More than 600 000 ha are cleared every year. The burning or rotting vegetation accounted for about 12% of emissions in 1998. Overall, Australia accounts for about 3.5% of emissions from industrialised countries. The US has the highest overall (39.5%), followed by Japan (8.7%), Russia (7.4%) and Germany (6.6%).

Australia Institute's executive director, Clive Hamilton, said the figures explained why it was so important the US joined international efforts to cut emissions. He said if one accepted the Federal Government's argument that Australia need not take action because it emitted a relatively small proportion of total global gases, then Italy, with 3.5%, France (3.3%), Canada (4.5%), and Britain (4.6%) should also be exempted. Hamilton said Australia was not investing enough in energy efficiency, and government policy had also fueled emissions. He pointed to the competition policy in the electricity industry competition, which boosted the market share of brown coal, the dirtiest form of energy.

"Global warming" conceals the complexity of observed climate change

BBC

UK scientists say parts of Antarctica have recently been warming an order of magnitude faster than most of the Earth, creating , "a profound climatic change." They suggest three possible mechanisms, but they say they cannot identify a cause with certainty, or predict future warming.

The scientists, from the British Antarctic Survey, based in Cambridge, report their findings in *Science*. They say the IPCC estimate of mean average warming of about 0.6˚C during the 20th Century, "conceals the complexity of observed climate change." "If the recent past is a guide to the future, regional climate changes will have more profound effects than the mean global warming suggests."

Trends in mean annual air temperature for 1950-98 show three areas of especially rapid regional warming: northwestern North America and the Beaufort Sea; an area around the Siberian plateau; and the Antarctic peninsula and the adjoining Bellingshausen Sea *(SW from Cape Horn—EW)*.

For all Antarctic stations, the mean temperature trend for 1959 – 96 is +1.2˚C per century, but there are marked regional variations. At Amundsen-Scott base at the South Pole, temperatures have actually cooled since 1958. On the Antarctic peninsula, though, they have warmed since reliable records began in the 1950s. The BAS scientists say the longest records show a warming in the northwest of the peninsula, "considerably larger than the mean Antarctic trend." "The recent rapid regional warming in the Antarctic peninsula is thus exceptional over several centuries, and probably unmatched for 1900 years. It may be tempting to cite anthropogenic greenhouse gases as the culprit, but to do so without offering a mechanism is superficial." They suggest three possible mechanisms:

- Changing ocean currents may have brought warmer deep water on to the continental shelf, reducing sea-ice
- Warmer air may have come into the region
- A sea-ice-atmosphere feedback may be at work.

Avoiding carbon emissions through technological solutions

Ralph E H Sims, Massey University

The IPCC Third Assessment Report (June 2001) states there are hundreds of technologies and practices for end-use efficiency in buildings, transport and manufacturing industries. They can account for more than half of the economic potential for greenhouse gas emission reductions in the 2010 to 2020 timeframe. In addition the report outlines just how new renewable energy technologies will have a significant role to play.

