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EnergyWatch, NEECS, George Bush, CoP-6 *bis* and the SEF Conference

There is a lot happening right now, and EnergyWatch is rising to the occasion. This is an 'extra' edition, sandwiched between our standard March and June issues. It is also a pre-conference edition and—at 24 pages—our largest so far.

In NZ the big occasion is the release of the Draft National Energy Efficiency and Conservation Strategy (NEECS), and on page 2 we give Energy Minister Pete Hodgson's speech at the launch. This is NZ's first such strategy, which says a great deal about where we are and how we got here, but plays down the very creditable efforts now going into changing direction. A key feature is that important areas—notably the mechanism and target rate for encouraged renewable energy supply—are left open, to be finalised after considering submissions. Submissions will count. They close on 1 June, and in this edition we include a draft SEF submission, on page 15.

On page 4 we give some strategy-related extracts from other speeches by Pete Hodgson, on renewables, links to waste management policy and an update on progress towards CoP-6 *bis*. Then on page 24 we have squeezed in his press release summarising the talks in New York (this is threatening to be a Hodgson Benefit Edition).

On a wider horizon is George Bush's effectively abandoning the Kyoto Protocol, although a new and probably watered-down proposal will emerge at CoP-6 *bis* in Bonn in July. On page 6 we give the text of Bush's letter and summarise a small sample of the world-wide response. Then on page 9 we give a fuller piece on European options in the wake of the letter.

On Page 14 we finally get to the main event: the SEF Conference in Wellington on May 17 and 18. The theme is *Moving NZ Toward Sustainable Energy Use*. We give the AGM notice, details of the programme and related events, and enclose a flyer and registration form.

In danger of getting buried in all the excitement is the Gas Sector Review, announced by Pete Hodgson in mid-March. We give the terms of reference on page 11.

Finally, we use our new-found space for some normal EnergyWatch fare, including a summary article on some more pieces of the global warming jigsaw, and the first direct evidence that the greenhouse effect is increasing.

And a bumper edition of MiniWhats.

SEF Conference 2001, the SEF AGM and EnergyWatch

The 2001 SEF conference was originally scheduled for 19 – 20 April, but was postponed when the guest speaker, Minister of Energy Pete Hodgson, had to 'clear his diary,' for a preliminary meeting CoP-6 *bis* in New York. The whole programme— including the linked Energy Federation conference—has now been delayed four weeks, to May 17 –18. Details are on page 14 and a registration form is enclosed.

The delay means that the SEF AGM will now be held at 12.30 on 18 May 2001, at the Quality Inn, Willis Street, Wellington (opposite Aro Street). Details on page 14.

A Strategy For New Zealand's Energy Future

Pete Hodgson

A lightly edited version of an address by the Minister of Energy at the launch of the draft National Energy Efficiency and Conservation Strategy, Parliament Buildings, Wellington, 29 March 2001.

New Zealand's use of energy is wasteful, polluting and expensive. That's blunt, but true. It's also no surprise, given the lack of attention paid to energy efficiency. We are predicted to use 13% more energy in 2012 than we do now. But unless we get smarter, we'll still be throwing a lot of it away.

Energy inefficiency is money down the drain. The Draft National Energy efficiency and Conservation Strategy is not some indulgence for environmental goody-two-shoes. It is bottom-line common sense. Most NZ businesses could cut their energy costs by 20 – 30% through cost-effective measures. More efficient driving could save around $ 300 a year on fuel for an average vehicle. Nearly half of the average household power bill is for water heating, but hot water cylinders waste 40% of that. And poor insulation means NZ homes are often colder than the WHO recommends.

But we can re-write these facts. If we use energy more efficiently, we're better off. It is that simple.

So how do we do it? What can a Government do to change the energy habits of a nation? We can show leadership, which is why we have committed the core public service to a 15% energy efficiency gain by 2005. And we can develop this strategy, finding and securing gains across the whole economy.

The benefits are long-term. Making energy efficiency, energy conservation and renewable energy into mainstream solutions is the way to a sustainable energy future. It won't be a sacrifice. It will be good business. The latest *Management* magazine says that energy efficiency will create new employment opportunities for 14 million people world-wide *(Is that all? EW).* This is an area of opportunity for our innovation system. New technology is going to be a crucial to energy efficiency. Throughout the draft strategy there is an emphasis on technological best practice.

Smarter energy use and supply lie at the heart of the strategy, which sets out five goals:

- To reduce CO_2 emissions.
- To reduce the local environmental impacts of energy production and use.
- To improve economic productivity.
- To promote industry development.
- To improve economic resilience, by reducing energy supply disruptions and price shocks.
- To reduce energy deprivation, by enabling all households to get adequate energy services.

The draft strategy is about developing an energy sector that will support a dynamic economy and improve the quality of our lives. It proposes two targets: a 20% gain in energy efficiency by 2012 and a defined increase in renewables.

Improved energy efficiency

A 20% gain in energy efficiency is a challenge, but a realistic one. The natural rate of gain is up to 1% a year. We need to double that. The draft strategy proposes a wide range of measures, across all sectors of the economy: central government, local government, the building sector, industry and agriculture, transport and the energy supply sector. All the programmes have three key principles in common:

- Institutional priorities and systems need to work for sustainable energy use. That means businesses and government agencies must adopt and apply energy efficiency priorities.
- Energy efficient options, choices and technologies need to be encouraged.
- People must have the resources they need to take action. That means knowledge, skills and financial resources.

The programmes based on these principles include education, training, facilitation, pricing and new standards. There are commitment programmes and—where appropriate—financial incentives.

Transport

One of our biggest challenges is transport, which accounts for 40% of consumer energy use. We fly a lot and have the world's third-highest level of car ownership. Many trips are made by the driver only, and a third of trips are less than 2 km. Our habits, cities, roads and vehicles impose powerful constraints on the growth of energy efficiency. But we can re-write some of these facts too. We can reduce travel by encouraging alternatives, such as

teleworking and ridesharing, and by promoting more energy efficient urban design. We can increase the use of eco-efficient vehicles, with lower emissions from cleaner fuels.

Emission standards for new vehicles, and emission rules for the existing vehicle fleet, are already being developed. The strategy would add energy efficiency standards for new and used imported vehicles. Supporting measures could include fuel efficiency labeling and public sector leadership in the use of eco-efficient vehicles.

The draft strategy also proposes more support for low-energy transport options such as walking, cycling and public transport. The major responsibilities lie with roading authorities and local bodies, but the Government could facilitate more investment in public transport, make sure we have a supportive national transport strategy and help fund trials of new initiatives favouring pedestrians and cyclists.

We could identify ways to recognise the energy efficiency benefits of rail and sea transport, and ensure that road use is properly priced. That means looking at congestion pricing, and road pricing to reflect the full costs of use, including environmental impacts.

Finally the strategy suggests we invest in information and education on energy efficient transport. That could include raising drivers' and operator's awareness of fuel economy and efficient driving.

Renewable energy supply

I want to say something about the other target in the draft strategy: a defined increase in renewable energy supply by 2012. The increase is not quantified in the draft, because we want to take advice and submissions on that. But the emphasis on renewable energy is strong and clear. Abundant hydro, geothermal and biomass resources already give NZ one of the highest rates of renewable energy use in the developed world. Other renewables, such as wind and solar, present huge opportunities, but we have been slow to explore them. The share of our electricity from hydro generation dropped from 73% in 1990 to 64% in 1999. In part that is due to the weather, but we have increasingly used fossil fuels—especially gas—to meet increased demand.

There is plenty of scope. The costs of renewable energy are reducing as technologies develop and economies of scale are achieved. Internationally the cost of electricity from wind has halved over the last decade. With encouragement, other technologies can also become more cost-effective.

One of the chief environmental gains from increased use of renewables is reduced greenhouse gas emissions, which brings me to climate change. Unless we change our habits significantly, NZ will continue to use more and more CO_2-emitting fossil fuel sources . Our energy use already accounts for more than 80% of our CO_2 emissions. By 2012, our energy demand is set to push those emissions to 45% over 1990 levels.

The IPCC have just reported on possible actions to address climate change. The remarkable finding was that energy efficiency technologies and practices make up more than half of potential global emissions reductions. More than half. Let's be clear about the significance of that. Energy efficiency initiatives are not a token step towards addressing the problem of climate change. They offer real, substantial progress in reducing greenhouse gas emissions.

If we can achieve the draft strategy's target of 20% improvement in energy efficiency, we could meet half our Kyoto Protocol target.

There is even the prospect—if we're smart—of meeting our climate change obligations with overall benefits, not costs.

New Zealand's response to climate change will have to be wider than energy efficiency and renewable energy. But dealing to half the necessary reduction in emissions would be a very good start. There is even the prospect—if we're smart—of meeting our climate change obligations with overall benefits, not costs. The sums done so far suggest that it would pay handsomely over time, while delivering CO_2 reductions. If we go further and seize the business opportunities in sustainable energy technology, we will truly be in a winning position. That's something to aim for.

I want to thank Jeanette Fitzsimons for her contribution here, particularly for her role in the passage last year of the legislation that made this strategy happen. This is the first time NZ has had such a strategy.

Submissions close on 1 June. Background material is available from the EECA or their website (www.eeca.govt.nz). The final strategy will be published by 1 October this year.

And not a moment too soon.

Pete Hodgson on encouraging renewables

We want to achieve our renewable energy objectives at least cost. This means that we have to ensure that those sectors and firms that can most cost-effectively contribute are enabled and encouraged to do so. For this reason, any measures should not be limited to a single renewable resource, such as wind.

I suspect that liquid biofuels and then hydrogen—made first perhaps from natural gas and then from electricity—will become very important in the wider, and longer term, greenhouse gas picture. So if there is a role for a mandatory renewables target, maybe it needs to have wider coverage than just the electricity sector.

Perhaps in the longer term, the really important contribution of renewable electricity in New Zealand will be to manufacture the hydrogen that is substituted for fossil fuels in the transport sector. That demand for hydrogen from renewable sources is not with us yet. But the need to ensure that the renewable electricity industry is in a position to meet it when it comes will be part of the investigations relating to a renewables target.

