



EnergyWatch

The Journal of the Sustainable Energy Forum

“Facilitating the use of energy for economic, environmental and social sustainability”

ISSN 1173-5449

Issue 17, December 2000

Published by the Sustainable Energy Forum Inc, P O Box 11 152, Wellington

E-mail sefi@actrix.gen.nz

Editor: Kerry Wood

Future directions for SEF

John Blakeley

I have assumed the convenorship of SEF at a time when the organisation is seeking to clarify its future directions. We have now entered a period when the need for more energy efficiency measures and more renewable energy in New Zealand is commonly accepted as being essential, whereas earlier in its ten year history, in advocating this SEF sometimes sounded like ‘a voice crying in the wilderness.’

New Zealand’s proposed ratification of the Kyoto Protocol by mid-2002 reinforces this need and emphasises the urgency of doing something about it, but politicians and government officials still seem to be struggling to find solutions to meeting the targets set by this Protocol. The recent failure in The Hague (which we discuss further on page 4) is a setback but not the end of the road. Also, the draft National Energy Efficiency and Conservation Strategy is due to be released by the Minister of Energy on or before 1 April 2001.

So where does this leave SEF? Traditionally our activities have been mainly focused on the production of four issues per year of EnergyWatch and the organisation of a Conference about once a year, together with producing submissions and developing policy papers as appropriate.

Perhaps it is time for SEF to be looking for new initiatives? One possibility would be for SEF to assume more of a coordinating role at the boundary between various technical associations as a strong advocate for more energy efficiency/renewable energy measures. Another would be for SEF to seek to raise its profile in trying to make the public more aware of greenhouse gas/climate

change issues as these relate to energy efficiency/renewable energy. New Zealand public awareness and level of understanding on climate change issues is generally low compared with many European countries and the USA.

The Management Committee is now busy planning the next SEF Conference to be held in Wellington in April 2001 (see details below) but will also be giving consideration to future directions for the Forum.

SEF Conference 2001 preliminary information

The 2001 conference of the Sustainable Energy Forum is planned for Wellington on 20 April 2001. The theme will be:

**Energy Efficiency & Renewable Energy—
Keys to Robust Climate Change
Policies for New Zealand?**

The conference will be largely a briefing by EECA on the National Energy Efficiency and Conservation Strategy, to be released in early April. We also hope to have a keynote speech by the Minister of Energy; papers on the Centre for Advanced Engineering’s work on the potential for energy efficiency in New Zealand. There will also be briefings on CoP-6 in The Hague, from people who were there.

Contact SEF to register your interest.

The Power Package: Implications For The Electricity Network Industry

Pete Hodgson, Minister of Energy

An edited version of a speech to the AGM of the Electricity Networks Association on 9 November

I would like to discuss the challenge laid down by the Government's Power Package announced on 3 October. The package has two main aims; to deliver fairness to all consumers, particularly small consumers, and to promote environmental sustainability and energy efficiency.

The Caygill Inquiry's message of self-governance has been adopted for the Government's electricity policy. This model provides flexibility for the industry to keep up with future changes. The challenge to the industry is to work together to achieve the outcomes that New Zealanders deserve. I have confidence in your industry; you have demonstrated your ability to think innovatively and act quickly, and many of you are willing to think in terms of social responsibility.

The stakes are high. The alternative to self-governance is regulation, which would be costly. I expect to see signs of significant progress towards the establishment of an Electricity Governance Board soon. Other issues to be progressed include a consumer complaints resolution scheme, tariffs with low fixed charges, establishing terms and conditions for connection of distributed generation, and agreeing model use of system agreements and pricing methodologies.

I strongly urge you to keep your focus on the Government Policy Statement that was released in draft with the Power Package papers, and will be released in final form before the end of the year. Officials are analysing submissions on the draft Policy Statement and will report to me shortly. Please note that I do not expect to be making major changes to the draft—we are fine tuning it.

Let me pick on two of the many issues in the Policy Statement. The first is the development of a consumer complaints resolution procedure, including the establishment of an Ombudsman or similar scheme, and I note that you have asked Fiona McLeod, the Victorian Energy Ombudsman, to speak to you today. Clearly you have recognised that the creation of an Ombudsman is not just a retail issue. You would be wise to ensure that your

voice is heard during the discussions on Ombudsman issues.

The second is the level of fixed retail charges, one of the most important issues facing electricity consumers today. I have had many letters expressing concern here. The Government expects all retailers to offer at least one tariff to domestic consumers with a low fixed charge—likely to be around 30 cents / day. This policy will deliver fairness to the most vulnerable members of society and will encourage energy efficiency. Retailers have pointed out that fixed line charges from distribution companies are often higher than this, so retailers may make a loss on small-consumer sales. My response is that, while the Government has expressed its expectations, it is up to the industry as a whole to make it work. This may involve distribution companies rearranging their tariff structures to ensure meaningful competition for small domestic consumers. Distribution companies have the opportunity to focus on the fixed charge issue through two measures in the Government Policy Statement—the model pricing methodologies and the model use of system agreements. It is important that retailers and line companies communicate effectively on this issue. If the industry cannot agree to a workable solution, the Government will use regulation, which may involve regulating lines companies as well as retailers.

I have spoken of the challenge of self-regulation, but I would also like you to be very clear about the alternative. Officials are drafting legislation which will give the Government power to introduce its own solutions. I have no doubt that you would find those solutions much less palatable than self-governance. The legislative powers fall into two broad categories. Firstly, targeted powers to address any specific failings of the industry or the Board to meet the Government's expectations:

- Fixed charges;
- The consumer complaints resolution system, including an industry code of practice setting standards for both distributors and retailers in relation to domestic consumers;
- Customer switching;
- Prepayment meters;
- Transition arrangements in the event of a retailer becoming insolvent;
- Connection of distributed generation to distribution lines;

- Disclosure of information about hydro spill and hedge prices; and
- A code of practice for trust beneficiaries' rights to information and meetings.

Secondly, the Government will have power to remedy any comprehensive failure by the industry to establish an effective Governance Board that delivers on Government objectives. In this event, the Government would establish the board as a Crown entity, with members appointed by me. I can give no assurance that members would be chosen in accordance with the industry's preferences. The Board would have the power to make recommendations in relation to regulations or rules applying to industry participants. I would have the power to direct the Board to carry out particular functions or to give effect to particular policies. Funding to cover the operating expenses of the Board would be met by a levy on industry participants.

The legislation will go through the normal select committee procedure, probably early next year, and I expect it to become law some time in the autumn. You will have the opportunity to make full submissions. It is very important for the industry to get its act together before the select committee considers the Bill. If the committee perceives that the industry cannot agree on key issues, questions will be raised about the whole self-governance framework. I am sure you do not want any lack of progress towards self-governance, or industry shortcomings in meeting the Government's objectives, to be a key focus of the select committee.

The legislation also introduces very significant changes for the Commerce Commission, which will be given four new areas of responsibility:

- To administer a targeted price control regime for lines companies, setting and publishing thresholds for the declaration of price control. The Commission will be able to use incentive-based methods of control such as CPI-X. (*limiting price rises to x% below the rise of the Consumer Price Index*)
- To administer the information disclosure regime, which will continue to be an important part of the regulatory regime. The public will continue to have an interest in the activities and performance of all lines companies.
- To carry out a nation-wide recalibration of asset values using the ODV (*Optimum Deprivation Valuation*) methodology. The new ODV

handbook I released as part of the Power Package was subject to careful consultation with the Commission as well as the industry, and should form a suitable basis for the recalibration. The Commission will also be required to review whether ODV is the most appropriate valuation methodology.

- To determine Transpower's pricing methodology if the Governance Board and Transpower are unable to agree on that.

Funding for the Commission to carry out these new roles will be by levy.