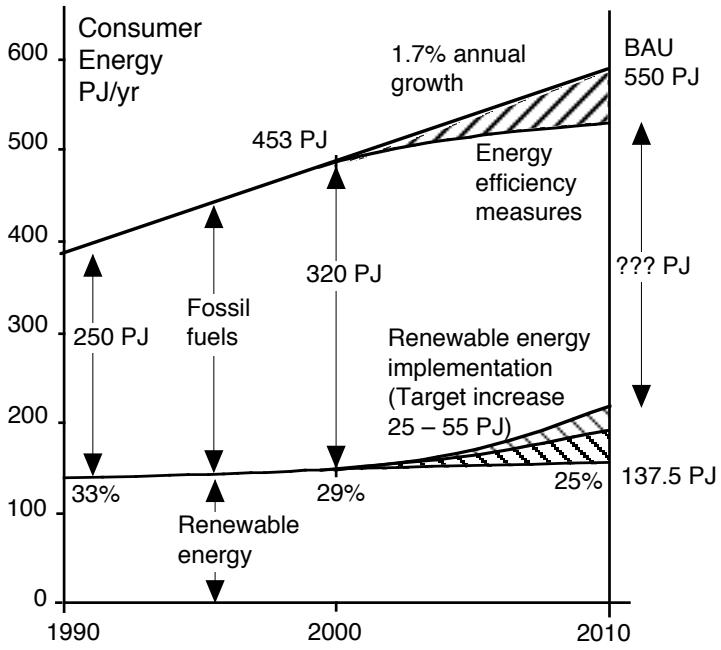
The National Energy Efficiency and Conservation Strategy (NEECS) included challenging targets for both energy efficiency and renewable energy. Under business-as-usual, assuming a growth in energy demand of 0.7% per year till 2012 will result in increased fossil fuel use and the share of renewables dropping to only 25% of consumer energy. Although not solely driven by greenhouse gas mitigation, one aim of the NEECS is to reduce the business-as-usual, ever- growing demand for fossil fuels, which has been increasing substantially over the last decade.

The recent acknowledgment that Maui gas reserves may run out sooner rather than later (as many have suspected for some time), and the consequent increase in the price of gas, will surely help the push for more renewables, and the higher end of the 25 – 55 PJ renewable energy target range in NEECS to become *the* target.

There are good opportunities for implementing sustainable energy systems in New Zealand including the trend towards distributed generation-which is encouraged by the Electricity Reform Amendment Act 2001. Comparing such systems in terms of dollars a tonne of carbon equivalent avoided is a useful way to assess the limited investment dollar. This would also allow comparison with investment in other greenhouse gas mitigation opportunities such as forest carbon sinks and ruminant methane reduction.

Society has been emitting greenhouse gases free of charge for many decades and enjoying what cheap fossil fuel energy has provided (being oblivious to their environmental impacts). For future generations, having to move towards a decarbonised world may well prove to involve additional costs. But doing nothing now will be even more costly—and this point tends to be forgotten by many, especially those in industry who see only their single bottom line and not the global picture and the business opportunities lining up for the taking.

New Zealand will ratify the Kyoto Protocol in September 2002. But meeting the Kyoto Protocol target is just a start. And even if Kyoto eventually fails to proceed (though after CoP-7 this looks less likely) climate change will not go away. New technology development and uptake is a key part of the solution, but in the end it is society that eventually has to choose the future world we wish to live in.



NEECS objectives for energy efficiency measures and renewable energy implementation

Japanese CO_2 emissions up two years running

Carbon dioxide emissions from industrial activities totaled 486 million tonnes last year, marking the second consecutive year of increase, according to the Japan Federation of Economic Organizations (Keidanren). The figure is 1.2% above 1990 levels, a standard to which the industrial sector aims to return by 2010, as called for in the Kyoto Protocol. Japan Times

18th century ships log climate change

National Geographic

Thousands of logbooks from vessels that plied the world oceans from 1750 to 1850 are being pulled from the archives to help scientists predict climate change. Research teams from the UK, France, Spain, Holland, and Argentina will comb the logs for weather data under a project funded by the EU. The logs document travel to all the major ports and cities across the world, from Europe to South America, South Africa, India, and Japan. Ships' logs were updated daily, and sometimes hourly, so the 200-year-old weather records will paint a picture of weather in pre-industrial times. The resulting data base will be posted on the Internet.

The logs of famous voyagers such as the legendary Captain James Cook will be part of the data base. But logs of ordinary merchant and naval vessels will be of more importance, says Dennis Wheeler, professor of geography at the University of Sunderland. Wheeler is heading the three-year project. "While the log books from the voyages of discovery have an intrinsic interest and often cover oceanic regions not hitherto described, they are of less value to us than the logs of the more mundane journeys of naval and official vessels that plied between the European colonial states and their respective overseas possessions," he said.