Mandatory renewables targets create a demand for electricity from renewable sources, but they do not, and cannot, guarantee a supply. Australia and the UK have recognised the limitations of mandatory targets by building in an escape clause, allowing payment of a penalty per kilowatt-hour if the target cannot be reached at less cost than the penalty.

Nor is a mandatory renewables target the only way to address a number of the barriers to an increased uptake of wind energy. Factors such as the high up-front capital costs and the cost of back-up capacity could be tackled through other measures.

Pete Hodgson on waste management

There are strong links between energy efficiency and waste minimisation. For example, recycling aluminium cans uses approximately 90% less energy than mining raw bauxite and processing it into aluminium.

Avoiding waste at its source is the most efficient way to reduce environmental impacts. The same applies to inefficient use of energy, which is effectively waste.

New Zealand and the Kyoto Protocol

Pete Hodgson

Edited extracts from a speech by the Minister of Energy on April 10.

I want to talk about the negotiation of the Kyoto Protocol and where I believe it is heading.

There have been questions about why the protocol requires commitments from developed countries only. There are sound historic reasons. The vast majority of emissions since the industrial revolution have been from today's developed countries, so it was agreed that these countries should be the first to make commitments—not the only ones. Developing countries are not required to make reductions in the first commitment period. What happens after that has yet to be negotiated.

The protocol is one of the most significant economic negotiations NZ has been involved with for a considerable time. The binding commitments it would create have implications for almost all sectors of our society. It would also create new property rights and enable NZ to gain significant economic benefit over a lengthy period.

An effective response to climate change is part of the movement towards sustainable economies. That is a change bringing huge growth in commercially valuable knowledge and innovation. The imperative of reducing emissions is stimulating the development and uptake of new technologies, such as hybrid vehicles and fuel cells. There is a new economy involved in reducing our reliance on fossil fuels and we should be part of it.

In NZ we know from long experience, that rarely can we hope to achieve what we need at the international level if we stand alone, so we have chosen to work in an informal group of countries—the Umbrella Group. We have worked cooperatively where a common interest has been identified. The development of effective rules for the efficient operation of the flexibility mechanisms of the protocol, especially international emissions trading, is a key example of successful group activity.

Where there are differences the group does not seek a single position. The use of nuclear energy within the Clean Development Mechanism is a case in point. Within the group Japan and Canada and possibly now the US support nuclear CDM

projects. We, Norway and Iceland are firmly against them.

In March officials from each Umbrella Group nation met in Wellington for four days. The US participants set out their concerns about the negotiations. We, and others, reiterated the importance we attach to completion of the protocol and the need for real progress to be made in July. On 4 April I participated in a conference call with other group ministers. Once again the US position was outlined. I joined other ministers in registering our belief that the protocol remains the basis for the international community to address the challenge of climate change.

The US has stated that it does not support the protocol; that it finds it flawed by virtue of its current focus on binding commitments for developed countries alone, and wishes to look afresh at how the issue of climate change can be tackled in a manner that does not harm US economic interests. No one should be in any doubt that these are serious developments, with implications which will only be clearly understood when we know what the US proposes. With about 4% of the world's population, the US is responsible for 25% of total CO_2 emissions, so it is in everyone's interest that the US is inside the process. However, the process rests with the much wider membership of the Convention, nearly all of whom strongly support the earliest completion.

There has been concern that the government is exposing NZ's economy to inappropriate risk. A core responsibility of government is to manage the range of risks facing our country at any one time. Climate change is such a risk and this government is committed to addressing it in a serious and responsible manner. We will weigh very carefully the final outcome of negotiations on the protocol. Before we can ratify it, it will need to be ratifiable —it will need to have within it a workable international emissions trading system, recognition of forest sinks and strong compliance provisions.

The development of policies to meet our obligations under the protocol is being conducted openly and transparently. Considerable effort is being put into consultation with interested groups, because we recognise our obligation to explain what we are doing and why. We will not achieve real results by actions that seriously harm our ability to secure sustainable economic growth for all New Zealanders. On the contrary, with a bit of careful planning our response to climate change can readily bring a net benefit to NZ. The converse, doing nothing, bodes ill for our nation.

More energy woes for Auckland?

Keith Turner, chief executive of New Zealand's largest electricity generator, Meridian Energy, pointed out another developing energy problem for Auckland, to Parliament's Commerce Select Committee. Meridian Energy is a hydro generator accounting for nearly a third of NZ's electricity output. All Meridian's dams are in the South Island and it depends on Transpower to send electricity north. Unfortunately the lines around Taupo cannot handle as much electricity as Meridian would like.

Nobody denies that the transmission capacity in the central North Island has its limits. Had Meridian been able to get more of its power north when Contact's Otahuhu B thermal station was out of action last year, spot market prices would have been less than a tenth of their peak. And if Meridian sent more power north, then less CO_2-emitting thermal generation would be required.

When Otahuhu B was out of action, spot prices in Auckland went through the roof because of the high cost of getting additional supply from the south. Meridian cannot move its hydro stations—which is what the spot market is trying to encourage—and Transpower is reluctant to upgrade its transmission lines. Its' argument is that peak demand might be better met by new technologies that offer efficient generation of—say—10 or 15 MW in particular localities.

Transpower has suggested $bn 1.0 as the cost to upgrade the Auckland to Wellington link from 220 kV to 330 kV, but Meridian suggest that a few small investments of $ 100 000 to $M 5 will go a long way towards fixing the problem. They cite a 109 MW gain in capacity between Aviemore and Livingstone, achieved at a cost of only $ 90 000.

Another difficulty is that even with Otahuhu B operational and wholesale prices low, there is some question whether appropriate signals are being given because of the heavy input of hydro generation from a string of dams on the Waikato. As an industry analyst puts it, "With hydro systems you tend to have a surplus until you have a deficit. It's an awkward set of market signals at best."

NZ Herald

Beating about on Kyoto

EnergyWatch readers will not need reminding that US President George Bush is at least thinking of pulling out of the Kyoto Protocol. A letter on March 13 to four senators has caused a storm of protest around the world. In NZ the government has pulled its weight but the public have seldom risen above a slightly uneasy indifference. This article is in effect a special edition of MiniWhats, on the issues surrounding George Bush, Kyoto and CoP-6 bis. See also comments by Energy Minister Pete Hodgson on page 4.

We begin with the now-notorious letter, addressed to Senators Jesse Helms, Chuck Hagel, Pat Roberts and Larry E. Craig.

The White House Office of the Press Secretary

March 13, 2001

Thank you for your letter of March 6, 2001, asking for the Administration's views on global climate change, in particular the Kyoto Protocol and efforts to regulate CO_2 under the Clean Air Act. My Administration takes the issue of global climate change very seriously.

As you know, I oppose the Kyoto Protocol because it exempts 80% of the world, including major population centers such as China and India, from compliance, and would cause serious harm to the US economy. The Senate's vote, 95 – 0, shows that there is a clear consensus that the Kyoto Protocol is an unfair and ineffective means of addressing global climate change concerns.

As you also know, I support a comprehensive and balanced national energy policy that takes into account the importance of improving air quality. Consistent with this balanced approach, I intend to work with the Congress on a multi-pollutant strategy to require power plants to reduce emissions of SO_2, NO_x, and mercury. Any such strategy would include phasing in reductions over a reasonable period of time, providing regulatory certainty, and offering market-based incentives to help industry meet the targets. I do not believe, however, that the government should impose on power plants mandatory emissions reductions for carbon dioxide, which is not a 'pollutant' under the Clean Air Act.

A recently released Department of Energy Report, *Analysis of Strategies for Reducing Multiple Emissions from Power Plants*, concluded that including caps on CO_2 emissions as part of a multiple emissions strategy would lead to an even more dramatic shift from coal to natural gas for electric power generation and significantly higher electricity prices compared to scenarios in which only sulfur dioxide and nitrogen oxides were reduced.

This is important new information that warrants a re-evaluation, especially at a time of rising energy prices and a serious energy shortage. Coal generates more than half of America's electricity supply. At a time when California has already experienced energy shortages, and other Western states are worried about price and availability of energy this summer, we must be very careful not to take actions that could harm consumers. This is especially true given the incomplete state of scientific knowledge of the causes of, and solutions to, global climate change and the lack of commercially available technologies for removing and storing CO_2.

Consistent with these concerns, we will continue to fully examine global climate change issues—including the science, technologies, market-based systems, and innovative options for addressing concentrations of greenhouse gases in the atmosphere. I am very optimistic that, with the proper focus and working with our friends and allies, we will be able to develop technologies, market incentives, and other creative ways to address global climate change.

I look forward to working with you and others to address global climate change issues in the context of a national energy policy that protects our environment, consumers, and economy.

Sincerely,
George W Bush

EU sends strong warning to Bush

The Independent

Europe's top environment official has made a blunt attack on President George Bush's stance on climate change, claiming it has "sent a wave of shock and resentment across the world," and could lead to a crisis in transatlantic relations. Margot Wallström, the European commissioner for the environment, described Bush's comments as "totally unacceptable."

The US is the world's biggest producer of CO_2 and with 4% of the global population, it produces nearly a quarter of the world's emissions. President Bush's move, while not directly linked to

the protocol, will undermine the US's ability to meet its emissions reduction targets. Wallström said that if President Bush's comments were "a little thoughtless or a spontaneous reaction ... he has to realise that the eyes of the outside world are on him, and what the US is going to do."

Failure to reach an agreement on gas emissions would, she said, "create a very difficult atmosphere for international relations." There would be an "enormous backlash" if negotiations ended in failure, she added.

The new US administration has pledged to review its position on climate change talks and the EU is—for the moment—not treating Bush's comments as the formal conclusion of that process. But Wallström said the President's declaration was a "very, very serious statement and totally unacceptable to the outside world and I think this is what we have to make absolutely clear."

Japan Dismayed by Bush's Stance
Washington Post

The Bush administration's declaration that it has no interest in a 1997 international agreement stunned Japan, which had helped broker the accord and is still hoping for its ratification. "If this is true, Japan will be dismayed and deeply disappointed," said Japan's ambassador in charge of global environmental affairs, Kazuo Asakai. "I'm hoping this isn't true." The agreement, he said, "is very serious and important."