New Zealanders have yet to see benefits from the electricity reforms. The industry has spent a lot of effort recovering from those reforms, and I believe the industry has the ability to deliver better service to consumers. That said, I want to finish with some thanks to individual companies and to the Association itself. The new Government has a new style, but that style has required your industry to change too. You know that the Government has created a healthy tension on purpose, and you know that you have to keep moving to stay ahead of us. I ask you not to slacken your efforts, as there is plenty more to be done.

A gap in the Electricity Reforms

An article by Peter King (Californicating Auckland, *e.nz magazine*, November 2000) draws attention to an electricity supply problem not yet addressed by the Government—supply line security. For example, if pylons in a branch of the Waitemata Harbour were to fail, Northland would lose power for several days. In that event, "the whole of the Northland dairy industry would lose the remainder of the year's income, unless enough volunteers could be found to hand milk all the cows to stop them from drying off." This has been known for 25 years, but remedial work is only at the option identification stage.

The key problem is, who pays? Transpower cannot achieve its required return on capital if it funds the work itself, and the retailers all take power from the same points and so gain no advantage from increased security. As engineering consultant Brian Leyland puts it, "The politicians like to pretend that it's solely an industry problem but of course it isn't. If there is a failure they will get dragged in whether they like it or not."

Failure in The Hague: Roll on Bonn

We were too optimistic. EnergyWatch was eager to report a positive outcome from CoP-6 in The Hague, but it didn't happen and the conference was adjourned. Now the next formal opportunity will probably be in Bonn in May 2001: CoP-6 bis (or 6 ½—much harder to type). Bilateral discussions have already started, with NZ involved; in Ottawa in early December and hopefully again in Oslo starting on December 20. In this issue we give a variety of pieces from pre-conference briefings and reflections on the wake; notably a concerned scientist/political observer viewpoint from Donella Meadows in the USA, on page 6. There is a Kyoto Protocol summary on page 11 and a web site selection on page 13.

So what next? In amongst the doom-and-gloom and told-you-so's—as well as celebration by the business-as-usual brigade and a sustained crescendo of public indifference—are starting to appear bits and pieces of answers, which might be—must be—weldable into policy:

- The failure of the negotiations has made it plain that the international community does not have everything under control. Can we now hope for Seattle-style mass demonstrations in Bonn, this time in support of an outcome? How far up the Rhine could an NZ frigate go?
- The climate change denial-mongers have had their day. Even US chief negotiator Frank Loy (he of the custard pie) spoke of,
“nearly total agreement among scientific, political and business leaders that climate change is real and that it merits the intense scrutiny of the international community.”
- Carbon sequestration through biomass needs careful handling to achieve 'ratifiability', with the fine detail kept away from political manipulation. Carbon sequestration through technology is another concern. At The Hague, Loy cited the very effective US market in sulphur dioxide emissions, but a similar carbon dioxide market would be up against the laws of physics. (See *No point in waiting around for leadership* on page 6, and *Carbon credits?* and *Faster global warming predicted* on page 8)
- Businesses large and small are starting to change. Meadows reports major companies pledging real emission reductions of double the

Kyoto targets. Amory Lovins and the hypercar (EnergyWatch 16) have put “the fear of Adam Smith” into the auto industry. Countries, companies, industries and individuals are starting to see real benefits from grasping the new paradigm: falling pollution; falling renewable energy costs; job and wealth creation; even safer streets.

- The physical climate is starting to change noticeably, and is beginning to lead the political climate. How long before flooding, droughts and general mayhem affect decisions to run a four-wheel-drive Urban Assault Vehicle?

By-passing the world's largest energy-consuming nation seems perverse, and the US has perhaps been relying on 'common sense' prevailing in The Hague. But to be bypassed is also a threat, with a risk of having to pay new-technology royalties to Japan or the EU. Or NZ. The election of George Bush may ultimately make little difference. Gore has made no visible progress in 8 years as vice-President, and Bush is an oilman who will listen to companies like Shell, BP-Amoco and Ford (see *Greenwash in retreat?* on page 15).

If the US cannot be brought on board a not-too-leaky compromise, and the 6% of world population and 24% of world energy use they represent are beyond the pale, then what about the remaining 94% and 76%? The Kyoto Protocol comes into force when signed by countries representing 55% of world energy use. Without the US that would be difficult, but not impossible, and doing it would place immense pressure on the US and its allies.

As Energy Minister Pete Hodgson puts it,

“We have to do something. This is probably the most complex international issue that has faced humanity ever, it is almost endlessly multi-dimensional. It is going to have an impact on all of us for the rest of our lives, yet we have not got the ground rules together and we really do need to.”

Fair comment. Amidst such complexity and time pressures it is only too easy to lose sight of what needs to be done—although there is every indication that the New Zealand delegation has kept a sensible course:

- Accept the science as the best available, while working to improve it.
- Make a clear ethical commitment to an outcome of substantial reductions of GHG emissions.

- Make a gap analysis—where are we, where do we want to be, and what is the gap between them? Poor data and inadequate science are gaps too.
- Accept that we will need a package of measures to fill the gaps—there is no magic bullet.
- Be open to change: trend is not destiny.
- Accept the outcome, but recognise that solutions to *endlessly multi-dimensional* problems are never quite right, and may at times be wildly wrong.
- Expect to start the whole process over again. And again.

Looking beyond a hopefully not-too-leaky CoP-6 *bis*, where does New Zealand go? The Government has made a commitment to ratifying the protocol in 2002, which is already driving major policy development. Hopefully that commitment can be maintained: one risk is that our “intoxication with carbon” is going to need careful handling at a political level.

The roaring forties and the old NZED have made New Zealand possibly the best prospect for wind turbines anywhere. If a small country like Denmark can be a world leader (page 17), why does NZ have to import all major equipment? If the Dutch, Germans and Swiss can get so many of their transport policies right, must we be condemned to building more and more roads? And choking them with ever-more used cars, ever-more tatty and with ever-more outdated technology? If the EU and individual companies can make commitments to real targets—without sequestration—do we need to rely so heavily on sequestration to achieve our lower target? Hopefully, effective home-grown policies will begin to emerge at our conference in April 2001.

Clearly, Pete Hodgson already has his battles at home, exemplified by Paul Swain’s antics on petroleum exploration licencing (*NZ oil for sale*, page 14). Hodgson needs and deserves all the support we can give. But the real and apparent penalties of action are shrinking, the only-too-obvious penalties of business-as-usual are growing. Conventional energy costs are rising but new energy costs are falling. It follows that erring on the side of renewables is tending to be the safer course.

Let’s go for it.

New Zealand at The Hague

The text of Pete Hodgson’s speech at CoP-6 on 21 November, lightly edited

Climate change matters to New Zealand. We are a small economy defending a very long coastline. We live well because we grow things well. We grow things well because we have a climate that is even and reliable. We are a western nation and we are a Polynesian nation. New Zealanders have friends and relatives who live on coral atolls that are less than 2 m high, so you see why climate change matters to us. New Zealand is an Umbrella Group nation that has announced it intends to ratify at Rio+10. We have come to get a deal.

Environmental integrity comes at the top of our list. It is above all else. For NZ, this means rules. Rules that deliver gains to the atmosphere. Rules that do not fudge. Rules that exclude agendas which seek to weaken or pretend. Rules that exclude unsustainable technologies. Rules on monitoring, reporting, review, compliance and liability that work and that people trust. Rules that are simple, clear, easy to follow and hard to break. Rules that secure environmental integrity. We have come to The Hague to get those rules.

Once we have the rules NZ wants full flexibility to act within them. Flexibility to develop our own policies and measures. Flexibility to set our own regulations, to trade, to plant, to abate, to adopt new technologies, to research newer technologies. We want the flexibility to start on CDM activities, and like the G77 we want that soon.

The rules that secure environmental integrity will also deliver a price for carbon. It is that price, more than well intentioned political commitment, which will catalyse appropriate technology transfer to the G77. It is that price which will allow the world to move along the cost curve together. It is that price that begins to internalise the environmental externalities. That is, so long as we have the flexibility to use it. Inflexibility will slow things down. We will tend to move at the pace of the slowest Annex 1 nation, and that will be too slow. In short, inflexibility is environmentally damaging.

