

CLIMATE CHANGE IN WESTERN AUSTRALIA

Motion

Resumed from 17 August on the following motion moved by Hon Louise Pratt -

That this house calls on the federal government to provide the communities of Western Australia with the appropriate resources to deal with the likelihood of real and significant climate change, including -

- (a) the allocation of increased levels of research funding to address likely changes to Western Australia's climatic systems;
- (b) ratification of the Kyoto Protocol by the commonwealth which considers and addresses Western Australia's position as a resource-driven economy; and
- (c) programs of public education which address the likely need for future public adaptation and responses to climate change.

HON LOUISE PRATT (East Metropolitan) [2.04 pm]: The climate is changing in the chamber; it is getting a little warmer. I hope that members are ready for some more heated debate. Members will recall that last week during debate on this motion, I reflected on some of the specifics of climate change that might be expected across the globe and in Western Australia. I also reflected on some of the particularly dire consequences outlined by Insurance Australia Group Ltd. With climate change and the enhanced greenhouse effect, we can expect an increase in extreme weather events, and that includes more storms. I will outline for members some of the implications of this. An increase in wind speed of under 20 knots results in a very marginal increase in damage. An increase of 20 to 40 knots results in slightly more damage, but, again, it is a fairly marginal increase. An increase in peak wind gusts of between 40 and 50 knots results in a 100 per cent increase in the level of damage that can be expected during a storm. If a peak gust is 25 per cent more severe, it results in a 650 per cent increase in the damage suffered by the community and buildings. A doubling of wind speed means a fourfold increase in damage. An increase of 2.2 degrees in mean temperature increases hurricane speeds by five to 10 per cent. A 25 per cent increase in 30-minute precipitation during a flood means that an extreme flooding event, which is a one in 100-year event, would become a one in 17-year event. A one degree increase in the mean summer temperature increases the chance of bushfires by a massive 28 per cent. There has already been an increase of half a degree, so we are expecting increased damage from bushfires as a result of climate change. Those are examples of the severity of the situation we are facing.

I will now consider some of the good things that have been done and the lack of initiative in following up these issues. Incentive schemes have been put in place as part of the strategy to lower our emissions. In the mid-1990s the mandatory renewable energy target was introduced at a national level. It was a very small and modest target of a minuscule two per cent. That very small two per cent target resulted in some investment in renewable energy, but that target has now worn out. The market has absorbed it and it does not allow for any more growth in the renewable energy sector. The federal government has made no commitment to expand the MRET. At the last state election, the government stated that it would have a renewable energy target of six per cent. That target can be achieved in a number of ways. An energy retailer would have to make sure that six per cent of its energy came from renewable sources. That means that the renewable energy investment in this state would grow. It is a shame that, with the experience of mandatory renewable energy targets nationally, more support was not provided to implement, say, a 10 per cent type scheme at the national level. Greenpeace, for example, has accused the federal government of taking a recklessly negligent approach to climate change. The federal government has rejected any national scheme that would reduce greenhouse pollution, such as the national emissions trading scheme. The federal government's attitude is reflected in the way it has dumbed down the MRET. When the MRET was introduced by the Prime Minister in 1997, Howard stated that it would accelerate the uptake of renewable energy in grid-based electricity and provide a larger base in the development of commercially competitive renewable energy. However, the federal government has since abandoned its support of that. Consequently, the MRET scheme is floundering and any benefits from it will be overtaken by the states' actions. The states are upping the ante and making new commitments. Members might recall that when I spoke on this motion last week I referred to the ocean's pH level. I will correct the record because I think I incorrectly said that the ocean's pH level was increasing. In fact, it is declining.

Hon Ed Dermer: That makes it more acidic.

Hon LOUISE PRATT: Yes, it will make the ocean more acidic. The ocean is our largest "sink" for carbon dioxide; it absorbs about 80 per cent of carbon dioxide. The dynamics of climate change mean that as the ocean absorbs more carbon dioxide, the rate at which it absorbs it will vary according to how much has been sunk. That will, therefore, have a bearing on how much the carbon dioxide remains in the atmosphere.