The climate protectors need US leadership and ingenuity International Herald Tribune
Michael Zammit Cutajar
(The writer heads the secretariat of the UNFCC)

Three concerns (of Bush's) invite comment:

The protocol is unfair because it does not assign targets to developing countries, including populous industrializing countries such as China and India.

These countries account for some 40% of current global emissions of CO_2 from fuel combustion. This amounts to some 2.0 t/head of CO_2, whereas the developed countries average some 12 t/head and the US emits more than 20 t/head. Fairness suggests that the latter countries act first to limit emissions.

The protocol would cause serious harm to the economy .

The economic impact of emission limitation has to be carefully evaluated. Each state party is free to choose the approach that makes most sense in its national circumstances. The protocol provides a great deal of flexibility to parties for meeting their emission targets, notably through the use of emissions trading, other 'offshore' mechanisms and accounting for the absorption of carbon by sinks such as forests and farmland. This flexibility is intended to lower the costs of compliance.

The state of scientific knowledge of global climate change—causes, effects and responses—is incomplete.

Scientific knowledge of climate change has been improving steadily. The precautionary principle states that lack of full scientific certainty should not be a reason for postponing action to combat serious threats. Recent reports by the IPCC have found stronger evidence than before of the impact of human activity on the stability of the global climate, and of the adverse effects of climate change, especially on poor and vulnerable people in all countries. These reports provide a sound scientific basis for precautionary measures.

Kyoto deal seen possible despite Bush position Reuters

Michael Grubb, Professor of Climate Change and Energy Policy at Imperial College, UK, told a European energy conference that Bush's position that "Climate change needs to be taken seriously but Kyoto is unfair to America," should not be taken in isolation. "There is support (for the protocol) from senior US staff—Powell, O'Neill and Whitman," said Grubb. Prospects at a resumed CoP-6 in July may not be bleak. "The failure at The Hague was a shock to the system and it will have produced a new realism", he said. "All countries will be seeking a deal and none more so than the Russians. They see real benefits for themselves... Bush will find it hard not to talk." The professor said it was possible for Kyoto to be ratified without the US although no-one wanted to exclude the country responsible for the largest share of greenhouse gas emissions.

Why Bush Flip-Flop Helps Clarify Global Warming Challenge Frank Pellegrini
Time

Bush got his three days of bashing in the press from editorial writers and environmental groups for marching directly into the arms of Big Coal, but the heat obviously wasn't enough to drive the White House back toward the middle of the environmental road. Vice President Dick Cheney said, "We do not support the approach of the Kyoto treaty." "If you're really serious about greenhouse gases, one of the solutions to that problem is to go back, and let's take another another look at nuclear power, use that to generate electricity without having any adverse consequences."

For the Bush-Cheney crowd, weaned on Big Oil and elected with Enron dollars, the worst 'adverse consequences' are the economic kind, in which Big Business suffers at the hands of tree-huggers. For Republicans, the 'energy crisis' demands more supply, more fuel for the US economic engine. More drilling, more production, more oil, more coal. The only thing it demands less of is 'onerous regulation' and environmental extremism.

The public is, ah, well, hard to read. To the environmentalists it's Bush's energy Rasputins who are the extremists. But Americans aren't much for self-sacrifice. We drive SUVs and eschew public transportation, but can't bear high prices at the pump — and the 'gas consumption tax' is political poison, deadlier than any arsenic.

Americans love to dream about a cleaner world, but when we find out what it'll cost, we'll usually take a good excuse instead. Bush evidently figures the energy crisis — or the economic slowdown, take your pick — will do nicely. And it just may.

Bush ignores the experts Steven Hesse
Japan Times

The rubber has met the road and we now know that US President George Bush is driving under the influence, his judgment impaired by fossil fuel lobbyists. His position is a flip-flop on CO_2 policy. The decision could not be more out of step with reality and global consensus. Just two months ago, the IPCC, under the auspices of the UN Environmental Programme, issued a major report on climate change, confirming that "most of the warming trend over the last 50 years is attributable to human activities." Two hundred scientists from 120 nations drafted the report, before it was reviewed by 400 independent experts.

In January, over 100 governments represented on the IPCC accepted the report's conclusion that climate change is already having a "widespread and coherent impact." Efforts are already under way worldwide—albeit slowly—to deal with climate change. "Governments have accepted that global warming is already happening," says Jennifer Morgan, director of the WWF International Climate Change Campaign. Well, some governments have. Bush, piloting the ship of state responsible for 25% of global CO_2 emissions, and flush with the excitement of his new command, has been seduced by the sirens of the oil and coal lobby.

With a flourish of his pen, Bush cavalierly dismisses hundreds of IPCC scientists and their thousands of hours of research—experts who have spent over a decade confirming that climate change is in fact causing "widespread and coherent" impacts. If Bush ever decides to seek counsel beyond the boardroom, a good place to begin would be UN Secretary General Kofi Annan. Speaking in Bangladesh the day after Bush penned his letter, Annan shared some simple truths:

> *It is said that we face a choice between economic growth and conservation, when in fact growth cannot be sustained without conservation.*
>
> *It is said that it will be too costly to make the necessary changes, when in fact cost-effective technologies and policies are available.*
>
> *And it is said that developing countries should focus on development, saving the so-called luxury of environmental protection for later, when in fact the environment provides many of the precious resources and capital that societies need today to develop and sustain themselves.*

If only Bush had such vision.

Kyoto may be ratified without the US Reuters

Countries committed to ratifying the Kyoto Protocol in 2002 may have to proceed without the US if Washington continues to stall progress, the German Environment Ministry said. "Maybe it will be necessary to ratify the Protocol without the US and to instead pave the way for them to join later," Rainer Hinrichs-Rahlwes, director general at the environment ministry told Reuters at a conference in Leipzig.

One sticking point is the US wants to use its forests as 'sinks' to soak up pollution to meet its emissions reduction targets. "One alternative would be to accept their requirement for sinks on a short-term basis so they can ratify by the next Kyoto target of 2008," he said. Germany opposes sinks, arguing they are little more than temporary absorbers of CO_2 and are a way for nations to avoid cutting pollution. Once ratified, the deal will set legally binding targets on the world's richer nations to cut greenhouse gases.

Anger at US U-turn on emissions
The Guardian

President George Bush has withdrawn a pledge to limit CO_2 emissions, causing a split in his cabinet and an angry response from Europe. The sudden about-turn on CO_2 removes the gas from a list of emissions the Bush camp had promised would be controlled.

Moderate Republicans, and even some power companies who had urged that environmental measures be taken sooner rather than later, were also disappointed. The decision allies Mr Bush with the big energy corporations which were big contributors to his campaign fund, and with party hardliners who view constraints on CO_2 emissions as covert capitulation to the 1997 Kyoto treaty.

In a policy speech last September, Mr Bush said: "We will require all power plants to meet clean air standards in order to reduce emissions of SO_2, NO_x, mercury and CO_2 within a reasonable period of time." The promise blunted the challenges from Al Gore and Ralph Nader on green issues. In fact Mr Bush ridiculed Mr Gore for promising only voluntary reductions. But Scott McClellan, a White House spokesman, said on Tuesday: "CO_2 should not have been included as a pollutant during the campaign. It was a mistake."

Fred Krupp, head of Environmental Defence, said: "Not only has the administration reneged on a campaign commitment, but in opposing the Kyoto protocol and power plant pollution controls, it has effectively blocked the only two proposed vehicles for fighting global warming —the key environmental threat of this century— while offering no alternative path to protect the planet."

Other criticism

Other criticism has come from Canada, China, France, Germany, Ireland, Italy, Japan, New Zealand, Norway, Russia, Samoa (representing an alliance of island states), South Africa, South Korea, and the UK. The US Senate has restored funding of US$ 4.5 billion (over 10 years) for climate change programmes, which Bush wanted to cut. Two thirds of US citizens want Bush to do something about global warming. A broad coalition of US religious groups have expressed disapproval, as has the International Federation of Free Trade Unions, representing 156 million workers. Frank Loy, US negotiator at The Hague, has also expressed disapproval.

However, the Saudis 'understand.'

China's emissions

China, with 11% of the world's CO_2 output—the world's second largest—has reduced its greenhouse gas emissions by 17% between 1997 and 1999. The goal was less to curb global warming than to clean the air and protect the health of its population. Time

Climate change: Europe at the crossroads

Tom Athanasiou
Foreign Policy in Focus

It's hard for Americans, even progressive Americans, to imagine a future in which the US is no longer the 'indispensable country.' This is as true in climate politics in any other area, and for much the same reason: the US looms so large that it cannot be ignored. We emit such a high share of the world's carbon that any climate regime to which we do not immediately subscribe is doomed to failure. Or so it seems.

Which is why the history of the climate talks is in large part a history of attempts to placate America. Which is—again—a big part of the reason why the Kyoto negotiations, and the protocol itself, are in such a sorry state. The fact of the matter is that, barring sudden deliverance by a new energy revolution on a computer-boom scale, the US as we know it today will refuse any climate treaty even remotely appropriate to the threat. The fossil-fuel lobby is just too powerful here. Which is why, perversely and quite inadvertently, the Bush administration may have just done the world a colossal favor.

The 'Four Pollutants' bill that Bush has just repudiated was as clever as anything Washington could ever hope to contrive. It lumped CO_2 in with SO_2, NO_x and mercury—all 'traditional' air pollutants that not even a Republican can afford to overtly ignore—and in so doing it promised a form of carbon regulation that was both low profile and business friendly. It was the kind of bill that gives pragmatism a good name, and for a while it even looked like it would work. When EPA Administrator Christine Whitman flew off to the G8 confab, she told her counterparts that Bush intended to set "mandatory reduction targets" for several pollutants, including CO_2. The Europeans were pleasantly surprised. Was it possible that the new US administration wouldn't be total Neanderthals after all?