"Several thousand log books survive and they contain the consistently recorded, detailed, reliable weather observations that we need to build up a useful data base." Wheeler began work with ships' logs because of his interest in historic naval battles. He came to recognize the "matchless source of climatic data" he found in the logs, covering the oceans, "the three-quarters of the planet's surface about whose climate we know least," at a time before human influence was so pronounced.

The data will be used to assess climate change since pre-industrial times, using computer models. "Today we can compare our numerical results against winds measured by satellites, radio sondes, and various ground-based instruments, but we just don't have such data before 1900," says Steve Baum, a research scientist in oceanography at Texas A & M University. "The logs will hopefully allow maps to be created against which model simulations of the 1700s and 1800s can be compared. If we can confidently replicate today's climate and the climates of, say, 100 and 200 years ago, we will have that much more confidence in the predictions the models make for the next 100 to 1000 years."

Gas sector discussion paper

On November 6, Energy Minister Pete Hodgson released a discussion paper on the state of the New Zealand gas sector. ACIL Consulting was appointed to examine whether the gas sector is meeting the Government's objective that natural gas is delivered to users in an efficient, fair, reliable and sustainable manner.

The consultancy found that the gas wholesale market, although adequate for the present, will be less suitable in the future as the Maui gas field declines, and that there may be monopoly pricing in gas transmission and distribution.

Submissions on the gas review are due by 31 January 2002, with an opportunity for cross submissions by 22 February 2002. Submissions will be posted on the Ministry of Economic Development website. See: www.med.govt.nz.

Stockholm Partnerships for Sustainable Cities Conference

Conference, Visiting Programme, Exhibition & Award Programme
5 - 8 June 2002 Kulturhuset, Stockholm, Sweden

The City of Stockholm is calling for submissions of best practices in urban sustainability, to be displayed at the exhibition of the Stockholm Partnerships for Sustainable Cities, 5 - 8 June 2002 at Kulturhuset, Stockholm, Sweden. The exhibited projects will automatically be entered into the award programme. More information is available at: www.partnerships.stockholm.se.

Issues will be considered under ten headings: Mobility; Housing; Work, Production & Economy; Energy; Solid Waste Waste management; Water; Nature, Culture & Recreation; Local-Agenda 21; Urban Regeneration and Land-use Conversion; and The Little Citizen (initiatives for children).

The Sustainable Energy Forum

Copies of the Forum's accounts for 2000/01 and 1999/2000 are available from the Forum on request.

MiniWhats

UK support for renewable energy

The UK government has announced details of a £ 100 million spending (NZ$ 360 million) on renewable energy, as part of its commitment to achieving 10% of UK electricity through renewable sources by 2010. A Performance and Innovation Unit recommends:

- £ 25 million for offshore wind (NZ$ 90 M)
- £ 15 million to help farmers and foresters establish energy crops
- £ 10 million dedicated to innovative PV schemes
- £ 10 million for PV and other technologies that can be utilised directly on homes, businesses and community buildings.
- £ 10 million for fundamental research on the next generation of renewable energy technologies

Other recommendations are £ 5 million for demonstration and testing of wave and tidal technologies; £ 4 million for advanced metering and control technologies so that electricity grids can best harvest PV and other small-scale technologies; and £ 18 million to for the development and demonstration of advanced energy crop technologies for production of heat and electricity. UK Government

Warming in the (Northern) Alps

Since 1850, western Europe's glacial area has shrunk by up to 40%, and the volume by more than 50%, and the trend appears to be gathering pace. Scientists from Zürich University have monitored two specific regions of the Swiss Alps, the Engadin and the Simplon, for nearly half a century. This year they reported, "a pronounced and dramatic shrinkage of both the extent and number of ice bodies." "In the Engadin," they said, "twenty four of the investigated 54 ice patches have vanished since 1955. In the Simplon area, 10 of 31 ice bodies have melted away completely since 1967." Some scientists believe that the Alpine glaciers could disappear completely by 2050. BBC

They said it

US energy policy outlook an enigma in wake of terrorist attacks. Headline in *Oil & Gas Journal*

