

*Supplementary submission to Senate Rural and Regional Affairs and  
Transport References Committee*

**Inquiry into Australia's future oil supply and alternative transport fuels**

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**1. Introduction**

Further to the Committee's Hearing held on 30 June at Sydney, additional comment to my earlier submission (number 23) now follows. The topics are a summary, oil prices, is AusLink 'fair dinkum' ?, congestion pricing and heavy truck road pricing.

As per this writers primary submission, the present submission will also draw on research conducted at the University of Wollongong and supported, in part, by the CRC in Railway Engineering and Technologies (Rail CRC). However, it does not necessarily reflect the views of either organisation.

**2. Summary of both submissions**

The main submission (14 pages plus 5 Appendices) closely examines the difficulties government in Australia has had to date to improve transport energy efficiency and reduce greenhouse gas emissions from land transport. Particular attention is given to urban public transport and land freight transport, along with external costs of road vehicle use.

Reducing the use of oil goes hand in hand with reducing greenhouse gas emissions in transport. This has been examined several times by the Bureau of Transport and Regional Economics (BTRE) which found that optimal road pricing was the best way forward. The topic was also examined by the Senate Committee on Environment, Communications, Information Technology and the Arts Reference Committee in its 2000 report 'The Heat is On'.

The submission notes nearly 30 inquiries and reports going back to 1979 dealing with reducing the use of oil, or related topics. For most inquiries or events, with the notable exception of the Prime Minister's statement in 1978 moving Australia to import parity pricing, the issue of reducing oil use in transport has proved too difficult for government. Indeed, Australia at a Federal level and some state Governments have moved to increase subsidies – either direct or hidden – to road vehicle use. At the same time, with the notable exception of Western Australia, state governments have not acted to ensure that their

capital city rail systems have expanded to meet population growth. This, coupled with no funding for urban public transport under the current Federal government, has limited the effectiveness of mass transit. Sub-optimal urban public transport coupled with generous tax breaks for car use has resulted in excessive automobile dependence in our larger cities.

Excessive car use in large cities comes at a high cost. One such cost is the downstream health effects from motor vehicle pollution in capital cities. This was conservatively estimated in 2005 by the BTRE as costing \$2.3 billion a year. These health costs from motor vehicle pollution - both mortality from premature death and morbidity from impaired health - are \$1 billion a year alone for Sydney.

Across Australia, the submission conservatively estimates the hidden subsidies to motor vehicle use exceeding \$11 billion per year, and this excludes congestion costs. It is recognised that one can question the absolute accuracy of the figures, what categories of subsidy should be excluded or included, and how much of road accident costs not covered by insurance should be regarded as an external cost. However, subsidies in the order of \$10 bn per year are a far cry from suggestions from interested parties that the Government "rip off" car users or that "We pay our way" from truck operators.

In brief, the hidden subsidies to vehicle use include unmet road accident costs, tax refunds, environmental costs, greenhouse gas emissions, subsidies to car manufacturing, and the dubious Queensland Fuel Subsidy Scheme and NSW Toll cash back schemes. The subsidies to articulated truck use are separately estimated at over \$2.5 billion per year.

Although previous inquiries have made sensible suggestions to improve the situation, we know that this time around, the days of cheap oil are over. Indeed, Australia has only been insulated from the really hard impacts that New Zealand is now experiencing with an expanding oil import bill and weakening currency leading to petrol at \$1.70 per litre by two factors. The two factors that currently favour Australia are firstly our residual but declining domestic oil supplies and secondly the resources boom with our record coal and iron ore exports. Both factors will not last forever.

As the WA Minister for Transport, the Hon Allanah McTiernen MP has said, the costs of not addressing urban transport problems will be quite high if we do not act now.

Higher oil prices will be a real challenge to people who live in regions like Western Sydney which have had large post World War II population growth but have only seen a few kilometres of rail line built since the 1930s and have limited bus services. Higher oil prices will also pose a problem for the many people who have relocated to Wollongong and Shellharbour and work in Sydney. The transport situation for Illawarra people is not

helped by a congested rail line to Sydney, and who have to rely on inadequately resourced private bus services.

The Australian Government needs to place less credence on present predictions that within two years, oil prices will have fallen below \$US40 per barrel, and start now to plan for urban structures and transport systems that will be needed if high oil prices will be sustained. A good starting point would be for the Australian Government to adopt the seven transport recommendations of a September 2005 report "Sustainable Cities" of the House of Representatives Standing Committee on Environment and Heritage. A positive response to the recommendations of this report is now overdue.