There was, no doubt, a bit of pixilated hope, in Berlin as in Washington. Maybe Bush would surprise us all and do a 'Nixon to China!' After all, the US under Clinton had (almost) negotiated a tough deal at The Hague. What if the Bush administration decided to support it? It sounds crazy today, but not long ago you could find seasoned enviros willing to argue that Bush was surprisingly green—and could actually deliver the Senate. Right?

Well, goodbye to all that. Fortunately, there's another strategy brewing in Europe, and now it just might get a proper hearing. The idea, suddenly hot from London to Berlin, is a 'European Leadership Initiative.' Its core is that Europe can now cut the chain binding it to Washington and move toward Kyoto's ratification, while looking South, and East, and working to build a coalition that might actually get the Protocol into international law.

Kyoto—crucially—is written so that no single party can torpedo it. If Europe and the G77/China could move toward ratification, and if they could fill out the Kyoto rules so that the Russians and the Japanese can eventually come along, they would have started a whole new ball game. This is all the more true because such a European/G77 ratification coalition would be under tremendous pressure from the very beginning. To hold it together, the Europeans would have to find ways to approach the so-far-untouchable capstone issue—the terms of the inevitable allocation in which each nation, rich and poor, is granted a fair share of the atmosphere's limited carbon-absorption capacity. They don't necessarily have to engage the details, not yet, but they have to clearly signal that when push comes to shove—and it will —Europe will stand with the South on the essential issue of fairness.

Not long after the American elections, I asked Hermann Ott—Climate Policy head of Germany's influential Wuppertal Institute and a key enviro voice in the German foreign office—if he thought Bush's ascension would rouse Europe's elites to support a Leadership Initiative. The Hague talks had just deadlocked and the green diplomats were scurrying around trying to organize a rematch, now scheduled for July. The new US administration was, however, requesting a delay, and Ott was pessimistic: "With all this talk about postponement of CoP-6 *bis* I fear that the Europeans are already retreating again."

Which is of course was no surprise: ever since World War II, the Europeans have always buckled under US pressure. They're always retreating, and retreating again, and why would anything be different this time around?

Maybe because the Bush people have been just a bit too clumsy, just a bit too bald. Because at the brink of Kyoto's collapse, the US has chosen to give it a push. The Japanese, who actively want to ratify Kyoto, are reportedly upset, and 'upset' is too mild a word for the comments coming from European leaders. No wonder, then, that the friends of the European leadership strategy are coming out of the closet like never before. Suddenly—and this is new—there's open talk is of going forward without the US. For example, Rainer Hinrichs-Rahlwes, the German environmental minister, recently told reporters that "maybe it will be necessary to ratify the protocol without the US and to instead pave the way for them to join later."

The US administration is quite unperturbed. On March 16th, the Washington Post quoted Philip Reeker, a State Department spokesman, speaking these hoary words: "Our message to other parties, and that includes European countries, is they shouldn't make any assumptions about our policy until our review is complete." Which is, as the Brits say, a load of bollocks. Clearly, the US is going to play its old game, coming on strong and hoping that the Europeans fold and give them everything: unlimited sinks, unlimited trading, nuclear, and all the rest of it.

Or maybe this'll get even worse. Some European NGO analysts fear that this July, at CoP-6 *bis*, the Bush people are going to go for broke, and loudly insist that the Kyoto Protocol, and entire process that led to it, is unfair to the US. In Bush's letter to Senator Hagel he averred that "I oppose the Kyoto Protocol because it exempts 80% of the world." And why wouldn't the Bush people just continue in the same vein? The climate community won't buy it— count historical emissions, and the 20% of the world covered by Kyoto is responsible for 80% of the problem—but the Republicans know it plays in Peoria.

This is going to get worse before it gets better, but it is important to see that it could indeed get better, and maybe soon. This is particularly so because the politics of the climate negotiations are closely suggestive of just the sorts of 'balance of power' problems that weigh so heavily in traditional 'realist' thought. As the world's only superpower, the US is free to focus on its internal political dynamics, free to be unilateralist—but the US, it must be remembered, is not quite the hegemon it used to be. And if the Bush people overplay their hand, if they come to CoP-6 *bis* talking about the need for the developing countries to accept emission-limits before the US can accept any of its own, then it will finally be the hour of decision for Europe, and for all the rest of the US's allies besides. Because if the South is left to stand alone against such a charge, well, the whole Kyoto Process would go down in flames.

It is a dangerous situation, but it is also heavy with opportunity. The Bush people have thrown down the gauntlet, and it is only reasonable to expect

that they'll toss another when the talks resume. At a deeper level, though, what happens next will depend less on the US than on the rest of the world, and how it, or rather its elites, face their now obvious conditions of existence. The science is grim, the global economy unstable, and the political field suddenly too open for old rules to suffice. The Europeans will probably go along with the Bush crowd, for the habits of servility die hard. But, crucially, they may not. The fact is that European servility no longer makes geopolitical sense, and that the transatlantic tensions engendered by US climate politics join a growing portfolio of friction points on issues as disjoint as nuclear missile defense and genetically modified foods. Besides, when hegemons overreach, anti-hegemonic alliances become possible. They sometimes become necessary as well, but necessity, as we all know, or should, becomes a force only when people recognize and fight for it.

Just now, necessity dictates that the climate regime be protected from the Americans. And it's possible, just possible, that the Europeans are ready to give it a try. Not that this is a time for optimism. If the Bush administration forces the issue of developing country participation, all hell is going to break loose. If the Europeans and the Japanese want to save Kyoto, they're going to have to move fast, and just now the Japanese don't seem ready for decisive action of any sort. The South, for its part, will go along with anything reasonable, anything that gets the first phase of the treaty in place and sets the stage, finally, for the big event—the North/South deal that will finally determine if we can get the global climate onto a 'soft landing corridor.' Or if we should just give it up.

I could be wrong, but it looks to me like it's going to come down, this time, to the Europeans. And I'm hoping that they're as pissed off as they sound.

Gas sector review

In mid-March Minister of Energy Pete Hodgson announced a review of the New Zealand gas sector. A detailed discussion paper will be prepared by an independent consultancy, chosen by competitive tender in early April. A draft is due from the consultants by the end of June 2001. Submissions on the discussion paper will be sought from the public and interested parties. Following this consultation, policy options are expected to be considered by the Government later in 2001.

Gas Review Terms of Reference

Background

To assist in providing advice to the Minister of Energy, the Ministry of Economic Development proposes to commission a wide-ranging review of the performance of the natural gas sector. The objective is to form a view about the degree to which the sector is meeting the Government's energy policy objective.

The Government's energy policy objective is to ensure that energy, including natural gas, is delivered in an efficient, fair, reliable and sustainable manner to existing and potential users.[2]

For the purpose of this study, groups of users can be distinguished in the gas market:

(i) tariff customers, that is all domestic/ residential customers and those commercial or industrial customers not on individual contracts;
(ii) industrial / commercial users with individual contracts with gas suppliers; and
(iii) large users, in particular those which purchase gas under the Maui contracts. This latter group consists of Methanex, Petrochem and electricity generation.

The study is to cover natural gas sold to these consumers (transport fuels and LPG are excluded).

The study shall

Review the overall efficiency of the gas sector:

a) Review the efficiency of the gas sector in terms of productive, allocative and dynamic efficiency in each of the different parts of the market (production[3], wholesale, transmission,

distribution and retail);

b) In conducting the review in (a), make particular comment on:
—whether, and if so to what extent, inter-fuel competition places a restraint on the price of gas for gas users identified as group (i) and (ii) above. (Please refer to the attached background paper which includes additional questions relating to inter-fuel competition);
—whether the prices faced by gas users identified as group (i) and (ii) above are efficient; and
—whether any barriers exist to the efficient use of gas.

In carrying out (a) and (b) above, comment should be included on the extent to which pricing environmental externalities would alter the conclusions.

Review the current regulatory regime for gas companies[4]

In light of the conclusions on (a) and (b) above:

c) Consider the appropriate methodology for valuation of gas system fixed assets (see attached background note on ODVs);

d) Consider the impact on efficient outcomes of common ownership of gas businesses by companies operating other network businesses (ie multi-utilities);

e) Review the regulatory regime for gas[5], and assess the costs and benefits of any changes. In proposing any changes to the regulatory regime, advice should be provided on:

(i) opportunities for self-regulation by the industry vis-a-vis government regulation;
(ii) distributional effects;
(iii) safety implications; and
(iv) implications for the efficiency of gas use.

Take-or-pay contracts

f) Review the advantages and disadvantages of take-or-pay contracts;

g) Assess whether, and the extent to which, existing take-or-pay contracts result in incentives:

(i) to extract gas inefficiently;
(ii) to use gas inefficiently;
(iii) for gas-fired electricity generation to displace renewable resources such as hydro (resulting in unnecessary water spill and leading to unnecessary or excessive greenhouse gas emissions);

h) Assess the costs and benefits of seeking to renegotiate the existing Maui take-or-pay contracts and provide advice on the feasibility of any renegotiation.

Background note—inter-fuel competition

The following questions should be considered regarding inter-fuel competition. This list should not be considered exhaustive.

Relative Prices

- How does the price of gas compare with other relevant fuels on an energy efficiency equivalent basis in various uses (ie for a range of technologies)?
- What differential between gas and other energy prices is required, in the short term and long term, to encourage switching?

Decision to Switch

- In undertaking the work on relative price issues above, comment is sought on the decision-making process involved when assets specific to gas or electricity use are purchased. The factors that may contribute to this decision may be different for the groups of users (domestic, commercial, industrial). Issues include:
  — what is the major determinant of the decision by consumers to invest in gas relative to electricity: relative energy prices (current and prospective), relative capital costs (including relative length of life of assets), relative reliability of energy delivery, other factors? It would be useful to rank these factors.
  — is the decision to invest in gas made only when the life of the existing asset expires? What is the life of the key assets in question?
  — is the necessary information readily available to make an informed choice between gas and other fuels?
  — do suppliers lock users into supply contracts / prices?
  — what is the impact of fixed (connection) charges (for gas and electricity) on the decision to invest in gas assets?
  — do any uncertainties in the regulatory environment impact on decisions to invest in gas?