US and Canadian leaders commit to Kyoto

The governors of the six US New England states, which include two Republicans, have committed alongside the premiers of five eastern Canadian provinces to achieve 1990 levels of greenhouse gases within 10 years, in effect shunning President Bush's rejection of the treaty. Under the Climate Change Action Plan 2001, approved on 27 August at the Annual Conference of New England Governors and Eastern Canadian Premiers, the leaders signed the unique bilateral agreement and committed the region to cut greenhouse gas emissions to 1990 levels by 2010 and by at least 10% below 1990 levels by 2020. The governors of Maine, Connecticut, Vermont, Massachusetts, New Hampshire and Rhode Island also aligned with the premiers of Quebec, Newfoundland and Labrador, Nova Scotia, New Brunswick and Prince Edward Island to set a long-term goal of reducing emissions, "sufficiently to eliminate any dangerous threat to the climate"—meaning cuts of 75-85% below current levels—according to the agreement. Manitoba is also pushing for new policies.Edie, Canadian Press

Nuclear role in China's sustainable development?

Zhang Huazhu, head of a Chinese delegation told an International Atomic Energy Agency (IAEA) conference that nuclear energy should be used more to ensure sustainable development. He also said that the IAEA should play a coordinating role in developing new technology of nuclear energy. With the deterioration of the environment and the increase in energy demand, it is necessary to optimise energy structure policies and increase the proportion of clean energy so as to cut down pollution and relieve climate change, Zhang said. He asked the IAEA to do more to "objectively popularise the significance of nuclear power to the reduction of environmental pollution and climate change." China Daily

"Possible biological effects" of deep-sea CO_2 sequestration

Deep-sea animals may be highly sensitive to environmental changes in carbon dioxide concentration and pH, the predicted consequences of deep-sea carbon sequestration. A study by researchers, reported in the 12 October 2001 issue of *Science*, exposes the need for more research on the biological impacts of CO_2 injection in the ocean. A survey of the relevant literature by Monterey Bay Aquarium Research Institute (MBARI) marine ecologist Brad Seibel and his colleague Patrick Walsh of the University of Miami's Rosenstiel

School of Marine and Atmospheric Science, summarises how deep-sea animals respond to the physiological stress caused by increased CO_2 in their environment.

International agencies are investigating deep-sea CO_2 sequestration as a possible mitigation technique. "Many deep-sea organisms are extremely sensitive to environmental change. We need more studies to characterize the extent and method of CO_2 injection to predict the broader consequences on deep-sea ecosystems and the global biogeochemical cycles dependent on them," said Seibel. Science

Windflow share offer closed

The Windflow Technology share offer has closed, with $ 2 571 728 invested by over 450 investors. "Although we've come up short of our $M 3.0 maximum target, work is well under way to design and build our first wind turbine," said Chief Executive, Geoff Henderson. "We plan to have it operating within 12 months; Christchurch City Council has agreed to purchase the output."

The following year, the company will manufacture up to 10 wind turbines—6 for a wind farm and up to 4 units for sale. Some standard components such as the generator will be imported. The blades will use New Zealand's famed boat-building technology, while the gearbox, tower and other components also will be manufactured locally or in Australia.

"Thanks to our many supporters, we are on the way to establishing wind power as a major local industry," said Henderson. "Within five years we expect to have created an extra 300 jobs locally."
www.windflow.co.nz

San Francisco to spend US$ 100 million on renewables

Residents of San Francisco have approved two bond measures that will generate US$ 100 million for the installation of solar power, wind power, and energy efficiency technologies on city-owned property. The measure, is expected to fund about 10 – 12 MW of solar power and about 30 MW of wind generation— enough to make the city a world leader in solar generation and almost double the nation's solar power capacity. For comparison, the city government in San Francisco currently uses some 160 MW. The solar panels will be installed on rooftops of city facilities in the sunniest areas of the fog-prone city. The wind turbines will be located on city-owned property in Alameda and San Mateo Counties. Because the bonds will be repaid through energy savings from these installations and from energy-efficiency improvements at city facilities, the measure will not need any short-term tax increase, and will bring long-term savings.