Australia now has a problem that has been years in the making. On the one hand, governments do not want to put petrol prices up any further. On the other hand, there are inbuilt and ongoing subsidies to road vehicle use. At the same time, Australia continues to build roads as if cheap oil will last forever but for the most part denies adequate funds to extend and upgrade rail links. Australia needs to invest more in public transport. In the United States about 20 per cent of federal land transport funds are available to mass transit.

The relevance of rail to the present inquiry is that on average, rail is two to three times more energy efficient than cars in moving people. For general freight, rail is about three about three times more energy efficient. In addition, electricity can be used for rail instead of imported oil.

Between our cities, we need less 'highway subsidisation' of interstate trucking and more funds to straighten out those sections of interstate mainline track with 'steam age' alignment. The AusLink 2004 White paper noted (page 37) some 121 km of rail deviations to be built on the NSW North Coast line, but these were set aside in 2005 by the Australian Rail Track Corporation. Planning for these deviations need reinstating. For the NSW Main South line, 196 km of track built to modern engineering standard would get rid of 260 km of obsolete track with excessive curvature with big benefits.

As Australia prepares to meet the 'Twice the Task' challenge to accommodate a projected doubling of freight by 2020, Australia needs to make freight transport more energy efficient. This will require more attention to road pricing for heavy vehicles and ongoing upgrades to mainline tracks including track straightening.

In conclusion, AusLink is a good starting point. However, there is still an inbuilt bias towards roads, and a new program of Federal support for urban transport is needed - after all, 60 per cent of Australian's live in its five mainland state capital cities.

### 3. Oil prices

It is appreciated that predicting future oil prices is difficult. For example, Sydney Morning Herald 'Plenty of argument over outlook for oil' (25 July 2006) where one analyst says oil prices will reach \$US100 per barrel, possibly this year, another (Louise Yamada) who predicted in July 2004 that oil would reach \$US67 within 'months to years' (she was right) would not be surprised "to see oil in excess of \$US100" whilst a third analyst says only a US recession could stop the advance to \$US100 by the end of 2007 and a fourth analyst said such a price is unlikely unless there are large physical disruptions.

The costs to any nation of their Government underestimating future prices are potentially very high. In the meantime, one can wonder if the present Government, and main Opposition party, is doing enough to have a 'Plan B' in case the all too frequent projections that oil prices will fall again within two years turn out to be wrong.

As recently as 15 June 2006, a scenario was raised at the BTRE Colloquium held at Parliament House in Canberra that within two years, oil prices will have fallen below \$US40 per barrel. However, if we go back to a February 2005 BTRE report<sup>1</sup> we read (with emphasis added): *"The 12 months to October 2004 saw world prices rise around 70 per cent, reaching historical highs (in nominal terms) of US\$55 a barrel. However, unsettling as the dramatic price rises were, none of the professional market analysts suggested that they signalled a long-term decline in world oil reserves. Rather, they were attributed to a variety of factors including unanticipated growth in demand from China and a series of relatively minor supply disruptions coupled with the 'geopolitical risk premium' from the instability in Iraq and the Middle East.*

*"The question exercising the minds of the analysts is whether October 2004 was a market aberration or a sign of future price trends. The IEA's World Energy Outlook (October 2004) concluded that **prices reached in mid-2004 are unsustainable and market fundamentals will drive them down the next two years** (IEA 2004b p. 47). Consistent with this view, the IEA anticipates prices (in US\$2000 a barrel) to decline to \$22 by 2006, climbing again to \$29 by 2030 ..."*

If we go back further to a CSIRO, ABARA and BTRE 2003 report<sup>2</sup> we read in part *While oil prices have been at historically high levels in recent years, some easing of prices is expected in the near term, with further easing in the period 2008 to 2012, to around*

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<sup>1</sup> BTRE (2005) Working Paper 61 'Is the world running out of oil? A review of the debate' page 23 IEA 2004b denotes the Paris based International Energy Agency's World Energy Outlook 2004.

<sup>2</sup> CSIRO, ABARA and BTRE 2003 report 'Appropriateness of 350 million litre biofuels target' re Viability of ethanol page 20

*US\$23 a barrel (in 2003 dollars) in West Texas Intermediate terms. The Australian dollar is projected to return, over time, to a trend level of US 65 cents.*

Before 2003, this writer recalls some longer term projections for \$12 per barrel.