Market Structure Issues

- What has been or is likely to be the impact of recent moves to common ownership of gas and electricity retailing/networks on the outlook for

inter-fuel competition?

- To what extent is any restraint on gas prices arising from competition from electricity offset by the impact of gas wholesale prices on wholesale electricity prices, given that gas-fired electricity generation plant can be the marginal plant which therefore determines the spot price of electricity?

Background note—possible adoption of ODVs for gas

The following issues and questions should be considered in relation to asset valuation. This list should not be considered exhaustive.

Why Use Asset Valuations?

- Asset valuation provides a reference point for a regulatory regime to measure reasonable prices/profits. Are concerns about excessive prices/profits in gas transport markets justified?

Use of ODVs in Gas and Electricity

- ODVs were chosen for use in the electricity information disclosure regulations for the following reasons:
  — there was a lack of a good set of book values as the start-point for any form of historical cost based valuation;
  — to facilitate cross-company comparisons;
  — ODV mimics asset values in a perfectly contestable market; and
  — the constraints imposed by the maximum asset values/lives, optimisation and economic valuation rules substitute for a regulator overseeing investment decisions.

- Pipeline owners have adapted ODVs for use in the gas industry. However, since the Government has not specified an ODV methodology for gas pipelines, there is no assurance of the quality of the valuations. On 1 May 2000, Cabinet authorised drafting to begin on an amendment to the gas information disclosure regulations to incorporate a standardised ODV methodology. Work on promulgating the new regulations is in abeyance.

Alternatives

- There are alternatives to using ODV to value sunk assets. These include depreciated historical cost, indexed depreciated historical cost, depreciated replacement cost, optimised depreciated replacement cost, or the market value of the assets if line charges were held constant in real terms.

- The costs and benefits of using ODVs for utility industries has been the subject of some recent reviews6. The efficiency and wealth transfer effects of any changes in asset valuation methodologies should be considered.

Questions

- Some specific questions to be considered are:
  — What criteria should be used in determining an appropriate valuation methodology for gas networks?
  — What are the pros and cons of each alternative methodology in meeting these criteria?
  — What is the history of valuations of gas pipeline businesses (focusing particularly on 'privatisation' price and subsequent movements)? Were the privatisation prices determined at arms length?
  — What are the practicalities of adoption of historic cost valuation approaches using the 'privatisation' price?

This Terms of Reference has been edited to exclude process issues.

[1] Refer to the Energy Policy Framework issued by the Minister of Energy on 3 October 2000. This includes the overall outcomes the Government is seeking (including environmental sustainability) and specific comments on the gas sector (page 4). The Framework can be found on www.med.govt.nz..

[2] The exploration regime is not covered in this review.

[3] On 1 May 2000 the Government announced changes to the gas information disclosure regulations. These changes are yet to be promulgated. The intention now is to reconsider the role of information disclosure in the regulatory regime for the gas sector. In the meantime, work on promulgating the new regulations is in abeyance.

[4] The regulatory regime includes information disclosure, Commerce Act remedies and competition in those areas of the market where feasible.

[5] Lining up the Charges, prepared by Simon Terry Associates Ltd, July 2000, and The Origins of ODV ? Report to Air NZ, NZIER, August 2000

SEF 2001 Conference
Moving NZ Toward Sustainable Energy Use

Quality Hotel, 355 Willis St, Wellington

A registration form is enclosed, or available from SEF

Thursday 17 May

17.00 Cocktails with SEF, Energy Federation and NZ PV Assn folk
17.45 Minister of Energy address to joint Conference participants.
18.45 Discussion on the future for sustainable energy in New Zealand.

20.00 SEF Conference Dinner – Restaurant meal (Buffet meal $25 to $30)

See below for other events earlier in the day

Friday 18 May

8.00 Registration opens with tea and coffee
8.45 CoP-6 Climate Change Negotiations (Jeanette Fitzsimons, MP)
9.15 Plenary discussion
9.30 EECA Briefing on the Energy Efficiency & Conservation Strategy
10.15 Morning Tea
10.45 Plenary Discussion on the Strategy and SEF response.
11.45 Environmental Taxation (Ken Piddington)
12.30 Lunch and SEF AGM.
See below for agenda.
13.45 The potential for energy efficiency in NZ.
14.15 A new energy sector model, (Colin Wells)
14.30 Another view of the potential for energy efficiency. (Rob Bishop)
14.45 Mandated Targets for Renewable Energy (NZWEA paper)
15.15 Afternoon Tea
15.30 Plenary session and wrap-up.
16.00 End

Other events at the same venue on 17 May, available to SEF Members:

Energy Federation Seminar
Renewable Energy Options for New Zealand. 12.00 – 17.00 For a draft programme see page 9 of the last EnergyWatch. or phone 04 475 3299 or contact energy.fed@xtra.co.nz for more details. (SEF office may also have the latest programme available by email. Cost to SEF members is $70 +gst (EFNZ member rate)
The cocktail function and evening seminar are available to SEF members and public (cost $30 + GST).

New Zealand Photovoltaic Association Seminar
14.00 – 17.00. A seminar on the current uses and the future for Solar electric (photovoltaic) systems in NZ. This is a sponsored seminar for PV Industry people. Registration is required so please respond to ian.shearer@eeca.govt.nz (or 04 470 2214) for a programme or registration if you want to attend. Displays open to public.

SEF AGM

Friday 18 May 2001 at 12.30 at Quality Hotel, 355 Willis St, Wellington (opposite Aro Street)

The next AGM will be held as part of the 2001 Conference, over a buffet lunch. The agenda will be:

1 Welcome and apologies.

2 Minutes of the 2000 AGM, in Wellington on 21 February.

3 Convenor's report.

4 Financial reports.

5 Election of Convenor.

6 Election of Committee.
At least 3 new members are required, but see item 7.

7 Future of the Forum
The committee is having difficulty in either maintaining a quorum or finding new committee members. This is despite using conference phone calls hosted by EECA. The Forum has not achieved the membership numbers or activity levels originally envisaged. The committee proposes to make two amendments to the constitution, both intended to make committee meetings easier, but proposes to seek a merger with one or more groups with similar objectives. Suggestions from the floor will be most welcome.

8 Amendments to the constitution.
Proposed amendments are:
Amend clause 15.1 to read:
The Management Committee members shall comprise 6 to 12 members not including co-opted

members. (originally 9 to 12 members)
Delete clause 15.4:
Management Committee members shall stand down for three years after two consecutive terms.

9 SEF submission on NEECS (see below). There will not be time for discussion of details, but members will have the opportunity to raise any points that they would like included, or excluded.

10 Any other business.

If you are a SEF member and cannot attend the AGM, please return the proxy form on page 24

Draft SEF submission

on the

Draft National Energy Efficiency and Conservation Strategy

For discussion at the AGM, and also by e-mail beforehand: the draft presented at the AGM may not be the same as shown here.

1 The objective of the Sustainable Energy Forum is to facilitate the transition to sustainable energy. The Forum has about 120 members, including politicians, business people, academics and corporate members. This submission has been finalised after receiving feedback on a draft presented at the Forum's AGM.

2 The draft National Energy Efficiency and Conservation Strategy (NEECS) is very welcome and on the right lines, especially considering the short time available for its development. EECA, MfE and the Minister are to be congratulated.

3 Particular points supported by the Forum include:

- Recognition of the need for a new direction for New Zealand.
- Realistic goals set.
- A rational basis to goal selection and setting, with a realistic view of the limitations of government action.
- Recognition of the need to win hearts and minds, and the importance of both sticks and carrots, including taxation.
- An initial focus on retrofitting existing buildings.
- Transport recognised as needing much more attention, and alternative modes and urban form recognised as parts of the transport solution.

4 The 'least cost' approach is appropriate, but great care is needed with timing. The principle of allowing trading in emission permits to determine the size of the economic incentive for efficiency and renewables will encourage a 'wait and see' response from energy users. A more pro-active response would be for the Ministry for Economic Development to develop a public best estimate of the cost curve for greenhouse credits. This cost curve will tend to increase over time as the demand increases and the supply of low-cost credits is used up. The principal uncertainty is the position of the cost curve on the time line, not its magnitude. Such an advisory benchmark would provide a valuable planning resource for energy users, so that demonstrable progress by 2005 might be achieved.

5 Another difficulty with setting boundaries lies in the objectives set. The EECA objective is reduction of energy use, rather than reducing greenhouse gas emissions, and this limited objective may sometimes be counter-productive. If the objective is to control atmospheric CO_2, an essential contribution is to understand and control the carbon inventory of NZ's native forests, yet it is entirely absent from the strategy. Greater clarity on the reasons for the policy would be helpful: is it minimum compliance with the Kyoto Protocol, or achieving objectives?

6 We are concerned at a strategy which treats carbon credits as more than a last resort. Credits, from either planting or technology improvements, can only too easily become a 'cheat's charter.' If New Zealand is to maintain its 'clean green' image it must play down carbon trading, and seek to remove it entirely in later negotiation rounds. An appropriate duration might be either 10 years or a single growth cycle, whichever is longer.

7 The approach taken in NEECS is perhaps too rational. The Minister's introduction says, "If you think we need to go 'further and faster' we need evidence, analysis and proof." However, we

are dealing with new attitudes, new technologies and the future here. The Minister's phrase implies well-established methodologies, but these alone are unlikely to give the right answer:

> *Either you rigorously extrapolate current trends, in which case you get rigorous nonsense; or you adopt an imaginative blue-sky approach, in which case you get imaginative nonsense.*
>
> Peter Jay

A successful NEECS will need the right balance of rigor and imagination; recognition that either or both may be nonsense; and recognition of the risks of 'paralysis by analysis.' It is tempting to suggest implementation before analysis in some 'obvious' cases, while recognising that that was how we got into the Clyde Dam. Mistakes are inevitable, but the biggest mistake might be to take fright at the risks and revert to 'business as usual.'