So, no caps, no constraints, no liability debates, no top heavy regulation, no agendas to damage flexibility with transaction costs. No arguments about who has the franchise on wisdom, or who has the moral authority. We are in this together and each of us has our starting point whether we like it or not. Just let us sort out the rules. Each of us will do the rest.

No point in waiting around for leadership

Donella H Meadows

The most earth-shaking event of the past two weeks had to do with leadership, or lack thereof, but it did not unfold in Florida. It happened in the Netherlands. The stunning lack of leadership came from the Clinton/Gore administration.

The meeting in the Hague was the sixth attempt since the Kyoto conference of 1997 to forge an international agreement that could actually do something about climate change. At Kyoto the industrial countries made solemn promises to reduce their greenhouse gas emissions. Europe promised to cut back 8% from its 1990 level, Japan by 6%, the US by 7%. (And NZ by 0%: EW)

These cutbacks seem laughable in the face of the climatic facts. Scientists worldwide agree that the reduction needed to stabilize the climate is actually more like 80%. The latest scientific assessment has almost doubled the predicted rate of warming if no changes are made. The Arctic ice pack has thinned by 40%. The Inuit people are seeing thunderstorms for the first time in legend or memory. Glaciers are almost gone from Glacier National Park. However, since Kyoto, the world's nations have not even been able to agree on a definition of 'cut back.'

You would think 'cut back' would mean—you know—cut back, burn less fossil fuel. Everyone except the far right wing of the Republican Party realizes that oil, gas and coal burning are the main activities that have sent the climate into bigger floods, droughts, hurricanes, and El Ninos. But the present administration wants to define 'cut back' in a way that will irritate no oil, coal, gas, electric or automobile company and no driver of a gas-guzzling vehicle. Therefore it wants to cut back using forests and farms.

There is some sense to this proposal. Trees and soils can absorb carbon dioxide released by fossil fuel burning. It would be great to subsidize responsible farmers and forest managers. The possibility has even opened the minds of some western Republican senators to the whole climate issue. But calculating how much carbon is absorbed by which forests and farms is a tricky task, especially when politicians do it. Not only should you give credit for tree growth or the buildup of soil humus, you should issue demerits for tree cutting or the destruction of humus. There is a terrible political temptation to ignore the demerits, to fudge the numbers, to pretend you've

helped out the atmosphere when you've actually done no such thing. You may be able to fool the voters that way, but not the atmosphere. Nor the scientists who know how to do proper carbon accounts. Nor, it turns out, the European nations, most of which take climate change very seriously. After days of wrangling, they finally refused to let the US get away with cheating.

So everyone went home mad (at us) and the climate continues to deteriorate. After eight years with Al Gore in as much power as he may ever be, our country is far from a global leader on this issue. We are the obstructionist, the outlaw, the Saddam Hussein. And George W cares as much about climate change as you would expect from a Texas oilman.

So here's the good news. A knowledgeable and courageous US president could help enormously in leading the world's nations toward saving the climate, but an ignorant or servile president can't stop committed nations, companies, or people from doing it anyway. Whatever the United States does, Denmark, the Netherlands and Germany have detailed plans to cut their greenhouse emissions by 20 - 50%—and in the process pioneer and patent the new energy technologies that will inevitably replace coal and oil.

Seven corporations, who together emit enough greenhouse gases to qualify as the world's 12th largest emitting nation, have pledged cutbacks of 15%—twice the Kyoto targets. They even include two forward-looking oil companies, Royal Dutch Shell and British Petroleum (whose new motto is *Beyond Petroleum*). Polaroid is working toward cuts of 25%, DuPont 65%. Real cuts, not offset by trees.

Honda's and Toyota's new cars that get 50 - 70 miles per US gallon (4.7 - 3.4 l/100 km) are selling faster than expected. Daimler-Benz is close to marketing fuel-cell cars that run on hydrogen (and emit only water).

And you and I don't need a president or a global treaty to tell us to use less energy. We benefit immediately from doing so, with lower bills, less air and water pollution, less dependence on the Middle East, and ultimately—hopefully—a climate that is no longer zinging out of control. No point in waiting around for leadership, in Florida or the Hague. Leaders only get their power from us, anyway.

Copyright 2000 Sustainability Institute,
Hartland, Vermont, USA

Try again on greenhouse

The Age, Melbourne

Enough heat to raise the global temperature another notch or two, but after a couple of hundred (highly polluting) jet plane journeys, dozens of hours of arguments and countless reams of paper, virtually no light has been shed on the most serious environmental problem facing the planet. Instead, delegates from 180 countries spent two weeks in The Hague essentially blaming each other and arguing about how their countries could do as little as possible to reduce the threat of global warming. The failure of the United Nations climate summit to achieve any agreement on how to cut greenhouse gas emissions must be a crushing disappointment, not only to green groups but to anyone who is not beset by that terminal condition, short-term thinking. Few, if any, at The Hague were arguing that the problem does not exist: there is now the closest thing possible to a scientific consensus that global warming is real and that if urgent measures are not taken the earth's temperatures could rise more quickly than previously predicted.

But between acknowledging a problem and agreeing on a solution, there is a chasm. The purpose of the conference was to agree on steps to implement the accord reached in Kyoto in 1997, which called for a 5% average cut in developed countries' 1990 levels of emissions by 2010. The stumbling-block in The Hague was the refusal by the European Union to accept the proposal of the United States—backed by Australia, Canada and Japan—to allow developed nations to count carbon dioxide soaked up by forests, so-called carbon sinks, against the emission reduction targets.

Notwithstanding that the high moral ground taken by some European countries, in particular France, has been made possible by their use of nuclear power—which the EU now wishes to exclude from the 'clean development mechanism'—the strong likelihood is that on the issue of carbon sinks they are right, and the US and Australia are wrong. There is significant doubt about whether enough trees are—or ever can be—planted to offset the amount of emissions from the burning of fossil fuels. The only real solution to stopping global warming is to reduce the production of greenhouse gases at their source, and the truth is that on this issue Australia's position is very vulnerable. We have done very little towards meeting even the generous targets that were allowed us at Kyoto. Yes, our economy is unusually dependent on the export of fossil fuels,

but we are not the only country that is being forced to make choices between jobs and the environment. In the end, the one is entirely dependent on the other. The failure of The Hague meeting does not, cannot, mean the end of efforts to reach international consensus on ways to reduce climate change. There will be other meetings. It is to be hoped that at those meetings Australia's role will be more constructive.

Australia receives Fossil of the day award

Australia has received its first *Fossil of the Day* award at the climate change negotiations in the Netherlands.

More than one hundred non-government groups attending the conference have voted to give Australia—along with US, New Zealand and Canada—the award following their push to remove the need for carbon sinks to comply with environmental guidelines.

During negotiations on 15 November, Australia, backed up by the USA, New Zealand and Canada, proposed that the rules for carbon sinks in the Kyoto Protocol do not have to conform with existing international environmental agreements about forests, wetlands, and biological diversity.

Despite being a signatory, Australia is arguing that references to international agreements such as the Convention on Biological Diversity, the Ramsar Convention on Wetlands, and the Convention to Combat Desertification be removed from the rules for 'eligibility' and put into a meaningless preamble. This would mean that the environmental effects of carbon sinks developments established under the Kyoto Protocol—such as through plantations—would not have to meet standards set by environmental agreements to be regarded as eligible carbon sinks.

Climate Action Network Australia

*(The inclusion of NZ here may be an accident
—were we lumped in with the rest
of the Umbrella Group? EW)*

Carbon Credits?