Australia's approach to oil pricing (and climate change) appears to differ from that of the New Zealand Government. To quote, for example, from the 2006 New Zealand Budget speech<sup>3</sup> *"Moreover, growing awareness of the seriousness of the consequences of human-influenced global warming, the likelihood of high oil prices continuing, and the uncertainties around future gas supplies in New Zealand mean there must be an emphasis on increased energy production from renewable resources.*

*Work is proceeding on a range of solutions, including the use of biofuels in conjunction with broader climate change policy initiatives. Significant contingency funding of \$100 million has been set aside for the purpose in 2006/07.*

*But it is also important that we ensure that economic and regulatory signals are consistent with both security of supply and broader sustainability and environmental considerations.*

*A similar balance needs to underpin the other major area of infrastructure improvements: roading, rail and land transport. ...*

Despite the awareness on the part of the New Zealand Government for the need for a new approach, it is of interest that the IEA in May 2006 called on New Zealand to take stronger measures to improve energy efficiency and that *"More should also be done to address climate change issues."* The Press Release is attached as Appendix A. It may be of interest to the Committee to seek the IEA's recommendations for Australia.

#### **4. Is AusLink 'fair dinkum' ?**

Is AusLink meeting its originally promulgated objectives of delivering an integrated transport plan ? Or is it, as noted in the AusLink 2005 minority reports of the Senate Rural and Regional Affairs and Transport Legislation Committee, being distorted for political purposes and *"fails to address the long-term problems inherent in continuing to rely on national highways as the primary mode of regional freight transport ..."*

It is perhaps too early to give a definite answer to such a question for what is now a \$15 billion programme. However, even setting aside the lack of provision for urban transport, the heavy emphasis on funding roads continues into AusLink, as suggested by official Federal government media releases made on 30 June, as follows.

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<sup>3</sup> New Zealand Budget speech delivered on 18 May 2006 by Dr Michael Cullen, MP

**EXTRA FEDERAL ROAD FUNDS FOR BRUCE HIGHWAY DELIVERED** The Australian and Queensland Governments have signed a Memorandum of Understanding for major new road works on the Bruce Highway between Townsville and Cairns.

**EXTRA FEDERAL ROAD FUNDS FOR WESTERN AUSTRALIA DELIVERED** The Australian and Western Australian Governments have signed a Memorandum of Understanding on major new road works on four highways in Western Australia.

**EXTRA FEDERAL ROAD FUNDS FOR TASMANIA DELIVERED** The Australian and Tasmanian Governments have signed a Memorandum of Understanding for major new road works on the East Tamar Highway between Launceston and Bell Bay.

**BOOST FOR AUSTRALIA-TAIWAN AIR SERVICES** Australian Government Minister for Transport and Regional Services, Warren Truss, today announced that air services between Australian and Taiwan would be further liberalised.

**EXTRA FEDERAL ROAD FUNDS FOR SOUTH AUSTRALIA DELIVERED** The Australian and South Australian Governments have signed a Memorandum of Understanding for major new works on the Sturt Highway between Gawler and Nuriootpa.

**EXTRA FUNDS FOR PACIFIC AND HUME HIGHWAYS DELIVERED** The Australian and New South Wales Governments have signed a Memorandum of Understanding for major new road works on the Hume and Pacific Highways.

**EXTRA FEDERAL ROAD FUNDING FOR THE NORTHERN TERRITORY DELIVERED** The Australian and Northern Territory Governments have signed a Memorandum of Understanding for major new road works on the Victoria Highway.

It will be noted that there were six (mostly joint) media releases for road and one for air. However, there was none for rail.

#### **4.1 The AusLink Brisbane- Cairns Corridor Strategy**

To quote from the draft Corridor Strategy released on the AusLink website in mid June 2006 (<http://www.auslink.gov.au>) "*A key component of the AusLink process is the development of a strategy for each corridor of the AusLink National Network. A Corridor Strategy is a statement of the shared objectives and strategic priorities of the Australian and State/Territory Governments for the long-term (20-25 year) development of the AusLink Network. Corridor strategies provide guidance to decision-makers and project proponents formulating network initiatives, and most importantly, inform development of the next and subsequent National Land Transport Plans.*"

The Brisbane-Cairns Corridor Strategy is of particular interest as it is the first such strategy released. It is also of interest as this longer corridor has some special features as well as its length, and the earlier Main Line Electrification and Main Line upgrade

programme. Other special features include the Caboolture - Nambour track being the most congested section of single rail track in Australia, and, the rail bridge over the Burnett River at Bundaberg being currently subject to a speed restriction of 15 km/h with no braking or acceleration whilst any part of the train is .