8 A particular area needing imagination is the extent of renewable energy supply. NEECS correctly identifies this as unsuitable for a leave-it-to-the-market approach, but perhaps fails to give sufficient weight to the gathering strength of the precautionary principle. The risks needing a precautionary approach include climate change and costs, both present and future:

- Renewable sources are reaching the stage where the uncertainties of construction cost are comparable with non-renewable sources. Indeed, they may sometimes be lower because of their generally smaller scale: a wind farm could hardly achieve the cost over-runs of the Clyde Dam.

- The risks of cloud cover and calm weather are lower than the risks of fossil fuel supply and price manipulation, whether by electricity generators or OPEC.

Other potentially important benefits of a bold renewables target would be opportunities for local manufacture, technology transfer, or even exports to other countries.

9 A potential benefit of New Zealand's size, commitment to the Kyoto Protocol and 'clean green' image is opportunities as a test bed for renewable technologies. Technology trials may be needed on a regional or national scale, in a similar way to Iceland's moves towards a trial hydrogen economy. Bio-fuels might be a good area. We hope that government, industry and academia will be alert to any opportunities.

10 It follows from the points above that setting renewables targets too low is probably a greater risk than setting them too high. A target is something to aim for, and a shortfall is much more likely than exceedance. Therefore the targets should be set as high as is credible. We strongly support a policy of setting imaginative targets, designed to work at both wholesale and retail levels, and wider than the electricity sector—again, bio-fuels might be appropriate. We have some preference for mechanisms using price (as in Germany) rather than supply. This is partially to spread the opportunities as widely as possible—down to individual roofs and yards— and partially because any regulatory target will tend to be set towards the do-minimum end of the achievable range, with no incentive for greater efforts.

11 There is also a strong possibility that the objectives for energy savings have been set too low. Auckland spends 15% of Gross Regional Product on transport; Paris spends 5%, with substantially lower energy use. NEECS perhaps over-emphasises the point that city design locks-in this kind of spending, because cities are in any case renewed at around 1 – 2% a year. Aucklanders already have choices for some trips and could fairly quickly be given choices for many more. Getting Auckland's transport costs down to Paris levels is unattainable in a 5 year strategy, but if and when it were done the savings would be of the order of $ 4 billion a year, and perhaps another billion each in Wellington and Christchurch. Achieving even a fraction of such savings would be a valuable gain, running much wider than energy savings. Dramatic effects could be obtained even by bringing the average Aucklander's attitude towards public transport into line with the average Wellingtonian.

12 Similarly, a doubling of passenger transport patronage in ten years (7% growth) is thought challenging, even from a low base . Professor Hass-Klau says that a good system can initially attract 20% of car drivers, equivalent to a three-fold growth in Auckland's public transport patronage. The time-scale depends more on the rate of introduction of good alternatives to the car than on any annual percentage: Strasbourg achieved 380% growth in four years. Much the same applies to facilities for pedestrians and cyclists.

13 There are indications that manufacturing and commercial energy saving runs into diminishing returns much more slowly than previously thought, and that very rapid advances are possible. The limitation here is not opportunity and fundability, but findability: what Amory Lovins calls 'barrier busting.' There is a world-wide shortage of professionals trained and

experienced in seeing opportunities, and few institutions are designed to realise savings. A major difficulty will be identifying and prioritising the problems. Clearly, much of this lies beyond direct government intervention, but a worthwhile exercise might be to study how the key barriers might be identified.

14 A particular barrier is the RMA. We do not advocate major change, but we support two measures:

- Ensuring that energy provision and use are among the factors considered, such as adding to Section 1 of the 4th Schedule of the RMA: *An assessment of the full fuel cycle greenhouse gas emission consequences of the activity and ways to minimise them.*

- A National Policy Statement on energy.

It is a pity that the NEECS and RMA processes could not have been twin-tracked, but the next-best solution might be to use the final NEECS text as the starting point for an RMA process. Hopefully, twin-tracking the two exercises will be possible in a later round.

Log-jams unless rail reclaimed by state

Jeanette Fitzsimons
NZ Herald

Forestry Minister Jim Sutton is excited about the prospect of a 60% growth in forestry in the next three years. But has he thought about what that means on the ground—specifically on the roads?

Whangarei is just one place Mr Sutton will be able to go to see the effects of the forestry boom he's been hailing. There is expected to be an almost threefold increase in logging in Northland in the next three years. An extra 28 Mt of logs will come out of the province in the next decade. That means 700 more logging trucks a day through Northland's rural communities to the new Whangarei port. That is, unless a new rail line extension is built to connect Whangarei's port to the main rail network.

That seems unlikely. At the time when New Zealand needs significant investment in rail to meet projected industry demands, Tranz Rail is going in the opposite direction. It wants to close lines that aren't making enough money and sell its passenger services. It certainly doesn't want to build new track. Maintaining the track it already has is an increasing burden. There is no longer a centralised train control system in place for all lines. The Green Party's new rail plan, announced this week, would help Northland and a number of other regions by negotiating to bring the national rail track back into public ownership.

A new state-owned enterprise, a partnership between central and local government, would be set up to own the physical components of the rail network—track, land lease, bridges, tunnels, signaling, communications and some buildings.

So why should Tranz Rail agree to this? Logic suggests it would benefit from handing over the track at no or low cost in exchange for shedding the costs of track maintenance and for a guaranteed access agreement—say an exclusive right to run its freight services on the lines.

The state-owned enterprise should be debt free. Its job would be to maintain the track and cover its costs, not to make a profit. We invest billion of dollars in roads and recover just the direct costs from road users, without any return on capital. Rail should be the same. The real return is in the economic benefit to the nation.

(We don't even recover all the direct costs from road users: a third of expenditure comes from rates EW)

The right to run trains would be the subject of access agreements. These could be with freight companies (Tranz Rail, for example), private passenger companies or private-public joint ventures. Access agreements would be bid for competitively where demand exceeded space. The Government would not be involved in running rail services. The rail extension to the port of Whangarei could be built as a joint venture with the port and forestry interests, giving them guaranteed access.

As far as Auckland goes, I agree with Auckland local bodies that they need to control the local track network so they are able to develop passenger services. But the $M 112 Tranz Rail wanted would have drained Auckland's coffers and set an unrealistic price for the rest of the network. Our plan would give Aucklanders part-ownership of the whole track and management rights within their region. Infrastructure Auckland would then have more money to put into track improvements, such as double-tracking the western suburban line, new signaling equipment and new services. Our scheme would build on the good work the Auckland Regional Council and the

territorial authorities have done towards getting rail into public hands—but Auckland would benefit from being part of a long-term, integrated, national solution.

At present we have a rail system in the hands of an overseas monopoly which wants to get out of passenger services in Auckland and Wellington and close down freight lines in areas about to need rail for an export boom. A question mark hangs over Rotorua, and the Napier-Gisborne track has been earmarked to close as uneconomic. But like Northland, Napier-Gisborne is about to see a huge logging increase—about 265%, according to the Government. That would mean about 350 logging truck trips daily if road was used instead of rail. The cost of roading would rise significantly with all the extra heavy traffic. The roads would be even more dangerous, and they're dangerous enough already.

In 1999 trucks were involved in almost 20% of all road fatalities. ACC employee premium levels, a good indicator of safety and accident levels, have those in road freight transport paying $ 3.06 and those in rail $1.62. We would also find it much harder to meet our commitments under the Kyoto Protocol. Rail is five times more energy-efficient than trucks a tonne-kilometre. Turning to trucks means five times as much greenhouse gas. Although road-users and rail-users sometimes seem to be set up, particularly by road lobby groups, as natural enemies caught in a funding contest, rail and road need each other. Road-users benefit when freight goes by rail—think of being stuck behind all those logging trucks in Northland—and those people sitting in passenger trains are not adding their cars to the road traffic jam.

But road-users don't face anything like the full costs of the roads. They don't pay a return on capital and they don't pay for the environmental damage they cause. It's only fair—and efficient—that rail should be funded on the same basis.

Under the Green scheme, Transfund would pay the new state-owned enterprise an equalisation payment. With a forestry boom forecast and tourism already booming, New Zealand needs rail. And we need to move right now to make sure that the infrastructure is kept whole and not sold off in bits. With the log-jam looming, the Green Party's proposal provides a way in which the Government can regain ownership and control of a critical piece of New Zealand's infrastructure at a reasonable cost—in the nick of time.

That's one small step for GM, and one giant turkey for the US

New York Times

Japanese automakers have led the way on 'hybrid' cars, which have improved fuel economy and reduced tailpipe emissions by running on either gasoline or electricity. But the Toyota Prius and Honda Insight—which have been on the American market for a year—are costly to produce and sell in limited numbers, at a loss. So Detroit is trying a middle ground: offer some 'full hybrids,' capable of running on battery power alone at low speeds, but put the main focus on electrically assisted gasoline engines. General Motors and Ford executives say they expect to offer various levels of electrically assisted engines at least as an option on most models, though in some cases it may take a decade or more. GM is, "committed to being an absolute leader in putting that kind of technology in our vehicles across the board: not each and every vehicle, because we still have customers that want to make choices, but having that option across the board," said Harry Pearce, GM's vice chairman. Ford estimates that the more modest new hybrids can improve fuel economy by 10 – 20%, while the more ambitious designs, like those by Honda and Toyota, will gain up to 60%. The new approach will be to install electrical systems that are of lower voltage than for full hybrids and are recharged by the brakes. These will allow cars' gasoline engines to turn off automatically when a vehicle stops and turn on instantly when the driver's foot touches the accelerator, improving fuel economy and reducing emissions.

Low-voltage hybrids offer many of the advantages of full hybrids at a small fraction of the cost. But in contrast to Honda's 144 V system and Toyota's 274 V, the smaller 42 V systems are not powerful enough to provide much help in actually turning the wheels.

EnergyWatch comments:

Are these guys losing the plot? If not, then the Japanese and Europeans must be.

These US carmakers are effectively saying that they will settle for a half-way step towards competing with vehicles already in production, or a very small step towards competing with vehicles under development. They will offer full hybrids as an option, when doing a full hybrid properly

needs a complete redesign (where do you put the batteries?). They think this vastly unambitious programme will need 10 years, by which time the hypercar should have been in production for 5 years, and may be becoming dominant.