Some of the carbon credit schemes proposed are:

- Spread iron filings on the Southern Ocean to stimulate plankton growth. Calculate the carbon in the bodies of the extra plankton when it dies and sinks to the bottom, and claim credit. (*Assume that the bodies only rot in deep water and the carbon dissolves EW*)
- Feed cattle, pigs and sheep special diets to reduce flatulence and so claim credits for reducing the amount of methane in the atmosphere. (*The Guardian describes this notion as inducing derisive laughter in The Hague. In practice it might be helpful—especially to NZ—but how do you demonstrate the gains? EW*)
- Buy the carbon dioxide that Russia and the Ukraine have not emit since 1990, as a result of the collapse of their economies.
- Buy forests and claim credits for not cutting them down, or cut down mature hardwood

“In many ways, the US target is the most ambitious, given its tremendous economic growth since 1990. Based on current projections, the US will have to reduce emissions from a business-as-usual scenario by over 30% in real terms to meet its Kyoto target.”

Frank E. Loy, Under Secretary of State
for Global Affairs, USA

forests to plant fast-growing softwoods and claim a greater credit.

- Use modern farming techniques such as direct drilling into the soil, rather than ploughing.
- Build nuclear power stations and claim them as a clean technology.
- Put mirrors in space, to reflect some of the sun's incoming radiation back into space and offset greenhouse warming.

The Guardian

Faster global warming predicted

A new alarm on climate change has been sounded by UK scientists, who have identified a new feedback effect. Researchers from the Meteorological Office's Hadley Centre say land temperatures will rise by 6 °C this century, 2 °C more than their previous estimate. The results come from a computer model predicting that global warming will accelerate as warmer conditions reduce carbon dioxide absorption by soil and vegetation.

The oceans, soil and vegetation now absorb more than half of the carbon dioxide emitted into the atmosphere. The Met Office predicts that soil and vegetation will stop absorbing the gas and start emitting it by 2050. The main causes will be greater respiration by plants in warmer soils and damage to the Amazonian rain forest caused by drier conditions. The cost of absorbing the extra emissions could be as high as US\$ 1 200 billion (*thirty times NZ's GNP: EW*), according to a Princeton University researcher.

In a separate Nature paper, Met Office researchers have questioned the wisdom of planting trees to soak up extra carbon dioxide, which is one of the proposed methods in the Kyoto Protocol. They argue that planting new forests will not slow global warming as much as expected. “Trees have

dark leaves and bark, and stand out against light backgrounds, particularly in higher, snowy latitudes. As a result they stop sunlight being reflected back into space. Our calculations show that in places like Canada and Siberia, planting forests would increase warming rather than decrease it.” The findings reinforced the case for caution in allowing forest “sinks” to be used to meet commitments under the Kyoto Protocol.

Financial Times

Earth will get hotter than feared

John Vidal

Leading climate scientists now agree that human pollution, mainly from fossil fuels, has added substantially to global warming in the past 50 years and the the Earth is likely to get far hotter than previously predicted.

A summary of the 1000 page final draft of research by the Intergovernmental Panel on Climate Change—a United Nations-sponsored group made up of the world's leading atmospheric scientists—has been sent to governments.

The report suggests that the upper range of warming over the next century could be far higher than estimated in 1995. Its worst-case scenario envisages the average global temperature rising by 6°C above the 1990 level. Average temperatures today are 5°C higher than they were at the end of the last ice age. Five years ago the panel predicted that average temperatures would, at worst, rise by 3°C.

The leaked document is the first major update of climate prediction since 1995, when the panel concluded that there was "a discernible human influence" on the Earth's climate because of the greenhouse effect—caused by the buildup of heat-trapping chemicals in the atmosphere.

The panel has concluded that the burning of fossil fuels and emissions of man-made chemicals "contribute substantially to the observed warming over the last 50 years". The scientists also believe that temperatures could rise far higher and faster than previously predicted if emissions are not curtailed.

Evidence of increased warming has been found in retreating glaciers, thinning polar sea ice, increased precipitation and the big rise in weather-related natural disasters.

Global warming will deeply affect poor countries, leading to huge numbers of refugees, crop failures and extreme weather. Most emissions of carbon dioxide are from rich countries. the United States is responsible for 23% of emissions; Britain's 3% is equal to that from all of Africa.

The Guardian

Greenhouse winners and losers

UK scientists say they can predict how climate change will affect almost every country in the world this century. The study is the work of the Tyndall Centre for Climate Change Research, based at the University of East Anglia.

Heating will be most marked in the Arctic. The Russian and Canadian Arctic should expect the largest temperature rise—more than 6°C by 2100.

Parts of central Asia, where temperatures already regularly exceed 40°C, can expect some of the biggest rises, with more than 5°C in countries from Kazakhstan to Saudi Arabia, several of them affected this year by famine.

Next in line are a number of countries in West Africa which are also prone to drought. Among countries expected to warm by 4 - 5°C are India, Egypt and the US. Those likely to warm least—3°C or below—are the UK and Ireland in the northern hemisphere, and Argentina, Uruguay, Chile and New Zealand in the south.

The researchers developed a 'vulnerability index'—national wealth divided by predicted temperature rise—to assess the probable impact of warming on its population. By this criterion, the four most vulnerable countries are Afghanistan, Ethiopia, Sierra Leone and Tanzania. The least vulnerable country is Luxembourg.

The researchers acknowledge that temperature is only one index of climate change, and that a country's GDP cannot capture every dimension of vulnerability to it. But the Tyndall Centre's director, Dr Mike Hulme, said that, almost without exception, the countries threatened most starkly by global warming produced the smallest amounts of the greenhouse gases believed to be causing it. He said: "What this analysis shows is the relation between how much carbon each block of countries emits and how vulnerable they are to climate change. It highlights the disparity between rich and poor nations. The climate conference will focus on the richer nations who must act now to start reducing their emissions. This is the main issue facing ministers at The Hague."

New Scientist

Hague treaty 'robs the poor'

A UK climatologist has attacked the developed world's self-serving ideology in tackling climate change. Dr Mick Kelly accuses the rich of patronising the poor, and seeking to save the climate on their terms alone. He says they should be concerned with justice, not the free market.

Dr Kelly challenges the view that the developing countries are particularly vulnerable to global warming, which he says, "carries with it a considerable amount of ideological baggage." He argues that future climate instability will hardly worsen the plight of many countries that are already highly vulnerable. And some of them have in any case, "developed a considerable capacity to cope and adapt".

Dr Kelly says it is arguable that the industrialised nations are at greater risk from climate change.

Helping the poor to cope with existing weather and climate is the way to involve them in confronting global warming. He compares efforts to tackle famine in Africa with the time, money and science "committed to the comparatively nebulous threat of the greenhouse future."

Dr Kelly is also critical of one of the main negotiating areas at The Hague, the so-called flexibility mechanisms. He foresees a future where carbon is an internationally-traded commodity, and the trade in it an instrument of foreign policy. To parallel OPEC, Dr Kelly calls for the creation of OCPEC, the Organisation of Carbon Permit Exporting Countries. He asks, "Why should the nations of the world not decide to combat the threat of global warming on the basis of an explicit ideological commitment to equity between peoples, rather than a selective, oft-blind acceptance of free market principles?" BBC

Oz has the highest gas emissions in the world

Australia's attempts to meet its Kyoto greenhouse gas targets have been slammed by a Senate committee. The Environment Committee's report on global warming says Australia has the highest emissions per capita in the world and is already well over the target set in Kyoto in 1997, which allowed an increase on 1990 levels; a much more generous deal than other developed nations.

Australian Broadcasting

Halving Oz emissions

An expert on sustainable energy has challenged all levels of Australian government to reduce greenhouse gas emissions, saying that enormous savings could be cost-effective with only small improvements in technology. Over the next 30 years Australia could halve its GHG emissions from energy and transport, compared with the 1990 level, and by 2010 could meet its "weak" Kyoto Protocol commitment to an 8% increase compared with the 1990 level.