The Committee may question the approach taken in the draft Brisbane-Cairns Corridor Strategy that appears to follow a 'Business as usual' approach which favours Bruce Highway improvements at the expense of major upgrades of the Queensland North Coast Line (NCL). Some concerns with this corridor strategy include:

#### **4.1.1 Oil pricing and supplies**

Oil pricing does not rate a mention in the draft Corridor Strategy - even in Chapter 3 re foreseeable changes to 2030. However, there is a need to ensure that plans for future infrastructure can be modified if that high oil prices will be sustained (or continue to increase) as opposed to frequently expressed scenarios that oil prices will soon fall again. It is recommended that future AusLink corridor studies consider:

Planning within a modified business as usual context (ie AusLink as per the White Paper).  
 Planning within the scenario of having to deal with sustained high oil prices.

As noted in the Brisbane- Cairns corridor strategy, the total inter-regional freight task on the average corridor segment was forecast to increase from 5.5 Mt in 2003 to 7.7 Mt in 2013, also, in considering future rail freight demand three scenarios are examined:

Base case – rail captures 95% of its current mode share

Market defence – rail captures its current mode share

Rail growth – rail captures 105% of its current mode share.

By 2013, the additional use of diesel between the base case and the rail growth case (some 0.77 mt on rail), is likely to be at least 17 million litres per year. This assumes a Brisbane- Cairns road distance of 1640 km and a rail distance of 1699 km, a rail energy intensity of 0.31 MJ -FFC per tonne km<sup>4</sup> with 41.77 MJ per litre of diesel and road's energy intensity being three times that of rail.

Further rail deviations and the use of electric traction in place of diesel electric locomotives for rail between Brisbane and Rockhampton would give additional diesel savings.

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<sup>4</sup> ARA Australian Rail the 2004 Productivity Report

#### 4.1.2 Rail deviations

The Brisbane - Cairns Corridor Study notes, inter alia, that "*the horizontal alignments and vertical grades between Nambour and Bundaberg remain poor and are a major impediment to attaining any further improvement in transit times and train length.*" Along with duplication and deviations of the Caboolture - Nambour section, desirable Queensland North Coast line rail deviations include:

- A. Selected rail deviations between Nambour and Bundaberg.
- B. Selected (but fewer in total length) rail deviations between Bundaberg and Cairns.
- C. A western bypass to go with a new bridge over the Burnett River at Bundaberg. As noted above, the existing bridge is subject to a speed restriction of 15 km/h with no braking or acceleration. The speed restriction used to be 25 km/h. In addition, in North Bundaberg, the trains have to go down the middle of a road at a slow speed. Obviously, a new rail bridge on a new alignment is needed.
- D. A rail freight bypass to the west of Rockhampton Station where north of this station, trains move along the centre of Denison St at 25 km/h. A new rail bridge (over the Fitzroy River) on a new alignment would assist here.

Selected rail deviations<sup>5</sup> can give appreciable benefits that can include:

1. Reduced point to point distance,
2. Faster and heavier freight trains,
3. Improved reliability of freight train operations,
4. Improved rail passenger services,
5. Appreciable savings in fuel,
6. Reduced train and track maintenance costs,
7. The elimination of level crossings, flood mitigation, and improved clearances,
8. Reduced road accidents involving heavy trucks due to rail's expected increase in modal share of freight,
9. Reduced diesel use and greenhouse gas emissions due to rail's superior energy efficiency in line haul freight (a factor of about three to one), and,
10. The ability of an upgraded rail system to defer considerable expenditure on the augmentation of road capacity.

In 1998, Queensland Rail produced a Straight Line Diagram identifying 135 deviation sites between Landsborough and Townsville where the existing track has

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<sup>5</sup> Laird P *The Sydney - Melbourne Rail Corridor - options for the 21 st Century* Australian Rail Summit, July, Sydney 2006



indicated speed restrictions of less than 100 km/h for freight trains. The deviations would require reconstruction of some 290 km of track, and give for a heavy freight train time savings estimated at about 137 minutes, and fuel and other cost savings for train operators of about \$2600 per trip<sup>6</sup>. This is about 20 per cent of the total operating cost of the train if it could sustain 100 km/h through running for the entire haul. In addition, saving in track maintenance costs of about \$200 would result for each standard freight train trip between Landsborough and Townsville. In addition, for each tonne of line haul freight a more competitive rail operator could attract, external transport costs would be reduced.