In its full form the NYT article mentions sports utility vehicles several times, the hypercar not at all. The reason for focusing on SUVs will be that a small saving is more obvious on a very inefficient unit, which is how James Watt became famous.

Last September we quoted Amory Lovins as saying that "the Hypercar is putting the fear of Adam Smith" into the car industry. In the US that fear now seems to have gone— or is this displacement activity? Are the US car makers willing to lose their overseas markets to the Europeans and Japanese? Will their domestic customers remain faithful when foreign vehicles are competitive on first cost (or nearly so) and perhaps 4 – 10 *times* more fuel-efficient? Is the US industry following its old UK counterparts, to complacency and overseas-owned oblivion?

Latest Energy Statistics

Main points of the latest Energy Statistics released by the government are (year to September 2000):

- Total primary energy supply, including imports of oil and oil products, grew by 2.4%
- Total domestic energy consumption up 3.2%.
- Net crude oil imports increased by 25%, while production of crude oil and related products decreased by 18%. NZ's self-sufficiency in oil declined from 41% to 36%.
- Coal production was 4.0 Mt, up 17%.
- Gas production rose 6%, with 77% coming from the Maui field. About 47% was used for petrochemical production, 36% for electricity generation and 17% for commercial and domestic purposes.
- Overall gas reserves increased by 103 PJ to 2701 PJ, reflecting an upward revision of reserves from additional discoveries (as at 1 January 2000).

Four more pieces of the global warming jigsaw —and a confirmation

A heat vent over the Pacific?

The Pacific Ocean may open a 'heat vent' that releases energy into space and reduces climate warming. "High clouds over the western tropical Pacific Ocean seem to decrease when sea surface temperatures are higher," says Arthur Hou of NASA. The newly discovered vent—if confirmed —could significantly reduce estimates of future global warming.

The process starts with cumulus clouds created by updrafts of warm, moist air. As they rise, water droplets coalesce into raindrops that either fall out of the cloud or continue rising until they freeze into ice crystals, forming high-altitude cirrus clouds. "With a warmer sea surface beneath the cloud, the coalescence process that produces precipitation becomes more efficient," explained Richard Lindzen of MIT. "More of the cloud forms raindrops and less is left to form ice crystals. As a result, the area of cirrus cloud is reduced."

Clouds play a critical and complicated role in regulating the temperature of the Earth. Thick, bright, watery cumulus clouds shield the atmosphere from incoming solar radiation by reflecting much of it back into space. Thin, icy cirrus clouds are poor sun shields but very efficient insulators that trap energy rising from the Earth's warmed surface. A decrease in cirrus cloud area would have a cooling effect by allowing more heat energy—as infrared radiation—to leave the planet. If the effect is widespread, the Earth may be much less sensitive to greenhouse gases in the atmosphere. The researchers estimate that this effect could cut by two-thirds the projected increase in global temperatures initiated by a doubling of carbon dioxide in the atmosphere. The International Panel on Climate Change (IPCC), the United Nations body which has done more than any other agency to publicise what it regards as the certainty of global warming, has itself conceded the importance of understanding cloud behaviour. How clouds impact on climate is widely regarded as one of the great unknowns in atmospheric science. BBC

Sea level rise and fall

Researchers from the University of Toronto say that water melting from the Greenland icecap will actually lower sea levels, in eastern Canada and as

far away as the UK. The reason is the tug of gravity exerted by the massive ice sheets and glaciers.

Worldwide, average sea levels since 1900 have increased by 1 – 2 mm/yr, but the rate varies at different locations, generally from 0.5 – 2.5 mm. Skeptics claim the range shows that global warming isn't really melting ice caps, since any sea level rise should be uniform. But the Toronto researchers say the phenomenon is actually an argument *for* ice melting.

Any object attracts the earth—as well as being attracted by it—and when the object is an ice cap the attraction is enough to make a small difference: the earth's centre of mass moves a few millimetres towards the ice. If the ice melts, the water disperses and the centre of mass moves away. For large-scale melting the effect appears to cause a fall in nearby sea levels: the rise due to meltwater is more than offset by a fall as the earth's oceans follow the movement of the centre of mass—and cause an equivalent rise on the other side of the globe. Geophysicist Jerry Mitrovica says, "Greenland ice will leave its own distinct fingerprint in how the sea levels rise and so will Antarctica and the mountain glaciers. This gives us our first tool to tell where the water is coming from and how much." Toronto Star

Aerosols

According to current climate models, global warming should cause regional cooling in both the southeastern US and eastern China. But while the US has seen a mild cooling trend, eastern China has warmed slightly over the last 50 years. Dr Vinod Saxena says these opposite trends may be due to differing types of aerosols (or airborne particulate matter) over the two areas.

"The Southeastern US receives sulphate aerosols blown over the Appalachians from industrial manufacturing in the Ohio River Valley," Saxena explains. Sulphate aerosols reflect solar radiation back into space. "The aerosols over eastern China are mostly carbon soot particles from the burning of coal and wood for cooking and heating, and from unregulated industrial emissions." Those aerosols tend to raise temperatures by absorbing solar radiation—especially in the winter, when more coal and wood is burned.

In June 1991, Mount Pinatubo put 30 megatonnes of SO_2 into the atmosphere. The resulting aerosols reduced temperatures around the world, including the two study areas. After the volcanic sulphate aerosols dissipated in 1993, temperatures increased in China, but not in the US, underscoring the differing roles of the two types of aerosols.

Those findings may have implications for negotiations on a global climate change treaty. The Kyoto Protocol, as it stands, does not address the unrestricted emissions of carbon aerosols by developing nations such as China and India. Research indicates that those aerosols are the second most important cause of global warming, after CO_2. (Reference: Yu, Saxena and Zhao, Geophysical Research Letters, 28/4) Unisci

Historic temperature measurements

A study of 600 boreholes around the northern hemisphere suggests that global warming began in about 1750 and has since warmed the atmosphere of the northern hemisphere by 1.1˚C (Chapman and Harris, Geophysical Research Letters, 1/3/01). Professor David Chapman said this "is independent evidence for global warming." Previous evidence for climate warming was based on factors such as tree rings and coral growth as well as sea level changes.

Co-author Robert Harris explained that air temperature changes create 'thermal waves' that gradually work their way down into the earth. The heat from the surrounding rock dictates the temperature of the borehole water at any given level. Knowing the wave speed allows scientists to determine how long the heat has been travelling through the ground, after factoring out the heat rising from the inner earth. The waves are compared with general temperature trends recorded at weather stations near each site. Since the borehole information s consistent with 100 years of weather data, it is likely that changing temperatures can be linked to earlier air temperatures. "The earth has a useful thermal memory of what's happened in the last 500 years or so," Harris said. Salt Lake Tribune

Greenhouse effect confirmed

A comparison of satellite data from 1970 and 1997 has yielded the first direct evidence that greenhouse gases are building up in the Earth's atmosphere and allowing less heat to escape into space. The group at London's Imperial College compared readings of infrared radiation from the Earth's surface and found a reduction in 1997, specifically in the wavelengths absorbed by greenhouse gases. Lead researcher John Harries said, "We're absolutely sure, there's no ambiguity: This shows the greenhouse effect is operating and what we are seeing can only be due to the increase in the gases." CNN

Dutch response to rising sea levels

San Francisco Chronicle

After a centuries-long struggle to claim land from the sea, the Dutch are planning to retreat. The new plan, carrying the feel-good name *Making room for water*, calls for greatly increasing the natural floodplains of the Rhine and Meuse rivers to eliminate catastrophic flooding, in response to predicted rising sea levels and increased rainfall in the river catchments.

With half its territory below sea level—and much of the rest already threatened by coastal or river flooding—the Dutch take these predictions very seriously. "It's better to be safe than sorry when you live below sea level," said Peter Glas, director of inland water systems at Delft Hydraulics.

Unfortunately, drained land tends to sink, and the Dutch were soon surrounding fields and towns with dykes and canals, and using wind power to pump them dry. The land continued to sink, but the Netherlands had the wealth and technology to continue building and pumping. Engineers also tamed the Rhine and the Meuse, which drain most of Germany. Naturally flowing rivers spread over vast floodplains every spring, but the land-hungry Dutch built huge dykes and storm-surge gates.

But when a particularly large flood came, the surging rivers sometimes breached the dykes. In 1953, a storm surge drowned nearly 2000 people. A 1995 river flood forced the evacuation of 200 000 people. Such disasters prompted fresh thinking.

By 2050, a total of 90 000 ha of land (2% of the whole country) will be surrendered to increase the size of the river floodplains, which will be allowed to turn into natural forests and marshland. Another 25 000 ha of pastures will be earmarked as temporary storage pools for floodwaters. Land use practices on another 75 000 ha of farmland will be changed so they can tolerate soggy conditions in winter and spring. Officials say they do not want to relocate towns and villages, and they intend to find ways to move the new newly freed water away from areas of major habitation.

One company is even designing giant floating farms, commercial parks and towns that could be stationed in flood storage areas. "It's a more complicated approach, but our future as a society will be much safer," Glas said. "If the big flood comes, isn't it better to have a metre of water in your house than to have six metres over your rooftop?"

Mini-Whats

Electricity price wars

Trustpower and On Energy are running a price war in Wellington and Christchurch.
(On Energy used to be Transalta: presumably they considered that the new name might be a hostage to fortune? EW)

Car-share scheme fails

A scheme intended to encourage people to give up their cars in favour of a neighbourhood vehicle-sharing arrangement is being closed down as a loss-making failure. The pioneer City Car Club in Edinburgh will close in March because demand has been far below expectations. The scheme has attracted only 170 customers, and 16 of the 22 sites where participants can pick up cars have hardly been used at all. The Department of Environment, Transport and the Regions, which spent $NZ 500 000 on the project, was hoping that it would spearhead a reduction in individual car ownership. The scheme's architects claimed it was much cheaper than the costs of full-time ownership for city-dwellers with average journey patterns. In Switzerland, a similar framework has over 30 000 members. Daily Telegraph

Isn't Wellington lucky

The Railway Commissioner of Safety in India is threatening to close a commuter line in Mumbai. The World Bank, negotiating a loan for railway developments, is also involved. The problem: illegal slums along the tracks. Speeds as low as 5 km/hr are causing system-wide delays but have not solved the safety problems. Sustrans

Greener transport in Canterbury

The EECA-sponsored web-based ridesharing system developed at Lincoln University is now in use at the University of Canterbury. Staff and students at the university now have access to UC Rideshare (www.canterbury.ac.nz/Rideshare/) which arranges rideshare transport via e-mail, and provides information on cycle routes and public transport.