I refer now to emissions trading, which is at the crux of the different approaches by the state and federal governments. The states have had to run with the ball because the federal government has dropped it. This year a joint state and territory working group has been established to examine the issue of emissions trading. The federal government has refused to study methods, both internationally and locally, of increasing emissions reductions. They are widely recognised as the most cost-effective way of reducing emissions. Forecasts have indicated that emissions reductions are worth billions of dollars to the international economy. Emissions trading is in part linked to the Kyoto Protocol. The federal government's failure to sign the Kyoto Protocol means that Australia is missing out on participating in future carbon-trading opportunities. I will reflect on that later.

The federal government said it would not sign the Kyoto Protocol because Australia is on target to meet its emissions objective anyway. That is a furphy. Australia is in a good position to meet its Kyoto Protocol because state governments throughout the country have worked closely with farmers to greatly reduce emissions as a result of land clearing. However, leaving land clearing aside, Australia's emissions are escalating dramatically. Greenhouse pollution emissions within Australia are likely to grow by a staggering 63 per cent. Total greenhouse emissions will be 123 per cent above 1990 levels. Members will recall that the Kyoto Protocol set the 1990 levels. In 2020 energy demands will have risen by 60 per cent. The generation capacity required to meet that kind of demand will need to increase by an additional 25 per cent, and by 2030 an additional 52 per cent capacity will be required. Western Australia's net emissions have increased by 12.1 per cent since 1990, and its total emissions have increased by 40.1 per cent since 1990. Land use and land use changes in forestry are excluded from those figures. We have some serious issues to acknowledge. By failing to consider an emissions trading scheme, we are likely to lose an important kick start to a dynamic and driving force in a twenty-first century economy. We will lose out on future investment opportunities. Australian companies and our economy will be disadvantaged if we exclude ourselves from a carbon market and a developing renewable energy technology market. Investments are already being made in places like New Zealand, for example, which give that country a competitive advantage in some investment areas. That is ironic because, with Australia's abundant solar, wind and tidal energy potential and its intelligence research base, we have the capacity to be well positioned to exploit the renewable energy markets and technologies.

States around the country now support this interstate emissions trading scheme. It will, hopefully, begin to establish some of the framework so that we do not miss out on international trading opportunities. For example, South Australian Premier, Mike Rann, has committed South Australia to that national scheme. Among other things, he has said -

At present, if we fail to show leadership and fail to take the threat of global warming seriously, scientists warn Australia can expect more extreme summer heat, as well as fiercer storms and cyclones. And we can expect longer and more intense droughts and more devastating floods.

In South Australia, we can expect the loss of high-production lands and a huge amount of water, -

Frankly, we are already seeing that in Western Australia -

including the possibility of more intense floods and a greater chance of bushfires.

Crucial decisions about climate change need to be made now.

He also said that many private sector companies will eventually become involved in a national emissions trading scheme that could potentially set a cap for greenhouse gas emissions in future, and that governments could then issue permits for gas emissions and producers of greenhouse gases so that people would be free to trade their permits. That would then give us access to international markets. He states further -

Companies that find it expensive to reduce emissions can instead buy permits from companies that can reduce their emissions more cheaply.

Similar commitments have been made by the Victorian Premier. The case put by Steve Bracks, is a very important position for Western Australia to consider. He said that we need to begin to implement the economic and market machinery together now so that we can develop schemes that suit our economy. His position is that if the Australian and international market place is set and we are locked out to the very end, it will be implicitly biased against our particular economy in Western Australia, which is energy intensive. Premier Bracks also states -

Victoria is home to many energy intensive industries and we will continue to position ourselves to adjust to changing world attitudes to climate change. A national trading scheme would create investment, drive development of new technology and change attitudes to the emission of greenhouse gases.

The European Union has an emissions trading scheme. I believe it started in January this year. Similar to Australia, where states are now cooperating, close to a dozen states in the United States are examining a similar

plan. In the same way as we have had a failure in leadership from John Howard, we know that George Bush has dragged his feet on climate change. However, states in the US, similar to states in Australia, are taking the initiative to put together emissions trading arrangements.