These claims are made in a discussion paper by Professor Mark Diesendorf, Director of the Institute for Sustainable Futures at the University of Technology, Sydney. "My overall strategy is that the economic savings achieved by substantial increases in the efficiency of energy use and the removal of subsidies to inefficient energy use be used to fund the transition to an energy supply system based on a mix of renewable energy and natural gas sources for electricity, heating and cooling, and a greater role for public transport, cycling and walking in cities", he says.

Over a billion dollars a year could be redirected from tax concessions and other de facto subsidies that encourage GHG emissions, including:

- Tax deductions for the purchase and use of company and government cars;
- Very low import duty on 4-wheel drive vehicles compared with that on cars;
- Subsidies to oil exploration and to the production of shale oil, a fuel with double the GHG emissions of petrol;
- Cheap electricity and infrastructure received by aluminium smelting;
- Biased funding of roads compared with infrastructure for public transport, cycling and walking;
- Failure to follow New Zealand's lead and implement mass-distance charges for heavy trucks in populous areas of Australia;
- Inadequate taxes on car parking in city centres and sub-centres.

Using the revenue obtained from eliminating concessions like these, Diesendorf proposes a number of key actions, such as:

- Increase the funding to local governments from the Cities for Climate Protection program of the Australian Greenhouse Office by a factor of 10.
- With this and other funding, develop integrated local transport and land use plans and implementation programs, including demand management of traffic, improved facilities for cyclists and pedestrians, orientation of streets and blocks in new subdivisions, and incentive programs for local businesses to monitor and reduce GHG emissions.
- Increase the modest target for new renewable electricity generation from 2% to 5% of total electricity demand in 2010 and set a similar target for renewable sources of heat.
- Mandate energy ratings and energy performance standards for all homes, equipment and appliances.
- Adopt legislation similar to the USA's Transportation Equity Act, which requires roads to compete with rail for federal funding, and includes environmental impacts in assessments of proposals.
- Ensure that new investments in major transport links, suburbs, power stations, shopping centres and employment centres are planned to minimise GHG emissions. In practice, this could mean a ban on new urban freeways, new coal-fired power stations and new shopping malls located outside walking distance of public transport nodes.
- Remove subsidies from electricity and fuel prices in rural areas, and replace them with equivalent rural-area location allowances. This would enable country people to invest in cost-effective energy efficiency measures, solar hot water and small-scale solar and wind power.
- Remove incentives for selling excessive electricity from electricity retailers in all States. The goal should be the reduction of energy bills, not the price of a unit of electricity.

Diesendorf points out that most of these proposed actions would involve institutional change and so would be inexpensive to implement. A few would require "real funding; "For Australia's international credibility, something similar to this package of key actions is essential", he says.

Further information:

<http://www.isf.uts.edu.au/>, see under News

The Kyoto Protocol

The Kyoto Protocol was adopted in 1997. For industrialised countries—those which have been mostly responsible for increases in greenhouse gases since the mid-1800s—the Protocol establishes legally binding targets to reduce emissions. These targets relate to six greenhouse gases:

Carbon dioxide	CO ₂	
Methane	CH ₄	
Nitrous Oxide	N ₂ O	
Hydrofluorocarbons	HFCs	(both a range
Perfluorocarbons	PFCs	of chemicals)
Sulphur hexafluoride	SF ₆	

The first targets cover the first commitment period, from 2008 to 2012. The Protocol requires developed countries and countries with economies in transition to reduce their emission of greenhouse gases to about 5% below 1990 levels, or considerably more after allowing for growth since 1990. The specific target for New Zealand is to get back to 1990 emission levels.

The protocol will not come into force until enough countries have ratified it. This may happen in 2002, the 10th anniversary of the Earth Summit in Rio de Janeiro where the Framework Convention on Climate Change was signed. The New Zealand Government has announced that it intends to ratify the Kyoto Protocol by mid-2002.

Compared with other countries, New Zealand makes an insignificant contribution to the climate change problem—we emit about 0.2% of global greenhouse gases. But the risks to our communities and our economy are significant. The only way to reduce these risks in New Zealand and the Pacific is to encourage other countries to participate actively in an international effort to reduce emissions. All countries need to work together to reduce the build-up of greenhouse gases caused by the use of fossil fuels and deforestation. We also need to increase absorption of CO₂ by growing new forests and enhancing existing forests.

NZ Government

NZ industry chasing greenhouse deals

New Zealand's biggest corporate users of energy want to convince the Government that they should be able to negotiate their own deals to reduce emissions of greenhouse gases. Energy Minister Pete Hodgson told the Greenhouse Policy Coalition before leaving for The Hague that the Government was investigating the possibility of negotiated greenhouse agreements as part of a package of measures to be brought in before 2008.

"From a Government perspective any scheme would need to be transparent and credible, especially if participation implied a degree of exemption from other potentially costly measures," Mr Hodgson said. "Clearly, industry would need to consider it worthwhile to go to the effort of participating and undertaking pre-2008 actions. This is one reason why the Government has agreed that participation in such a programme would not disadvantage firms in subsequent or parallel policy initiatives." The members of the coalition represent 10% of GDP but account for a third of the country's greenhouse gas emissions (*carbon dioxide emissions? EW*). They are spread across the cement, aluminium, steel, methanol, forestry, dairy, oil, gas and coal industries. "A carbon tax is one of the tools in our toolbox and we will not agree to forgo it," Mr Hodgson said. "We may or may not use it. We haven't decided. "We have made it clear that if we decide we want one we won't introduce a carbon tax until after the 2002 general election."

NZ Herald

Poverty in OPEC?

An oil price bonanza could prove an embarrassing handicap for OPEC when the cartel steps up a lobbying campaign against an international climate protection pact this month. The exporters' spectacular windfall revenues risk diverting attention from their main message—that their 500 million people are threatened with economic ruin by the Kyoto Protocol. "The dominant attitude in the international negotiations on climate change is bent on driving a stake into the heart of oil production," said President Olusegun Obasanjo of OPEC member Nigeria.

The 11-nation Organization of the Petroleum Exporting Countries has long feared that efforts to

cut emissions caused by burning fossil fuels will cripple demand for its staple product. And despite some impressions that rising oil revenues are enriching the already bloated balance sheets of its members, OPEC finds itself saddled with huge debts after a quarter century of dizzying expenditure on industrialisation, subsidies, services, luxuries, weapons, waste and corruption.

Member governments' US\$ 360 billion in combined foreign debt is equivalent to 40% of their collective national wealth as measured by gross domestic product. That sorry-looking ratio worsens to 58% if Saudi Arabia's huge estimated US\$ 160 billion domestic debt is included. However, it is hard for OPEC to plead poverty with oil at US\$ 30 a barrel.

OPEC is set for a 60% rise in gross oil revenues this year to over US\$ 200 billion, earning more from fuels implicated in climate change than at any time since the early 1980s. In contrast, many African and Asian nations are struggling with energy import bills hoisted by an OPEC-inspired rise in oil prices—developing nations generally use twice as much fuel per unit of economic output as rich nations.

OPEC has had little success in persuading rich nations to ease green regulations that allow consumer governments to earn more from oil through tax than exporters do from selling it. OPEC is similarly unlikely to win backing for its demand for financial compensation for any losses caused by implementation of Kyoto.

OPEC cannot look to Western majors for unanimous support due to unprecedented private sector disarray on the climate issue. A long-standing policy split has widened sharply in the past two years, with European companies showing far more sympathy for the environmental arguments than US counterparts.

"The issues of global warming and of air quality in the world's cities are real even if some of the science, particularly on climate change, is still provisional," says BP chief executive John Browne. "All science is always provisional—but the risks are there and to ignore them would be foolish as well as arrogant."