The internet based carpooling system makes it easy for people to find carpooling partners. Potential drivers and passengers who register their travel details on the rideshare website are automatically put in touch by e-mail with others with similar travel routes and times. Rideshare

vehicles then get priority parking on the University of Canterbury campus by showing two or more personal rideshare tokens on the dashboard.

As well as matching potential rideshare partners, the software includes information on public transport, cycle and ride facilities, taxi companies and long distance transport providers.

At a cost of between $ 1500 and $ 15 000 for each parking space, the university is keen to promote alternative transport modes. EECA

Approval for world's largest wind farm

Scandinavian renewable power company Eurowind AB has received planning permission from the Swedish government to build an 86 MW offshore wind farm at Lillgrund, between Sweden and Denmark. Eurowind said the plant will be the world's largest. It will be located 7 km from the Swedish coast and 12 km from Denmark. "This region has the highest wind speed in Europe and very calm water, so we believe it is a good location for a large scale wind power plant," said Eurowind chairman Magnus Rosenback. He added that construction of the plant will start in November 2001 and will take approximately eight months. The plant will produce about 300 GWh /yr, or enough to power 20 000 homes. Reuters

OPEC production cut

From 1 April, OPEC cut production by 4%, or a million barrels a day.

Movement on Auckland rail ownership

The Government has decided on an approach to assist Auckland councils take control of the Auckland rail corridor, but Prime Minister Helen Clark did not consider the Auckland Council's figure of $M 112, "or anything like it," to be an appropriate figure. "The Auckland issues are having to be discussed in advance of resolution of a national rail strategy but the two have been going tandem at the ad hoc ministerial committee and we hope we'll be able to be clearer about that in the not too distant future."

The Greens are calling for a national sharing of ownership of the national rail network between central government and interested local bodies. Greens co-leader Jeanette Fitzsimons said, "Tranz Rail is not interested in further investment in the rail infrastructure, such as connecting the new port of Whangarei to the rail network and investing in new signaling equipment that would enable both passenger and freight services to run on the Auckland line." NZPA

(See also Jeanette Fitzsimons' article on page 17 EW)

So they are a risk

A UK study has found a causal link between high-voltage power lines with an increased risk of cancer in children. The researchers suggest that the increased risk is from charged particles from the field around high voltage lines that are inhaled. The study was commissioned by the National Radiological Protection Board, the Government's radiation watchdog, and is the first time a British Government body has accepted the link between cancer and power lines. Study leader Sir Richard Doll, an epidemiologist who linked smoking and lung cancer in the 1960s, was expected to warn that children living near electricity power lines were at an increased risk from leukemia and that there might be a link with adult cancers, but that this was unproven. Sunday Times, UK

Global warming symposium

On 5 March the Japanese government announced a symposium in Tokyo in April, to pave the way for an international agreement on specific measures to prevent global warming by cutting greenhouse gas emissions. Japan will invite government officials and representatives of companies from about 10 industrialized and developing countries to the symposium to be held on April 12-13.

Making a start

The Australian government is running a public information campaign to show people easy ways to lower greenhouse gas emissions. Figures given include:

Turn the TV off at the wall	150 kg/yr
Wash clothes in cold water	4 kg/yr
Shorter showers	up to 0.5 kg/min
Use fluorescent lighting	80%
Put lids on pots and simmer gently	50%

(There could be some interesting assumptions buried in here EW)

Federal Environment Minister Robert Hill said the greenhouse effect was likely to have a serious impact and people needed to know how they contributed to global warming. "Australian households generate 20% of this country's greenhouse gases—an average of more than 15 tonnes per household each year." ABC News

India the lowest contributor

India is the fifth largest emitting country, but is the lowest on a population basis, with less than 1 tonne/capita/yr. The highest is the US, at 20 tonne. Times of India

Sequestration trial in Hawaii?

A laboratory in Hawaii is planning to try carbon sequestration into the ocean. Permission for a land-based test has been refused because of public pressure—there were claims that the Union of Concerned Scientists had described the process as 'untested', but that was exactly why the tests were to be made. An offshore, ship-based trial will probably be made instead, in the northern autumn. The plan is to pump liquid CO_2 down to a depth of 1000 m, in two-hour tests at a rate of up to 7.6 t/hr. The expected outcome is a rising plume of droplets which dissolves in the water, never rising to more than about 650 m. The droplets will turn the water in the 15 m wide plume from its normal slight alkalinity to a slight acidity, which may last six to 12 hours. The intention is to find out exactly how big the plume is, how acidic and how long it lasts. Star-Bulletin

API emissions estimates

The American Petroleum Institute has developed a *Compendium of Greenhouse Gas Emissions Estimation Methodologies for the Oil and Gas Industry,* to assist members in the calculation of GHG emissions inventories. More information on: www.api.org/

Bad news good news

Melting permafrost under the trans-Alaskan pipeline is developing as an engineering nightmare. Half the length of the pipeline runs on stilts above frozen ground. If it sinks onto the ground, access for maintenance will be almost impossible—and any sinking is bound to cause damage to the pipeline. The good news—for President Bush at least— is that oil tanker access to coastal wildlife refuges is a lot easier than it used to be.

Car-free day

A world-wide car-free day was held on 19 April. Singapore took part for the first time. The Singapore Environment Council (SEC) was looking for a 10% reduction, which would be very good for a first attempt. SEC executive director Penelope Phoon said, "This throws out a challenge to car-loving Singaporeans to leave their cars behind for a day, to promote an eco-friendly lifestyle. The main objective of the campaign is to drum up awareness, in a bid to encourage people to switch to alternative modes of transport." The Straits Times

New Zealand's contribution was... subdued EW

Japanese CO_2 forecast

The Japanese government predicts a 7% increase in CO_2 emissions from 1990 to 2010, instead of the committed 6% reduction under the Kyoto Protocol. Meeting the target is said to be "totally impossible," but an important reason for the higher figure is using coal to generate electricity because it is cheaper than oil. Newsroom

It makes a great gift

New York-based company Natsource is retailing carbon credits at US$ 5 /tonne, (plus $ 5 shipping and handling per order). The sources are a carbon sequestration project in the Pacific Coast forests of Panama, and a natural-gas electric generation plant in Argentina. The power plant uses the revenues from credits to fund cogeneration with the excess steam it generates. MSNBC

German green power subsidies approved

The European Court has ruled that Germany's law on subsidising power derived from renewable energies is in line with European Union law. The Greens group in the European Parliament welcomed the decision, saying it was a "slap in the face" for EU Competition Commissioner Mario Monti. Greens spokesman Claude Turmes said big German energy suppliers had tried to destroy the renewable energy law by claiming it was state aid. Prices set range from DM 0.121 – 0.178 /kWh for wind power to a minimum of DM 0.99 /kWh for solar energy. Officially quoted wholesale power prices in Germany were last at an average DM 0.12/kWh, but large customers can achieve very favourable discounts. Reuters

Never mind the info, look at the source

Renewable energy, especially solar, is expected to grow dramatically in the next few years. The growth will be stimulated by better economic fundamentals, improved technology, scale effects, and higher comparative costs of fossil fuels. Solar energy will grow at a projected average of 28.5%/year through 2005. Oil & Gas Journal

Hydrogen-powered bus trial

Twenty seven fuel-cell powered buses are to be tried in Amsterdam, Barcelona, Hamburg, London, Luxembourg, Reykjavik, Stockholm, Stuttgart, and Porto ENS news

ExxonMobil joins fuel-cell partnership

ExxonMobil, the world's largest oil company, has joined the California Fuel Cell Partnership, a public-private group that is demonstrating fuel cell vehicles in the state. The decision marks a growing recognition in the oil industry that serious alternatives to the combustion engine must be found to meet tightening environmental regulations. Financial Times

Sustainable Energy Forum Inc

Proxy Form for AGM 2001

Your name:

_____

I am a current member of the Forum. Please put in my apology for the 2001 AGM.

I appoint as my proxy the Convenor

or:

_____

I ask my proxy to vote for the amendments to the constitution proposed in the notice of AGM (page 14)

or

I attach my voting instructions.

Signature and date

_____

_____

Please mail to P O Box 11 152, Wellington, to arrive by 16 May 2001

Stop Press: Pete Hodgson in New York

NZ Government

New Zealand and other countries represented at a recent international meeting on climate change gave the US a strong and repeated message of concern about its step away from the Kyoto Protocol, says Pete Hodgson, who represented NZ at the talks in New York from 19-21 April.

The informal meeting of about 35 nations was called by Jan Pronk, the Netherlands Environment Minister and president of the World Conference on Climate Change (CoP-6) that broke up without resolution last November. The meeting was to work through outstanding issues in preparation for CoP-6 *bis* in Bonn in July.

"The meeting confirmed the fact that the rest of the developed world is deeply unimpressed by the United States' unilateral refusal to support the Kyoto Protocol," Hodgson said. "The nations represented in New York conveyed their disappointment strongly and repeatedly to the US representatives."

"There was widespread agreement also that that there are significant economic advantages to be secured from acting on climate change by improving energy efficiency and making technological improvements in energy production and use. These advantages will to be the most significant for those that move early."

Pete Hodgson said it was clear from the meeting that the US Cabinet-level review of climate change policy, which will determine the US approach to international negotiations, would not be completed until shortly before CoP-6 *bis*. The prospects for agreement remain uncertain in the meantime. "In any case, NZ will continue to place high priority on energy efficiency and other environmentally beneficial measures that will give us an economically positive return. In addition we will continue our involvement in international negotiations to ensure that NZ's interests, especially in the forestry sector, are secured."