Sadly, our head-in-the-sand approach is putting Australian and Western Australian businesses at risk, and they are falling behind those in the rest of the world. Queensland is on board. Interestingly, Premier Beattie is particularly upset with the federal government because our capacity as a nation to meet the Kyoto Protocol was partly in response to some significant changes in Queensland regarding bans on tree clearing. However, as Premier Beattie rightly points out, any new emissions trading arrangement would be a lot better and more effective if the federal government were involved, because it is extraordinarily difficult to coordinate these issues across states. Ultimately, we will require the federal government to be on board to make this the most effective scheme. We will also require that involvement to gain leverage into international trading so that we are signed on to international instruments such as the Kyoto Protocol.

Quite a lot of excellent work is being done in Western Australia. One small example of that is the work being done by a PhD science student at Murdoch University. Members will recall that we have already introduced carbon rights legislation in this state to put together some of the framework for what we are talking about. That person is a science student who is looking at the way to count carbon in planted trees, and she said -

By planting trees to remove carbon dioxide from the air, farmers may be able to obtain carbon credits for the carbon in their trees.

Just as farmers today sell their wheat into a global market, they will be able to sell their carbon into a similar market. Industries that emit carbon dioxide will be able to buy these carbon credits to offset their carbon dioxide emissions.

However, she went on to say that her research and her work were strongly linked to Australia's adoption of the Kyoto Protocol. She highlighted that emissions trading schemes are already in place in the United Kingdom, Denmark and the European Union, and also said -

If Australia does not ratify the Kyoto Protocol, we will not be able to participate in global emissions trading. It will be a missed opportunity to access important dollars for revegetation projects.

Not only will the economy miss out, and not only will we miss out on the opportunity to decrease further global warming because of the failure to sequester that carbon, but also important revegetation projects will miss out. Therefore, our capacity to invest in salinity abatement, for example, will also be under threat. It is really difficult to find money to invest in salinity abatement. However, we could have a win-win situation; we could fix two environmental problems, salinity and climate change, with the resultant benefits for the economy. However, it seems that the federal government is not on board with that vision.

We have a lot of work to do on emissions trading. However, I am quite hopeful that the states will be able to make significant progress in that area in the coming months, because it is happening now as the machinery is put together. Western Australia's participation in that will mean that we have a system that is not biased against Western Australia's industry. We know that we are energy intensive and that we have a growing emissions profile. Therefore, it is very important, as these markets are being developed, that the mechanisms are suitable to Western Australian conditions and understood by Western Australians.

Importantly, Western Australia has recently announced the establishment of a task force to tackle greenhouse gas emissions within the stationary energy sector. This is also a substantial area in which the federal government has failed to show any leadership. We know that a significant component of WA's greenhouse gas emissions comes from power generation and other stationary energy sources. Meanwhile, renewable energy and other low-emission technologies are continuing to develop and provide us with new possibilities for managing greenhouse gas emissions from the stationary energy sector. Minister Judy Edwards has said -

As a government, we want to be sure we can embrace those technologies while simultaneously ensuring that we have the competitively priced energy we need to keep our economy moving.

This is an important commitment and investment. The work of the task force will complement the work already being done by the Sustainable Energy Development Office. The chair of the task force is Dr Roy Green. He is the former deputy chair of the Environmental Protection Authority. He will be joined by four other specialists who have the expertise to look at this very important area. As a community, we have had numerous debates about this issue. We saw that in the recent debates about coal versus gas for our next base-load power station. However, we need a strategic vision that comes to grips with all these issues and draws them all together. If we build further coal-fired power stations, what kinds of risks would there be to the economy in being excluded from international trading? What will our emissions profile be in the future if we do not make some strategic decisions about our energy future? What does our current stationary energy sector look like, how will it change

in the future and what kind of plan do we want to manage that? The world is telling us that we need a 50 per cent reduction in emissions by 2050. That is just one example of the kinds of changes we are looking at.