As part of a Rail CRC project, further analysis was undertaken for five potential NCL rail deviations between Nambour and Maryborough West. Indicative and partial results include a reduction in point to point distances of about 5 km and an average time saving of 41 minutes.

#### **4.1.3 The need for improved advanced planning**

Planning is given some mention in the Corridor Study, for example on page 7 (list of Short-term Priorities (to 2015) to determine, where supported by the community, future needs and route preservation requirements for road and rail town bypasses.

It is suggested that future Corridor Studies should give much more attention to route preservation. The Queensland Transport Minister, The Hon Paul Lucas MP<sup>7</sup> has noted the need to “*reserve rail corridor land before it becomes a costly issue*”.

#### **4.1.4 External costs**

External costs form an important part of AusLink project assessment in the *National Guidelines for Transport System Management In Australia* released in 2004 by the Australian Transport Council. External costs were also addressed in the ARTC Track Audit<sup>8</sup> which gave unit estimates ‘... *noise pollution, air pollution, greenhouse gas emissions, congestion costs, accident costs, and incremental road damage costs* for road and rail freight in both urban and non-urban areas. These unit estimates were recently

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<sup>6</sup> See *The Smooth Running Study* as one of the three Rail Studies released in 2003 by the Queensland Minister for Transport

<sup>7</sup> as quoted, Track and Signal, Oct-Nov-Dec 2005, page 77

<sup>8</sup> Australian Rail Track Corporation (2001) Booz.Allen and Hamilton Appendices *Interstate Rail Network Audit*,

revised<sup>9</sup> as 2000 costs of 2.75 cents per ntkm for road haulage in urban areas, 1.98 for road haulage in non - urban areas, 0.43 for rail haulage in urban areas, and 0.17 for rail haulage in non - urban areas. These costs, adjusted to 2005 values (at 3 % pa) are approximately 3.2 cents per ntkm for road haulage in urban areas, 2.3 for road haulage in non - urban areas, 0.5 for rail haulage in urban areas, and 0.2 for rail haulage in non - urban areas.

The current Auslink report notes a Brisbane- Cairns road distance of 1640 km and a rail distance of 1699 km. Assuming urban hauls of 40 km for each line haul mode, the external cost for each tonne of road hauled intercity freight is about \$38.10 as against \$3.50 per tonne for rail line haul. If a total of 40 km is assumed for urban road pick up and delivery for each rail line haul the estimated external cost is an extra \$1.30 per tonne. This suggests that, for intercity freight moving between Brisbane and Cairns by line haul rail and road pick up and delivery diverted to road line haul, with road pick up and delivery, there is a net increase of external costs of about \$33.30 per tonne in 2005. In 2013 terms, compounded at 3 per cent per annum, this is about \$42 per tonne.

As noted above, the Brisbane- Cairns corridor strategy, in considering future rail freight demand had scenarios varying from rail capturing 95 per cent to 105 per cent of its current mode share, with the difference being 0.77m tonnes by 2013. The difference in external costs is then some \$32 million per year.

External costs are conspicuous by their absence in the draft Brisbane-Cairns Corridor Strategy report. The Committee may care to recommend that future corridor strategies do address external costs.

## **5. Congestion pricing**

There is increasing interest in congestion pricing, which appears to have been a success in London. The interest in Australia includes a brief reference in the 2004 AusLink White Paper (page 11), also a New South Wales Ministerial Inquiry into Sustainable Transport recommended in 2003 that the Government "... *consider implementing electronic road pricing (ERP) within the next 5-10 years as a means of effectively signalling to the community the external costs of road use - congestion, pollution, road wear and tear and accidents.*"

As noted above, the health costs from motor vehicle pollution are \$1 billion a year for Sydney. The Sydney Morning Herald (23 Jan 2006) commissioned the Centre for

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<sup>9</sup> Laird (2005) *Revised Land Freight External Costs In Australia*, Australasian Transport Research Forum (ATRF) at patrec.org

Independent Economics (CIE)<sup>10</sup> to undertake a study which looked at the external (social) *"costs of Sydney's increasing reliance on road transport, including traffic congestion, accidents, pollution, greenhouse gas emissions, and subsidisation of the RTA. These costs were estimated at \$18 billion in 2005, rising to \$24 billion in 2020 with the social costs per vehicle kilometre travelled forecast to rise."*

The CIE report notes that the average external costs are 42.5 cents vehicle kilometre travelled (cf recent quotes of total car use costs of 88 cents per km). To recover 42.5 cents per kilometre for the average car using 11 litres per 100 km would require a charge of \$3.86 per litre. A congestion charge would go some way to recovering such costs and providing funding for much needed transport infrastructure upgrades.