A related measure allows the city to use general revenue bonds for renewable energy and energy efficiency projects, without a public vote. In essence, the measures allow the city to handle such energy investments in the same way as other infrastructure investments, such as roads, water and sewer systems.

For details see:<http://www.californiasolarcenter.org/sfbond2001.html

Free e-newsletter

Pedbikenews brings news about pedestrian and cyclist activity in Australia, but will also feature the latest in new research, resources and policy announcements both throughout Australia and abroad. The first edition (September 2001) includes article headings such as a Pedestrian Audits Project; Fremantle Goes Car Free; NZ Cycling Conference; Brisbane Pedestrian Bridge; Qld Transport Bicycle Workshops; UK Walking Conference; VeloCity 2001; and Millennium Bridge Problems Identified. For a free subscription send your name and e-mail address to:
matt.burke@uq.edu.au

EPA does what it can

The US Environmental Protection Agency has launched a partnership to promote cogeneration. Initial partnerships will be with 17 large companies, city and state governments, and nonprofit groups. EPA said, "Combined heat and power is a highly efficient form of electric generation, which recycles and utilizes heat that is normally lost under traditional power combustion methods. CHP captures leftover heat, providing a source of residential and industrial heating and air conditioning in the local area around a power plant." The agency said its 17 industry partners have existing cogeneration projects totaling more than 5800 MW, reducing CO_2 emissions by some 8 million tonnes/year . Oil & Gas Journal

Business reporting standard for GHG emissions

The World Resources Institute (WRI) and the World Business Council for Sustainable Development (WBCSD) have released an international standard that will enable businesses to uniformly report their emissions of greenhouse

gases. The standard, called the Greenhouse Gas Protocol Initiative or GHG Protocol, was developed over three years by a partnership of over 350 individuals from corporations, non-profit organizations, and governments. It also has a number of user-friendly calculation tools that can be found at: http://www.ghgprotocol.org

Global warming threatens ice age

Scientists in Aberdeen have reinforced the NW European nightmare of global warming—that rising sea temperatures might affect ocean currents. Sarah Hughes, an oceanographer at the fisheries research station at Aberdeen, told the British Association science festival in September that water flow from the Arctic past the north of Scotland had decreased by 20% since 1950. This flow is part of what marine scientists called the 'global conveyor,' a vast deep-water current flowing south from the Arctic. It is replaced by surface water flowing north from the tropics—the Gulf Stream that keeps Britain 5˚C warmer than expected at these latitudes.

"If the outflow from the Arctic decreases, then so may the inflow towards the Arctic," said Hughes. "It is this inflow that brings heat to northern Europe." A similar slowdown in the Atlantic conveyor might explain the so-called Little Ice Age that lasted from 1100 –1800, when northern Europe was much colder than it is now, she said. The conveyor could shut down suddenly over one or two years, leaving the UK in a climate like that of northern Canada. "We do not know if we will lose the warmth it brings completely... European governments are planning for climate change based on predictions of a slow, steady warming. The planning needed for a rapid cooling is very different." Guardian

Things are not always what they seem

A SEF member writes, "I realise why London double-decker buses are so good for their task. They are short and thus cope well with tight corners." Well, er... no, actually.

The story begins over a century ago, when the British Board of Trade decreed that trams should not be allowed to tow trailers, and double-decker trams grew out of the 'ride inside or on top' stage coach and horse omnibus. A close look at an Edwardian tram immediately shows up its horse-bus origins. London's buses followed established practice, and still do. The manoeuvrability of the classic Routemaster double deckers is reasonable —they are a metre or two shorter than most NZ buses—but their replacements are less agile. The trouble is congestion on the stairs, making double deckers slow because they spend too much time at stops. Or very slow if the driver is also issuing tickets. Most other countries have stayed with single deck vehicles, which are now best practice:

- Single deck buses can be single- or double-articulated, with capacities up to 50% greater than a London bus. Despite their length, rear axle steering (illegal in NZ) allows the back wheels to accurately follow the drive axle. This and a short wheelbase on the leading section makes the bus *more* manoeuvrable.