Reuters

Useful resources

IISD

An updated on-line copy of this list is at:
<http://www.iisd.ca/climate/cop6/online.html>

Vital Climate graphics

UNEP/GRID-Arendal, in cooperation with the IPCC secretariat, UNEP Nairobi and CICERO at the University of Oslo, have prepared a set of 40 graphics presenting the Greenhouse effect, climate change and potential impacts. See:
<http://www.grida.no/climate/vital/>

Business Council for Sustainable Energy

Emissions Trading: Issues and Options for Domestic and International Markets
<http://www.bcse.org/Graphics/emissionstrading.pdf>

Centre for Science and Environment

Check out Centre for Science and Environment's new internet newsletter focusing on equity in climate change negotiations, from the Southern perspective. It is designed to inform on issues pertaining to global warming, the CoP negotiations and much more. In this issue: Should fat cats guard the cream, NGOs in glass houses, and others... at:
<http://www.cseindia.org/html/cmp/climate/ew/index.htm>

EcoEquity

Climate Justice Blues is a commentary on the CoP-6 stage, as it is currently set, and on the fact that the equity issue, and particularly the notion of convergence to per-capita equity, cannot be indefinitely pushed aside. See:
<http://www.foreignpolicy-infocus.org/commentary/climate-justice-blues.html>

World Resources Institute (WRI)

How Will the Clean Development Mechanism Ensure Transparency, Public Engagement, and Accountability? pinpoints the areas within the CDM's regulations where public access and participation should be introduced:
<http://www.wri.org/cdm/public.html>

Making Small Projects Competitive in the Clean Development Mechanism describes a Fast Track Proposal to negotiators that would help small,

sustainable energy projects compete in the CDM:
http://www.wri.org/cdm/fast_track.html

Designing the Clean Development Mechanism to meet the needs of a broad range of interests highlights ways that the CDM can be designed which promote broader benefits:
(<http://www.wri.org/cdm/cdm-note2.html>)

Global Climate Coalition

The Global Climate Coalition is an organization of trade associations established in 1989 to coordinate business participation in the international policy debate on the issue of global climate change and global warming:
<http://www.globalclimate.org>

Tyndall Centre for Climate Change Research

New Country-by-Country Analysis Reveals Global Hotspots: A new analysis published in November by the Tyndall Centre for Climate Change Research for the first time identifies for individual countries past and estimated future rates of climate change:
www.tyndall.uea.ac.uk/press.htm

US Global Change Research Program

The US Global Change Research Program (USGCRP) has unveiled its improved web site. The site has been upgraded to better serve the public, the scientific community and participating government agencies. The \$ 1.7 billion/year USGCRP is coordinated through the National Science and Technology Council's Committee on Environment and Natural Resources, and embraces activities in 9 separate Federal agencies:
www.usgcrp.gov

Centre for Development and the Environment

The Kyoto Protocol and the Carbon Debate. A plea for an international policy on sustainable resource management:
<http://www.cde.unibe.ch/info/pdf/waldco2.pdf>

UN Framework Convention on Climate Change

www.unfccc.de

US Environmental Protection Agency

Good technical data
www.epa.gov

NZ oil for sale

Associate Minister of Energy and Revenue Minister Paul Swain spoke to the Petroleum Exploration Association on 16 November—at the time of the CoP-6 talks in The Hague—without a single mention of climate change or any related issue. Some of his more groveling words are given below, in order but—of course—out of context:

From the Government's point of view it is oil that New Zealand needs now. More oil will help boost the economy and improve our foreign exchange earnings. But we also need to locate more gas to fulfill our long-term energy requirements.

This leads me to the issue of partnership between government and the industry. Open dialogue is important and while I've spoken of what the industry has achieved it is important to note the government is working to get the playing field as level as possible for you to do well on.

I know compliance costs are a significant issue and as Commerce Minister I have put compliance costs clearly on the agenda. We have produced a four pronged approach which will be run under the banner of "Simplicity 2002". That four pronged approach is:

- *A Business Compliance Cost Panel. The Panel makeup should be finalised by Christmas, and up and running early next year.*
- *Implementing the 1998 Recommendations of the Commerce Select Committee. Officials will report to me on the implementation of that committee's recommendations by the end of this month and I will establish an officials committee that will deal with the issues from the Business Panel.*
- *Industry specific test panels: I expect an implementation plan for industry specific panels by the end of this month.*
- *Business Compliance Cost Statements: The government will publish a new business compliance cost statement as part of all new legislation. This is a very significant step for government.*

Paul Swain's speech also included the following:

The need for the oil industry to advance and change was summed up recently by Sheik Ahmed Zaki Yamani - OPEC's spokesman of the 70s and Saudi Arabia's oil minister for most of the 60s through 80s. In September this year he had a go at OPEC when he said: "OPEC

will pay a heavy price for not acting in 1999 to control oil prices. Now it is too late. The Stone Age came to an end but not for a lack of stones. And the oil age will end, but not for a lack of oil."

"I think the oil and gas industry recognises this. Obviously this doesn't mean plug up the wells and move out of town—what it means is new directions and opportunities—witness the recent rebranding and new investments by Shell and BP.

Swain seems to have missed Sheik Yamani's point, that the current high prices of oil will trigger a switch to sustainable energy. See *Poverty in OPEC?* on page 12 and *World oil production* on page 19.

Proceedings SEF Conference 2000

We apologise for delays with finalising the Proceedings of SEF's 2000 Conference in Dunedin.

They should be available early next year.

Copies will be sent without charge to all who attended the Conference.

Further copies will be available from SEF on request, and will be automatically sent to those who have requested them, price \$ 30 including GST.

Orders to sefi@actrix.gen.nz, or
P O Box 11 152, Wellington

Greenwash in retreat?

The Global Climate Coalition (GCC), a business group dedicated to questioning claims that humans cause global warming, has softened its tone. "They've certainly undergone a fairly significant strategic retreat," said Dan Esty, Director of the Centre for Environmental Law and Policy at Yale University. "That has to be a signal that everything they were doing previously wasn't working."

The GCC has spent millions of dollars on arguing that research into global warming is still too limited to draw any firm conclusions. It has lobbied fiercely against the 1997 Kyoto protocol. Yet their fortunes have waned. In recent months image-conscious energy and automobile companies have dropped out of the group, including oil giants BP, Texaco, Royal Dutch Shell and Ford. GCC then cancelled individual corporate memberships and limited their ranks to industry associations like the American Petroleum Institute (API) and the Edison Electric Institute. However, many oil and energy companies remain GCC members through their membership of the API.

The GCC's shift was clear from its surprisingly conciliatory tone to last month's draft report from the UN group Intergovernmental Panel on Climate Change (IPCC) that contained its strongest word yet on global warming. Rather than shun the report, the GCC aligns itself with it. "The report reaffirms what we've been saying," said GCC spokesman Frank Maisano. The IPCC report concludes that by the end of the century human impact on the environment could raise global temperatures 6 °C. The GCC disagrees with the numbers, but it agrees that global warming is a problem that needs to be dealt with. It argues for voluntary greenhouse gas reductions by businesses rather than strict timetables.

Not everyone is convinced. "They are trying to give the impression that they are doing something," said Chris Hayday, an official with the Sierra Club. "In reality they are just up to their same old games and tricks, which is to confuse people on the severity of the problems and the need to take action." GCC's critics add that just ahead of the Kyoto 1997 meeting, the group sponsored a US\$ 13 M television campaign saying that the price of gasoline would increase by US\$ 0.13 / litre if the Kyoto timetables were implemented.

Reuters

NZ needs heavier trucks

Allowing heavier trucks on our roads would help the Government reach its goals of halving the road toll by 2010 and reducing the level of CO₂ emissions, according to Road Transport Forum chief executive Tony Friedlander. He was commenting on research the Forum had released which showed that major economic benefits would be achieved if the Government allowed increased weights and dimensions for trucks. These benefits included a GDP increase of 3.7%, 33 000 new full-time jobs and more than \$ 1.5 billion in exports. "This is a great opportunity for the Government to boost our economy and attack two of its major policy aims at the same time," said Mr Friedlander.