## **6. Heavy truck road pricing**

There is also increasing interest in mass - distance pricing, which has been in successful use in New Zealand since 1978. The interest in Australia includes a brief reference in the 2004 AusLink White Paper (page 11), and a current inquiry of the Productivity Commission into road and rail freight infrastructure pricing.

By use of methodology developed by a 1980 Commission of Enquiry into the New South Wales Road Freight Industry, and 2005-06 data released by the National Transport Commission (NTC) during its third determination of charges for heavy vehicles, road system costs attributable to the operation of articulated trucks in Australia is estimated<sup>11</sup> at \$2436m. This is much larger than the NTC estimate of road system costs due to articulated trucks of \$1039m for 2005-06. With an estimated \$920m in 2005-06 from annual registration fees and a road user charge, the resultant under-recovery is about \$1.5 billion. The actual under-recovery is most likely to be between the NTC's recommendations and the above findings. Both this methodology and the NTC find appreciable subsidies to B-Double operations.

The social and environmental costs of articulated truck operations for 2003-04 are estimated at about \$1525m. Such costs are not recovered at present.

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<sup>10</sup> Centre for Independent Economics (CIE) "Sydney's transport infrastructure - The real economics" (<http://www.thecie.com.au>)

<sup>11</sup> Submission No 23 by this writer to the Productivity Commission Inquiry into road and rail freight infrastructure pricing at <http://www.pc.gov.au/inquiry/freight/subs/sublist.html>

## **Appendix A      Recent IEA comments on New Zealand**

The following is part of the text of a media release dated 11 May 2006 at [http://www.iea.org/Textbase/press/pressdetail.asp?PRESS\\_REL\\_ID=176](http://www.iea.org/Textbase/press/pressdetail.asp?PRESS_REL_ID=176)

“New Zealand has been a model of energy market liberalisation for many IEA countries, a feat made more remarkable given the country’s small size and isolation. The country is continuing to improve its markets, especially through the establishment of strong regulatory institutions”, said Claude Mandil, Executive Director of the International Energy Agency (IEA), today in Wellington at the launch of Energy Policies of IEA Countries – New Zealand 2006 Review.

“We urge New Zealand to build on this strong policy base and take action to improve energy efficiency, finalise its climate change policies, reduce regulatory uncertainty and come into compliance with its IEA oil stock obligation”.

“New Zealand encourages investment through undistorted prices to energy producers and customers. This is commendable”, Mr. Mandil said. “The government should, however, improve the climate for proper infrastructure investment, as concerns about security of supply have grown.”

In the electricity sector, the Auckland area may face power supply concerns in the near future. As to natural gas, new domestic resources must be found or an import capability developed if gas is to remain a significant part of the country’s energy mix. These challenges intensify the need for stable regulations that provide appropriate long-term investment signals. The supply challenges also underscore the need for improved energy efficiency in the country. Rising energy prices will encourage energy efficiency, but the government should strengthen energy efficiency policies as well. Greater energy efficiency would reduce the impact of high prices on customers as well as overall energy demand.

### **Climate Change**

More should also be done to address climate change issues. The country’s greenhouse gas emissions are expected to be 21% higher than its Kyoto target during the fast-approaching commitment period. Furthermore, the government has recently decided not to proceed with its planned carbon tax. This is disappointing as a carbon price signal is a cost-effective means of reducing greenhouse gas emissions. This policy change has also escalated regulatory uncertainty in the market.

The IEA urges the government to finalise and implement a revised climate change policy package as quickly as possible. Settled climate change policy will help set the stage for a more stable energy policy, as will the energy strategy that the government is preparing. Improving energy efficiency can significantly reduce greenhouse gas emissions at a low cost.

The IEA is encouraged by recent efforts aimed at the building sector and calls on the government to implement policies that dramatically improve efficiency in the transportation sector.