The terms of reference of the task force are to look into issues such as how we will manage our greenhouse gas emissions in the future, in both the short and long term. With long-term policies, what kinds of strategies will we put in place to lower greenhouse gas emissions from the stationary energy sector? What is the feasibility and what are the implications of reducing greenhouse gas emissions by 50 per cent by 2050? I have just outlined a case in which WA has a growing emissions profile whereby emissions are escalating, versus the world's demand to dramatically lower them. If we are to seriously come to grips with an issue such as that, we have a lot of crunching to do on serious issues concerning our economy, our society and our lifestyles. This task force will look specifically at how we will manage those issues within the stationary energy sector. That includes looking at policy options that would be complementary to a national trading emissions scheme that would be adopted in Western Australia in the short term. Therefore, we would be looking at the work being done on the emissions trading scheme coming to fruition in the short term. I refer to measures to prepare the state for such national emission trading schemes, and future integration with the international emissions trading market. Again, the federal government should help the states in this work. I refer to proposals for energy conservation initiatives that focus on encouraging businesses and households to make reductions in energy consumption. I also refer to policy proposals for government consideration of greenhouse offsets that would provide clear ground rules for proponents of projects involving greenhouse emissions.

The work of that task force will be under way shortly. It represents a significant investment and is about making some serious decisions about how we will come to the crunch on these issues. It also represents the kind of leadership we have been lacking at the federal level. Meanwhile, the federal government is contradicting the states on climate issues. Alexander Downer stressed the need to get more investment in cleaner energy through changes in the pricing regime. Emissions trading feeds into the price signals on energy. However, my notes indicate that Senator Campbell has stated -

The Australian Government believes the introduction of [emissions trading] is unnecessary given Australia is on track to meet its Kyoto target and is premature in the absence of effective longer term action on global change. To advocate otherwise . . . is to advocate higher costs for Australian home owners and businesses and is an attack on economic growth for this nation.

That statement is naive in the extreme. Anyone who has done any work on energy issues knows that significant savings can be made by companies and the economy by investing in emissions trading.

Hon Murray Criddle: Can you outline how the saving can be achieved?

Hon LOUISE PRATT: Companies such as BHP Billiton counts carbon internally, and puts a price on that carbon; therefore, it recognises the cost of carbon and seeks to reduce its energy consumption. Internal measures are introduced to drive down energy costs. The net effect of that process is that money is saved.

Hon Murray Criddle: What is the basis of the pricing structure, and how do they price that aspect of it?

Hon LOUISE PRATT: I suppose it comes down to the debate on the price of carbon.

Hon Murray Criddle: That's right. How do you find that out?

Hon LOUISE PRATT: It is difficult to price carbon. It is something that will reveal itself only once we have a more established market. It certainly is doable. It is evolving; it will happen as there is enough international activity around it to arrive at a carbon price eventually. Therefore, we cannot ignore it, and we must have our market mechanisms ready to respond. The Australian Government is being left behind in this regard because the European Union emissions trading scheme is said to be worth €9 billion this year. Therefore, Australian clean energy industry participants are heading offshore, taking jobs and export dollars with them.

Hon Murray Criddle: When putting a figure on trading and whether the transaction truly happens, I wonder whether we are talking about something that's going to happen or -

Hon LOUISE PRATT: It is already happening around the world. There are active carbon markets in the United Kingdom and elsewhere in the European Union, and the United States is looking at it.

Hon Murray Criddle: You told me there wasn't one.

Hon LOUISE PRATT: I am trying to say there is not a firm price for carbon. It is a little more delicate than, say, the gold price, which goes up and down.

Hon Kim Chance: It's a moving market.

Hon LOUISE PRATT: Yes, it is a moving market. Internationally, there is carbon trading that puts a value on carbon. We do not have a clear price for carbon, as one can rely on a price for gold, iron ore and other commodities. Any member interested in further research on carbon might read the papers of Baker and

McKenzie, who have done a lot of excellent work on this issue. They draw attention to the fact that it is critical for corporations to be aware of the way in which a reassessment is being made, especially in the investment and insurance industries, of investments in terms of carbon risk, and the growing reluctance of shareholders to tolerate corporate non-performance on greenhouse matters. When coupled with the recent commencement of climate litigation, companies and directors need to be fully aware of the ramifications of such matters in the long and short terms, and look at appropriate ways of managing them. These researchers also have drawn attention to the fact that many governments around the world have begun implementing domestic legislation that creates a direct obligation to reduce greenhouse gas emissions and imposes liabilities on certain sectors. Baker and McKenzie have drawn attention to the European Union and the fact that the Australian and US federal governments are not showing leadership, but a lot of activity is taking place at a state level.