- Street-running trams can be over 60 m long (the limit is often the length of a city block), carrying as many people as 6 London buses.

- Off-vehicle ticketing and use of all doors for both boarding and alighting can keep peak-hour vehicle waiting times at stops down to an average of 15 s. One light rail manufacturer claims that 140 people can board in 10 seconds.

But you will have to go underground to see boarding rates like that in Piccadilly Circus. Such is the regulatory power of defunct organisations.

KW

Central American disaster plan

The seven disaster-prone countries of Central America have drawn up an ambitious plan to cut death and destruction from natural disasters by protecting the environment from excessive human exploitation. Floods, earthquakes and volcanoes have claimed more than 100 000 lives and cost more than US$bn 20 in damage in 30 years. The countries, assisted by the World Bank, have created a biological corridor of protected land along the Atlantic coast of the isthmus, from Mexico to Panama. It covers more than a third of the isthmus and contains 7 % of the biodiversity of the planet. "There is an enormous potential for sustainable economic development," said Alicia Barcena, a United Nations economist who has studied the project. "There is a realisation that conservation is a global environmental service that should be paid for by all." She said full-scale trading of the right to pollute, through the Kyoto Protocol against global warming, could bring in more than 1 US$bn/yr in carbon credits.

Financial Times

Tuvalu islanders plan escape from rising sea levels

The people of Tuvalu, a Pacific nation of nine islands, plan to start leaving in 2002. They say the

sea levels are destroying their islands, and they blame climate change. The first group to leave, from a total population of around 10 000, will resettle in New Zealand, which has agreed to accept an annual quota of Tuvaluans. This may continue over the next twenty to thirty years. In addition to drought and coastal erosion, the islanders endured an unusually high number of tropical cyclones during the 1990s. Increasing salt-water intrusion is affecting their food crops. "Perhaps the most pronounced effect of climate change that we are actually seeing is the flooding of low-lying areas," said Mr Paani Laupepa, Tuvalu Ministry of Natural Resources, Energy and Environment. No point on any island is higher than 4.5 meters and all fresh water has to be collected from rainfall. Climate Change

Solar could meet 26% of worldwide energy demand by 2040

Solar power could cover a quarter of global energy demand in 2040, over 9 000 terawatt hours (TWh), a new report by Greenpeace and the European Photovoltaic Industry Association (EPIA) says. Solar power is seen as a way to help combat climate change, provide easier electricity access to the world's poor and give greater energy security and independence than fossil fuels can. "It's a realistic, achievable goal, based on the current state of the industry and opportunities in the market, but it requires clear political support from governments around the world," said Sven Teske, energy expert with environmental group Greenpeace's German branch, in a statement. "In particular, the European Commission must ensure that innovative national incentive schemes for solar electricity are not invalidated on competition grounds."

The Solar Generation report is published as part of the global Choose Positive Energy campaign. That campaign asks governments to provide renewable energy—from solar, wind and hydro energy—to two billion of the world's poorest people in the next decade. The report projects an average photovoltaic market growth rate of 30% up to 2020 and 15% between 2020 – 2040. The International Energy Agency forecasts that global energy demand will rise to 27 000 TWh in 2020, and 35 000 TWh in 2040. Reuters

Possible Maui gas shortfall

Contact Energy has confirmed the long-term possibility of a Maui gas supply shortfall, from approximately 2007. It was expected that future planning could adapt, given the early warning. provided by this analysis. "Given the preliminary nature of this information, Contact is still examining the overall impact it will have on the company including the consequences for the electricity market. However, the company can assure residential and commercial gas consumers that there will be no material impact on the availability of gas as their use represents a very small proportion of total gas consumption."
Contact Energy

