

Diesel and the Environment

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Last October the UK's Meteorological Office released a new report on the expected effects of climate change. Over several decades the rise in carbon dioxide concentrations in the atmosphere will mean:

- widespread hunger, especially in Africa and Asia
- water shortages in some areas and increased flood risk in others
- nearly 300 million more people at risk of malaria
- devastation of the Amazon rainforest
- a global temperature rise of about three degrees C.

In Australia, CSIRO scientists (who are very cautious in making predictions) have identified the following possible impacts of climate change on our country:

- Average temperature rises of up to 3.4 degrees C in capital cities by 2070 – so that we can expect the number of days each year with temperatures over 35 degrees to double.
- Sea level rise leading to higher storm surges, more frequent coastal flooding and damage to coastal ecosystems including beaches being washed away.
- A substantial reduction in winter snow cover affecting not only skiers but the survival of the plants and animals that live in those environments.
- More days of high and extreme fire danger over much of the continent.
- Increased intensities of tropical cyclones.
- Higher incidence of diseases such as malaria, encephalitis, Ross River fever and dengue, with all of these spreading south.

This is not just green scare-mongering. The UK Meteorological Office report just confirms the predictions of the UN's special scientific body on climate change which

brings together 2,500 of the world's top climate scientists. That body has concluded that already the increase in greenhouse gases in the atmosphere is affecting the world's climate.

The predictions by the Met Office are not about what might happen if we do not do anything to stop it. They are the most likely outcome even if the 1997 Kyoto climate change protocol – designed to limit the growth of greenhouse gas emissions – comes into force and does what it is supposed to do.

In other words, we cannot stop climate change; it is just a question of whether we are willing to do what it takes to stop it being even worse.

At Kyoto, the industrialised nations agreed to cut their greenhouse gas emissions, mainly CO₂, by around 5%. Scientists have calculated that in order to stabilise climate change – not avoid it, but stabilise it – emissions will need to be cut by 60 or 70%. So Kyoto was just the first small step; much tougher measures are inevitable.

It was for these reasons that the Australia Institute became concerned at the Howard Government's GST package back in August 1998 when it was released and in particular the proposal to slash the price of diesel for heavy vehicles by 35%, cut the price of petrol by 10% for business vehicles and put up the price of public transport. We pointed out that the Government's GST policy document made no mention whatsoever of the environmental implications of big cuts in the prices of diesel and petrol. It's hard to believe that any Government could be so short-sighted in this day and age, particularly when the Government had just signed the Kyoto Protocol to cut our greenhouse gases.

No-one took any notice of what we were saying until the Australian Democrats decided, largely on the basis of our report, to establish a Senate Inquiry into the environmental implications of the GST package late in 1998.

The transport sector accounts for around 16% of total greenhouse gas emissions in Australia and must be part of the solution in cutting emissions. Diesel and petrol are cheap in Australia, as anyone who has been to Europe will know.

Economists don't agree on too many things; but on one thing they are unanimous. If the price of something falls, people will buy more of it. This is known as the Law of Demand. Some products are much more responsive to price cuts than others, but the Law stands.

Without exception, every economic analysis shows that a fall in price of diesel and petrol will result in an increase in consumption.

My Institute concluded that a 25 cents/litre reduction in the price of diesel for heavy vehicles would lead to an increase in diesel consumption of around 7% amongst those vehicles. This was a very conservative estimate of the increase; other groups appearing before the Senate inquiry chaired by the Democrats suggested that the effect would be significantly higher.

Why would consumption rise? Cheaper fuels from the GST package would have a number of effects:

- the overall transport task would rise as a result of cheaper freight costs – for example, producers will be more willing to source inputs from further afield;
- there would be a shift from rail freight to road freight as a result of the greater reduction in fuel costs for road freight; and
- the growth of the gas-powered bus industry would be set back. Evidence given to the Senate Inquiry suggested that a number of urban authorities decided not to proceed with planned purchases of gas-powered bus fleets as the price of diesel was expected to fall sharply as a result of the GST package.

The stimulus to greenhouse gas emissions was not our only concern. Burning diesel results in emissions of some very dangerous pollutants that affect local air quality, particularly in congested urban areas. We set out the evidence on health effects of diesel from Australia and overseas in a submission to the Senate inquiry that we prepared jointly with the Australian Medical Association and the Australian Conservation Foundation.

We drew mainly on the work of the National Environmental Protection Council – the peak body for the federal and state governments. Its report on the impact of air pollution on health in Australian cities brings together the range of Australian studies in the area.

Diesel engines in Australia spew out a cocktail of toxic emissions. The real killer is particles. The health impacts of lead, ozone, carbon monoxide, nitrogen oxides and sulfur dioxide are also significant, but they do not kill as many people. Lead exposure generates other economic costs, notably decreased intelligence in children.

Particles are responsible for a range of health effects, especially lung problems, and are considered the most dangerous of air pollutants. An assessment of fine particle pollution in Sydney has estimated that 397 premature deaths per year are caused by particles. The NEPC concludes that around 1,200 people die in Australia every year due to particle pollution. Using the NEPC's estimates of the cost of a lost human life, the annual economic cost of exposure to particles in Australia is estimated to be \$8.4 billion per year.

Of course, particles are generated from sources other than vehicles, including industry, dust, pollens, bushfires and domestic wood fires. In Sydney, it is estimated that only 30% of PM₁₀ derives from vehicles, whilst the figures are lower in other areas. However, of the vehicle emissions, up to 80% are generated by diesel vehicles so that at least half of the \$8.4 billion calculated above – \$4.2 billion – could reasonably be attributed to road vehicles.