Once the Kyoto Protocol comes into force, it will require developed countries to reduce their greenhouse gas emissions to a refined baseline by the end of the commitment period. It allows parties, and, ultimately, corporations within those countries, to meet their liabilities through market-based mechanisms, such as investing in greenhouse gas reducing projects in developing countries or by trading carbon rights. If members reflect on that aspect of the Kyoto Protocol, and what Baker and McKenzie outlined about carbon risk, companies cannot fail to take account of the fact that the market is looking for company directors to pay attention to these things - it is very important that the corporate community in Australia understands these issues. Also, we need federal and state governments that are investing in education and helping people to understand their potential liability. Significant risks to trade and investment are involved. As Baker and McKenzie also highlight, there is increasing evidence that if protocol companies are formed, and Australia has not ratified, Australian companies could be discriminated against by parties to that protocol. In early negotiations on Kyoto, the EU raised the possibility of trade sanctions against non-Kyoto Protocol members. Kyoto parties, with their obligations to reduce greenhouse gas emissions, may include a cost to bring their industries up to the standards required to meet the country's target under Kyoto. Industries in those countries may perceive it to be unfair that non-participating parties are not affected in the same way. Therefore, trade sanctions are not unlikely as a way of equalising those aspects. The Baker and McKenzie research also outlined that all these sanction measures have been imposed at some stage by countries for various political reasons. Consequently, it is not unlikely that something like this would happen in the case of the Kyoto protocol. In that context, it puts the work of Australian states on emissions trading in an important light because it is about preparing ourselves for those markets. It is clear that without signing Kyoto, Australian companies could be excluded from direct participation in Kyoto Protocol mechanisms and from participation in other markets, such as the EU trade scheme.

Emerging regulatory regimes, such as emissions trading, can create for Western Australia a new form of asset as a result of taking direct action to reduce greenhouse emissions. The nature of this asset will depend on the kind of regime we put together. That matter is currently being negotiated.

I will now reflect on another key area in which the federal government has let us down, and that is carbon accounting. Our state greenhouse strategy refers to the need for Western Australia to have its own greenhouse inventory. Some corporations in Western Australia have come to me and complained about that, because they view it as doubling up their requirements with the federal government and they feel they are being asked to report on two levels. However, the sad fact is that the federal system of carbon accounting does not break down the information enough to enable us to examine the profile of emissions from the different sectors and work out how to better manage those emissions. Ideally, we want a federal system of counting emissions and a single system of reporting. To this point, the federal government is hiding too much of the information it is collecting, and it is not collecting all the information, which means that our state greenhouse inventory is an important initiative that we need to pursue. The information from the federal government does not contain the level of transparency that we require. That probably covers that issue.

I will reflect on the motion. We have called on the federal government to provide the communities of Western Australia with the appropriate resources to deal with the likelihood of real and significant climate change, including the allocation of increased levels of research funding to address the likely changes in Western Australia's climatic systems. At the beginning of my speech a couple of weeks ago, I reflected on the important work of the Indian Ocean Climate Initiative and how we need to adapt to our changing climate, because climate change is inevitably with us anyway. We have a state investment in climate change and we need federal investment to understand how our climate will change in the future.

This motion calls on the federal government to ratify the Kyoto Protocol in a manner that considers and addresses Western Australia's position as a resource-driven economy. I have just spent the last half an hour reflecting on emissions trading and the need to put in submissions that support our economy and prepare us to participate in international markets.

Finally, the motion refers to programs of public education that address the likely need for future adaptation and responses to climate change. The federal government has been reasonably active in some areas of public education, as has the state government, but we know that climate change is real, it will be with us for a very long time and there is significant -

Hon Murray Criddle: On what do you base that statement? You say climate change is real. On what time frames do you base that analysis?