(From memory, studies of the Maui platform fatigue life, in the early 1980s, suggested that the field would have to close in 2007. EW)

Commercial rifts on Kyoto

The transatlantic standoff over the Kyoto Protocol is producing tense family squabbles inside some of the world's big multinational corporations. At Ford, Coca-Cola and other global giants, European and US executives are struggling over what position to take with consumers in the debate over climate change. At least two environmental groups are highlighting the rifts, and at least one is urging boycotts. Their hope: to embarrass big companies into pledging support for the treaty, in turn exerting pressure on the Bush administration to reverse its opposition to the pact. The intra-corporate disagreements mirror the divide between European governments and the White House over the Protocol.

President Bush's decision to reject the Kyoto accord has the support of a group called the US Council for International Business, whose more than 300 members include multinationals like Ford and Coke. Some of those companies now are targets of a guerrilla public-relations assault waged by Greenpeace and a tiny London upstart called Families Against Bush. At Ford, the groups have seized on a debate between executives at the auto makers U.S. headquarters and its Volvo Car unit in Sweden. Volvo Car, which prides itself on Scandinavian values of environmental stewardship and attention to safety, had publicly supported the Kyoto document before being acquired by Ford in 1999. Wall Street Journal

Organic tyres

Goodyear have introduced a motor vehicle tyre in Europe, the GT3, with a claimed 20% reduction in rolling resistance and reduced weight, which together reduce fuel consumption by 5%. There is also a 50% reduction in tyre noise. Part of the tyre's silica and carbon black filler is replaced by a polymer based on maize starch. e.nz

Media Release: Employers and Manufacturer's Association (Northern)
"Kyoto plan bodes ill for growth"

(See the opinion piece on page 1—EW)

The intention for New Zealand to ratify the Kyoto Protocol before our trading competitor countries is cause for serious misgivings, says the Employers & Manufacturers Association (Northern).

Our standard of living in NZ is dependent to an unusual degree on the emission of greenhouse gases and relatively low cost energy," said Alasdair Thompson, EMA's chief executive.

The evidence to date indicates ratifying the Protocol will cost anywhere from $ 250 million (the first Government studies) to $ 20 billion (from a study by Solid Energy Ltd), with no more accuracy available than that.

No cost implications of ratifying the Protocol have been put before the NZ consumer— ultimately all of us will bear the cost of it in extra costs for energy and in reduced job opportunities as investment here is discouraged compared to our trading partners, and non-Kyoto countries. Before going ahead with Government's intention to ratify the Protocol (next year), business needs to see far more analysis on the likely economic impacts and longer term implications.

Pastoral agriculture and cheap energy are still the main reasons for employment growth in NZ, and these are the very areas of our competitive advantage that ratifying the Protocol will penalise.

Over 55% of our greenhouse gas emissions come from ruminant animals. For most other countries participating in the Protocol agricultural emissions are insignificant. Hence in NZ the axe will fall heavily on the rest of the economy.

NZ is responsible for 0.2% of the world's greenhouse gas emissions; the loss of energy dependent industries here to countries not signing the Protocol could only harm our future without any possible benefit to the global environment.

Alasdair Thompson

Support for the EMA

(See above, and the report of Pete Hodgson's speech on page 8—EW)

As EnergyWatch went to press there was a release headed *Pan Industry Grouping Formed To Handle Kyoto Policy Concerns*. The first three paragraphs read:

"'A coalition of New Zealand business organisations spanning the electricity, petroleum, gas, forestry, agriculture, cement and transport industries has come together to work on Kyoto climate change policies. This coalition has formed because of rising concerns about the current direction of Government policy', Pan Industry Group spokesman Chris Baker said in a statement today.

"The major concerns are the integrity of the overall process, and the Government's dismissal of the economic risk the Kyoto Protocol represents to NZ.

"We are united in our concern. We don't want to see our economy sacrificed and we want to see the process allow sufficient time for the full impacts to be understood."

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