(EnergyWatch has seen an earlier RTF report on the same subject. It discussed a gross weight increase from 40 tonnes to 60 but gave no details on either dimensions or axle loads—the criteria needed to assess the effects on roads. It drew a distinction between upgrading only main routes and upgrading all routes, but appeared to use the first to calculate costs and the second to calculate benefits—for example, milk tankers figured prominently in the savings)

New Chief Executive at EECA

Heather Staley has been appointed chief executive of the Energy Efficiency and Conservation Authority (EECA). She took up her new position on November 20. She has considerable energy sector experience, working in senior management roles for many years with the former ECNZ. She has an MBA and a Master of Social Sciences in economics.

EECA chairman Mike Underhill said he was delighted Ms Staley has accepted the chief executive's role. "EECA has a critical task in developing an energy efficiency and renewable energy strategy for New Zealand. This involves detailed interaction with many sectors, from big business to local communities. Heather has proven strategic ability and will provide strong leadership. She also has exceptional skills in recognising and addressing issues and gaining stakeholder buy-in. Those will be priority areas for EECA in future."

How much wind energy is too much?

Kerry Wood

In Europe the proportion of grid energy that can be supplied by wind turbines is at least 20%. Recent studies have suggested that 30% is practicable in NZ, but does this give enough security of supply?

In the UK the limiting problem is neither variability nor reliability of supply: it is variability of demand. The stability of power from a wind farm is much greater than from an individual machine, simply because a gust will not hit the whole farm at once. It is more reliable again for multiple wind farms. Supply reliability is also high over the 4–12 hour forecasting period used to match supply and demand.

Demand can vary very rapidly: the UK system has had demand increases of as much as 6% in a minute or two, at the end of a popular TV programme. This means that it is reasonable to treat wind supply as 'negative demand'. In the UK, treating it this way will make very little difference to forecasting accuracy if 20% of capacity is from wind turbines.

The main limit is when high supply of wind-generated electricity coincides with low demand. This can be overcome by shutting down wind turbines—'negative load shedding'—or perhaps using the excess energy somehow—'customer negative load shedding'—such as by resetting a domestic hot water thermostat while the excess energy is available (automatically: minimum demand is usually in the small hours!). Another option is pumped energy storage, as used in the UK—in effect a hydro electric station arranged to run in either direction.

Some of the differences in applying all this to New Zealand supply are:

- Our high use of hydro-electricity means that we have plenty of capacity—to cover a dry year—so a relatively high use of wind turbines could be used to stretch water supply.
- We don't have nuclear power stations, which in the UK tend to monopolize base load supply because of the safety implications of turning them on and off (hence the UK's pumped storage schemes).
- We do have the deregulated environment that the UK system is about to try.

New Energy-Wise awards

A new opportunity to get recognition for projects that you have been involved in. With the release of the National Energy Efficiency and Conservation Strategy next year, the profile of energy management activities in New Zealand is expected to boom. We encourage all SEF members to enter and nominate worthy projects for the Energy-Wise Awards 2001.

Entry forms, and details of all nine award categories, are available from EECA, phone (04) 470 2224. Information and entry forms will also be available on EECA's website from January 2001:

<http://www.eeca.govt.nz>

Entries close 20 April 2001. The awards will be presented at the Energy-Wise Awards presentation dinner in Wellington at the end of May 2001. The award categories are:

Industrial/manufacturing sector

For energy efficiency achievements by light and heavy manufacturing organisations

Commercial/services sector

For energy efficiency achievements in facilities occupied by private and institutional organisations

Public sector leadership

For energy efficiency achievements by central and local government sector

Service and projects award

New

To recognise initiatives that have improved end use energy efficiency through services, products or projects.

Smaller user award

For energy efficiency achievements by organisations using less than \$ 250 000 of energy a year

Energy manager award

To recognise individuals who have effectively managed significant energy accounts for at least two years

Transport award

For a transport demand management or energy efficiency initiative

New renewable energy award

For a project or technology using a renewable energy source

Residential award

New

For a project that has improved energy efficiency in the residential sector

Sponsorship opportunities are still available for several award categories—please contact Sheralee MacDonald <sheralee.macdonald@eeca.govt.nz> or phone 021 682 534.

Car-Free Day in Chengdu, China

Lydia Feng

On Saturday 14 October 2000, Chengdu City, People's Republic of China, started China's first-ever "Car-Free Day" in the central part of the city, about 14 km², and including 321 streets within the boundaries of the Fu and Nan Rivers. From 10.00, no motor vehicle was allowed on the roads, except for buses, taxis, tourist vehicles and vehicles for special purposes such as garbage and emergency services. Other vehicles, such as bicycles, rickshaws and disabled people's tricycles, were everywhere, not just in the bicycle lanes.

According to official statistics in the local newspapers, the volume of motor vehicles passing the five major traffic junctions on that day was 65.2% less than the average volume in June this year. Another source said that among the 650 000 motor vehicles in the city, only 20 000 were on the roads, most of them taxis. The nitrogen oxide and particulate pollutants were reduced by 35% and 29% respectively.

The Mayor of Chengdu, Wang Rongxuan, led a special cycling tour by UN and municipal officials to the central part of the city, the Tianfu Square. Later, other interesting events occurred on the streets: bicycle tours around the city involving 2000 aged people, rickshaw marriage floats, and free city tours offered by bus. The streets were crowded with curious people who eagerly wanted to experience their city without motor vehicles.

A public attitude survey was conducted at the Tianfu Square. Forty minutes after the starting time of the Car-Free Day, the "agree" section of the large survey form on the board was filled with people's "support" ticks.

Meanwhile, a large-scale public campaign was launched among schools and university students. Students were organised to set up a number of environment protection promotion stands on the walking paths where they read out environment protection articles to the passing flow of pedestrians, taxi drivers and cyclists.

At 17.00, the completion and success of the whole campaign was announced. National and local media covered this event extensively, among which positive comments dominated. In a rare event, the sky above the city, showed its beautiful blessing blue on that day, leaving an unforgettable memory in the citizens' minds.

Danish winds of change

Bacon and beer have long been staple components of the Danish economy, but a third commodity is fast joining them: wind energy. Since the 1970s, Denmark has taken the lead in harnessing the power of wind. Now Denmark's Vestas Wind Systems, the world's largest manufacturer of wind turbines, has been promoted to the Dow Jones Nordic index of Scandinavia's 30 most prestigious shares.

The nation has nearly 60% of the global wind turbine market and is responsible for installing more than half the world's existing wind energy capacity. And with a forecast from Vestas and its Danish peers of securing orders worth Euro 10 billion during the next five years, in a market growing 20% a year, it is set to get stronger still.

Financial Bears point out that demand for windfarms relies not on market forces, but on the political will of governments under pressure to reduce carbon emissions in accordance with targets sets at the Kyoto summit on global warming in 1997. But Dr Craig Mackenzie, director of the ethics unit at Friends Ivory & Sime, specialists in socially responsible investment, sees this as positive. "One of the industry's key drivers is that European governments are rigging the market in their favour," he said. And he does not believe the political wind is about to change. "Given the pressure to make Kyoto targets, governments want to make progress as fast as possible and wind power is the fastest way to do it," he said.

Wind already provides 7% of Denmark's energy requirements and is forecast to supply 10-15 % of Germany's within 15 years. "If that is replicated throughout Europe the wind turbine market is going to grow by 100 times," said Dr Mackenzie. He forecast that wind could generate 10% of global energy needs within 20 years, creating a US\$ 100 billion industry.

Even if wind power achieves only a fraction of Dr Mackenzie's targets the fact that wind currently provides just 14 GW of the world's total generating capacity of 3 500 GW shows there is no lack of headroom. And as long as the demand for wind power increases, the turbine manufacturers will prosper. Competition will undoubtedly emerge to threaten Denmark's hegemony. But if Vestas staves off predators and remains ahead of the field, Dr Mackenzie said it has the potential to become "the next Microsoft".