Hon LOUISE PRATT: For the last 200 years there has been an increase in climate change. There is modelling that goes all the way back, based on studies of the ice age. Some graphs indicate that we are low and currently we are beginning to peak.

Hon Murray Criddle: Peak for what?

Hon LOUISE PRATT: Not to peak, but to climb and to continue to climb - temperature.

Hon Murray Criddle: Reflecting what? By how much?

Hon LOUISE PRATT: I have some graphs that show, for example, that we have had half a degree increase in the past century, on average. I would have to pull out the specific statistics.

Hon Murray Criddle: It is a very important point.

Hon LOUISE PRATT: Climate scientists are saying there is a natural variability in our climate, and I accept that, but they are also saying that climate change is being enhanced by the greenhouse effect and it is accelerating considerably. Climate scientists are calling for greenhouse abatement and significant investment in that area. They are saying that if we can reduce our emissions by a significant level by 2050, we know that climate change will continue, but in the long term there is a chance that some of those effects will abate, and they are very extreme effects. Abating greenhouse effects now will probably not be to the benefit of my generation or that of the honourable member; it will be for the future benefit of the planet, because climate scientists know that the current effect of carbon dioxide will be felt well into the future.

Hon Simon O'Brien: What happens if in 2030 everyone decides that the average temperature is in fact falling? What do we do then?

Hon LOUISE PRATT: I do not think it is a matter of everyone deciding that. Significant and ongoing research tells us how our climate is changing. It is well documented by organisations such as the international panel on climate change, and pre-eminent scientists around the world are saying that climate change is real and is with us now. It is incredible, with all the international consensus on this issue around the world, that the honourable member can say that to me.

Hon Simon O'Brien: Say what to you?

Hon LOUISE PRATT: That in 30 years people may change their minds. It is not about changing their minds; it is about well-documented research invested in climate change and examining its effects and where it comes from.

Hon Simon O'Brien: Where do you think the ice age came from? What do you attribute that to?

Hon LOUISE PRATT: We know that climate change is real. It is demanding global action. We have a long journey ahead and the sooner we get on with it, the better. The Western Australian government is keen to play its part in adapting and working on mitigation and educating the community, but we are being sorely let down by the federal government. Our environment is being let down and industry is being let down. It is not in the best interests of Western Australia for us to be dragging our feet on this issue, and that is why Western Australia is putting itself in a leadership position. I admit we have more work to do, because the implications of this issue are huge for transforming our society, our economy and our values. That will happen in small ways now but will be of growing importance in years and decades to come.

Point of Order

Hon SIMON O'BRIEN: I have a point of order. I was enjoying the honourable member's contribution very much and I ask if she wants an extension.

Hon Kim Chance: She has unlimited time.

The PRESIDENT: That is not a point of order.

Debate Resumed

HON PAUL LLEWELLYN (South West) [2.47 pm]: I would like to thank Hon Louise Pratt for giving us this extraordinary opportunity to talk about one of my favourite subjects -

Hon Simon O'Brien: Now you know why I wanted Hon Louise Pratt to keep going.

Hon PAUL LLEWELLYN: That is exactly right. Climate change is on the agenda whether we believe it or not.

Hon Murray Criddle interjected.

Hon PAUL LLEWELLYN: I will state that again: climate change is on the agenda whether we believe it or not. The next thing to be concerned about is not whether climate change is happening or is not happening, but what happens if we do nothing and the climate scientists are right? We will end up with a huge social and environmental cost. What happens if we do something and the climate change scientists, who have been predicting that there will be impacts, are right? If we do something now, the impacts will be something that we can live with. We should not put aside the argument about whether climate change is true or false; we should look at the opportunities and challenges it places on our community and this house and how we get our heads around the technologies and industrial opportunities that enable us to respond or adapt to climate. For us to begin to understand where climate change is heading, we must have a clear set of policies and plans and an understanding of the types of technologies that are available now to help us respond. We can choose not to believe that climate change is on the agenda or it will not happen, or we can choose not to take any steps right now. If we do that, we will be relegating the next generation to an uncertain future. Let me put it in this way: if there is to be major disruption to the climate patterns of this state and of the planet, we must look at what opportunities are available for us to adapt to them. They present themselves in the form of industrial opportunities, renewable energy technology and new technology that will provide a clean, safe future for our economy.