Who is more likely to get sick and die from this urban air pollution? Poorer households bear a disproportionate burden of the health damage due to low air quality because they

tend to live in more heavily polluted areas, such as near main roads. In general, wealthier people can more easily afford to live in areas with low pollution. In the case of exposure to lead, a recent Australian study of lead levels in children showed that children from families with annual incomes lower than \$20,000 had substantially higher lead levels than children from families with incomes higher than \$20,000. Their IQs will be lower as a result, thus impairing their educational opportunities for life.

So the bottom line is that burning more diesel means more greenhouse gases and more urban air pollution. More urban air pollution means more people will get sick and die from lung diseases, asthma and so on, and these victims are more likely to be people from low-income households.

The Senate inquiry, chaired by Democrat Senator Lyn Allison, heard all of this evidence. It endorsed everything we at the Institute had argued and in fact suggested that we had been too conservative in our predictions. The Senate report concluded:

The Committee believes that the Government's proposed new tax system would take Australia backwards in its impact on the environment. ... The Committee has heard compelling evidence that the proposal would deliver higher levels of pollution and waste. The tax package would provide a substantial incentive to people to use more environmentally polluting modes of transport ... International studies clearly demonstrate that taxes on fuel should be increased ... and the biggest increase ought to apply to diesel fuel because, at least in urban areas, it has the most damaging effect on human health. The tax package, by reducing the price of the one fuel that scientific consensus suggests we should be doing most to discourage, does the opposite. The Committee heard conservative estimates that at least 65 more people would die each year in Australia as a result of the increase in urban air pollution and traffic accidents if the GST package goes ahead as proposed. These would be predominantly young children and the elderly.

We were very heartened to read this, as it suggested that the Australian Democrats understood the issues and, if they had the chance, would reject the worst aspects of the tax package.

The Government had to get its tax reform approved by the Senate. When Senator Harradine uttered the words "I cannot", the words that ruled him out of the negotiations, it fell to the Democrats. The Democrats gave some indications that they were prepared to be tough on the Government over environmental issues, as well as the fairness issues which led them to ask for food to be excluded from the new tax. As the deadline approached Senator Lees said that there were two big issues for the Democrats – food and diesel.

In the meantime, while it had vehemently denied that the tax package would have any negative environmental effects, the Government had been doing its own secret modelling of the environmental impacts of the tax package. Its own numbers showed that under its GST package, greenhouse gas emissions and particle pollution would increase twice as

much as the Australia Institute estimated. So the Government knew its proposals would have serious environmental effects but repeatedly lied about it.

The Senate Committee had recommended that the diesel rebate be applied only to road vehicles over 20 tonnes gross weight operating in regional areas. In the final package, it has been applied to all vehicles over 20 tonnes, and vehicles over 4.5 tonnes operating outside metropolitan areas. To say that this will be an administrative headache would be an understatement, and although the Government and the National Farmers Federation are trying to hose down concerns over how the boundaries have been drawn on the maps, there is no doubt that the scheme will result in big problems.

The fact that the Democrats got the Government to commit to a timetable for much tougher diesel emissions standards was the biggest environmental plus to come out of the negotiations. It will result in sharp reductions in urban air pollution, especially the most dangerous forms of particulates, starting in a few years time.

Senator Lees believes that overall the concessions won by the Democrats will prevent or offset all of the environmental damage of the original package of measures. While the revised package is not as bad as the original, some of the worst aspects remain, notably the diesel price cut. In my view, cutting the price of fossil fuels in a world undergoing climate change is not justified under any circumstances. It sends completely the wrong signals.

One of the ironies of the debate is that the trucking industry will not get much out of the final deal. Freight rates will fall but, as you know, the industry is highly competitive which means that the fall in freight costs due to cheaper diesel will be passed on to the final consumer and won't stick in the industry. This partly because rail – which under the original package would have been seriously disadvantaged – has received some protection through cheaper diesel as has the gas vehicle industry. It is somewhat bizarre though – we had a process of bidding down the prices of fossil fuels, to settle at a new lower level where no-one was disadvantaged.

The GST deal which saw the price of diesel slashed for heavy vehicles should be seen as one of the last gasps of the fossil fuel age. Unless the world's climate scientists turn out to have got it completely wrong, fossil fuel consumption will have to be phased out over the next decades. The price of petrol and diesel will become much higher and, wherever possible, there will be a shift to other, less fossil fuel-intensive, modes of transport, including rail and sea. It's not clear yet what will replace diesel trucks, possibly natural gas for a while, although the greenhouse advantages of natural gas over efficient diesel engines are small. But that is where the world is heading – to a world without fossil fuels. They are just too damaging.

The road transport lobby did not play a constructive role in the GST debate. It embarked on a lobbying campaign that attempted to deny any environmental impact from the proposed changes. Like the Government, it was in a state of denial. It showed that it had no interest in protecting the health and long-term climate of Australians.

I hope that today's forum is a sign that the road transport industry is starting to understand that it is your children's future at stake – it's your children who will get lung diseases and asthma if urban air pollution is not dramatically reduced; it's your children who will suffer the consequences of climate change that the scientists are trying to warn us of – more scorchers, more devastating cyclones, more Ross River Fever, more bushfires, degraded beaches, flooded houses, and the disappearance of some of Australia's unique wildlife. Personally, I want to be part of the solution, not part of the problem.