Financial Times

Mini-Whats

Waste minimisation strategy developed

The Ministry for the Environment have published the advice of a Waste Minimisation and Management Working Group, *Towards a New Zealand waste minimisation strategy*. The group was set up by the Ministry and Local Government NZ. Consultation meetings will be arranged early next year and the closing day for comments is 1 March 2001. The vision statement is for a society that fully values its environment; does not waste its resources; and takes responsibility for its actions. Copies of the paper are available from P O Box 10 362, Wellington, or at: www.lgnz.co.nz

SMUD Power

The Sacramento Municipal Utility District is running large PV power projects, with over 8 MW connected and another 7 MW expected by 2003. Panels are in arrays on unused land; at depots; on rooftops (one photo apparently shows a large school roof with no panels—they are integrated with the roofing material); over car parks (useful shade) and so on. Panels on private roofs are either connected to the utility side of the private meter, with a separate meter for PV output, or funded privately and connected to the private side of the meter. Renewable Energy World

An economic boost from solar drying

Locally made convective solar fruit dryers—needing no power—are showing huge potential in Uganda. With good quality drying, mangoes are much more transportable, and a trial shipment to the UK has demonstrated a large market at a good price. Sustainable Energy News

Turn it off!

A BRANZ report on domestic appliances says that up to half of the electricity they use may be wasted in standby losses. According to scientist Albrecht Stoecklein, “a staggering 40% of the energy used in microwaves goes towards keeping the clock going!” The total energy waste for New Zealand could amount to over \$M 90 /yr, although the technology exists to save 90% of this. Until more efficient appliances are available, householders can make useful savings by turning off appliances such as washing machines, videos and microwaves at the wall.

Kiribati reprieve?

A tidal specialist had refuted claims that low-lying South Pacific nations are threatened by rapidly rising sea levels. An Australian monitoring project headed by tidal specialist Dr Wolfgang Scherer reports sea level rises of 0.8 mm/yr, compared with a worldwide average of 1 – 2 mm / yr. Dr Scherer said, “the ocean has a very slow response time, but... based on the data that is available so far there is no acceleration in sea level. So far it is not discernible.” The next stage of the project is to measure changes in land levels, using GPS, but this will take 20 - 30 years. NZ Herald

What sea level rise?

Some 1000 residents of the Duke of York Islands in Papua New Guinea are to be evacuated to higher ground. Some have already lost their homes and are living in tents. The islands are (*up to?*) just 3.7 m above sea level and are sinking at 300 mm a year. The Independent

*Sinking at 300 mm a year is **not** global warming (not yet anyway!), although the report links the evacuation to negotiations in The Hague. The area is at the junction of three tectonic plates and is strongly volcanic—and the report says that recent tsunamis are part of the problem. Sinking islands seem more likely than rising seas.* EW

What energy crisis?

NZ vehicle registration totals in 1999, by fuel type, were: Petrol 180 452; Diesel 38 689; CNG 2; LPG 50; Electric 19. and Other 15.

That's right: two new registrations of CNG vehicles, less an unknown number reverting to petrol-only, or scrapped. Other reports refer to a boom in LPG conversions of existing vehicles, but no figures are given. EW

What smoke?

Auckland's dob-in-a-smoky-vehicle collected 30 000 reports in 3 months, to their 0800 SMOKEY hotline. The worst offenders were ageing Japanese diesel vehicles. The Auckland Regional Council claims that the poor quality of New Zealand fuel is adding to pollution problems. BP has just launched a new low-sulphur diesel, but so far only in Christchurch. NZPA etc

Renewable energy jobs

More than 900 000 new jobs will be created across Europe by 2020 as a result of the increased use of

renewable energy. Renewables will increase from a base of 440 TWh in 1995 to 1 066 TWh by 2020, with increases from all technologies and in all countries of Europe. The overall proportion of energy consumption from renewables is projected to climb from 4.3% to 8.2% over 25 years. Renewable technologies are more labour intensive than conventional technologies for the same energy output, but any jobs that are displaced as a result of subsidies to deploy renewable energies are 'significantly less' than corresponding job gains elsewhere in the economy. Conventional energy companies will lose less than 2% of their work force by 2020 as a result of the shift to greater use of renewable energy. Job gains are greatest in the agriculture and manufacturing sectors, with the greatest absolute increases predicted in Germany, France and Italy.

Canadian Association for Renewable Energies

Canada's new port

Churchill, Manitoba, is on Hudson Bay at 58° 46' north—further from the equator than Inverness or McQuarie Island. While politicians debate the validity of global warming, some shippers are voting with their boats, shifting marine routes to Canada's northernmost industrial harbour. Grain shipments will total 27 ships this year, double last year's total. The Canadian Ice Service, a federal agency, says that the extent of ice on July 15, the conventional start of summer, has decreased by about one-third since 1971. Citing this study, port owner Omnitrax hopes to persuade Lloyd's to drop a longstanding 15% insurance surcharge and expand the standard insured shipping season from three months to five.

Canadian Association for Renewable Energies

TransAlta Takeover

Natural Gas Corporation Holdings Limited (NGC) has completed its takeover of TransAlta New Zealand Limited, which is now a wholly-owned subsidiary of NGC.

NGC

Energy efficiency loans

NZ's public sector agencies are cutting CO₂ emissions by 20 300 tonnes a year and reducing energy costs by \$ 4 million annually. Energy Minister Pete Hodgson said the CO₂ and energy savings were being achieved by central and local government agencies in the Crown Energy Efficiency Loan scheme, run by EECA. Since the scheme began it has reduced public sector energy costs by \$ 27.4 million. The average loan is about \$ 80 000, with an average payback of 3.2 years.

World oil production

According to a new study by Canadian Imperial Bank of Commerce, Canada's second largest, world oil production is expected to peak somewhere between 2002 and 2006. The study is available at:

http://research.cibcwm.com/economic_public/download/Or31.pdf

A comment on the possible influence on the world economy is available at:

http://research.cibcwm.com/economic_public/download/Nov4_00.pdf

Room to store carbon dioxide?

It would take about 2000 times more land to accommodate the CO₂ waste product from New Zealand's energy use in trees than it takes to accommodate our solid waste in landfills.

Online Shopping Hurts the Environment

Online shopping may reduce warehousing, but tends to make the transportation system more energy and pollution intensive. A research team found that e-commerce orders require more packaging, making the environmental impact of packaging 2.5 times worse than for conventional shopping. Transport energy use is also higher. For example an e-commerce book order sent by air generates an average 1.4 kg of carbon dioxide. According to the researchers, the net effect of pointing and clicking at an online merchant to buy a Christmas present is not as harmless as it may seem. Although, online shoppers can save 30 – 50% on traditional retail methods, the net environmental impact may be worse. In the US last year, more than 300 000 households ordered Christmas gifts on the Internet. That number is expected to jump to more than 1 million this holiday season.

Carnegie Mellon

Quiet wind power

A 2.5 kW wind turbine has been developed Lagerwey and NUON in the Netherlands, specifically for urban environments. A special feature of the design is low noise.

Renewable Energy World

Forum Membership

Memberships are for the year ending 30 June and include at least four copies of EnergyWatch. Membership rates, including GST, are:

Unwaged / student	\$	22.50
Individual or Library	\$	45.00
Small corporate (less than 50 staff)	\$	250.00
Large corporate (more than 50 staff)	\$	900.00

Overseas rates: No unwaged / student rates, Individual / library rate \$NZ 55.00.

Mail the form opposite, with your payment or order, to Sustainable Energy Forum (Inc), P O Box 11 152, Wellington, New Zealand. A GST receipt or invoice will be sent on demand.

Cut or copy



Name: _____
Organisation: _____
Address: _____
Phone: _____ H/W
E-mail: _____
Membership type: _____
Amount enclosed: \$ _____
SEF, P O Box 11 152, Wellington



EnergyWatch 15
Return address P O Box 11 152 Wellington