I will relate a little story that might be closer to the homes of some of the members in this house. Let us look at whether salinity is a real problem. I do not know how many members are from the country, but I think it is about half. Most members who live in the bush know that salinity is a very real issue. A Western Australian scientist named W.E. Woods described in 1929 how salinity was caused. He worked for Westrail as a scientist and engineer. It was found that the trains' boilers were gumming up with salt and not lasting very long. He speculated that the small catchment areas of cleared bush where the steam trains ran were going salty first. Remember, that happened in 1929. It took the scientific community until the 1960s to set up experiments that addressed the question of whether salinity was really happening. The Commonwealth Scientific and Industrial Research Organisation set up an experiment in Collie. It set up two catchment areas and conducted what was known as the paired catchment studies. It was thought that if the CSIRO cleared one, that catchment would become salty. The other would be kept uncleared to see what happened. The CSIRO would then compare them. That occurred some 40 or 50 years after W.E. Woods described that, as a result of clearing vegetation, salt would rise in the landscape and cause salinity. The CSIRO experiment was the wrong one. It should have taken two cleared catchments, both of which were salty, and planted one with trees. It should have asked if tree planting would reverse the trend of salinity. It set the wrong hypothesis in the 1960s. By 1980, it was not a Labor government that introduced clearing controls but a Liberal government -

Hon Murray Criddle: It was a coalition government.

Hon PAUL LLEWELLYN: I am sorry, it was a coalition government. Hon Murray Criddle is right. It can be congratulated for taking action when it needed to be taken. The problem of the climate is not very dissimilar to that of salinity. We can disbelieve it right now and wait for 20 or 30 years when we can run some extraordinary experiments on humanity and species, or a big experiment with the planet, but the issue of climate change is much bigger than the issue of salinity ever was, because it is influencing every single species on this planet. We are making a very big mistake if we ignore it.

Hon Murray Criddle: I do not think we are ignoring it, are we? All sorts of initiatives are being taken in the country now. You have only to drive down the road to see the different methods being used, such as planting trees. At least we are doing something.

Hon PAUL LLEWELLYN: There is no doubt about it; we have certainly responded to the salinity issue, but have we responded in time? Millions of hectares of arable land are at risk or are damaged as a result of our decisions on salinity. However, that is not the matter we want to put on the table now; it is the matter of climate change. The price of waiting for the effect of salinity to present itself was millions of hectares of salt-affected land, but what is the price of waiting on the climate issue? Will we lose whole populations or species? Will we lose our entire future?

Western Australia has been a world leader in climate change initiatives. This is for the benefit of those members of the Labor Party, if they are listening. Western Australia has made spectacular progress in the past few years. Let me give members an example. Over the past few weeks I have asked what has been the level of the increased greenhouse gas emissions in this state over the past 10 years or even the past five years. Emissions have increased significantly, and that has happened under a Labor government as well as a Liberal government.

Let me talk about the Labor government's record on climate change initiatives. It is expected that from 1990 to 2012 greenhouse gas emissions in this state will have increased by 76 per cent. Hon Robin Chapple asked many questions in this chamber before I arrived. As a former Greens member, he asked quite a few questions in this chamber on climate change. I will give members an example of the kinds of questions he asked. He asked the Parliamentary Secretary to the Minister for State Development, whomever that was, if it was true that in the Burrup Peninsula alone the Methanex Corporation methanol stage 1 plant had increased greenhouse gas emissions by 0.9 million tonnes, the Burrup Fertilisers Pty Ltd plant by 1.44 million tonnes, the Plenty River Corporation Ltd ammonia plant by two million tonnes, the Japan DME Ltd plant by 2.5 million tonnes, the Woodside LNG expansion by 3.1 million tonnes, and the Austeel Pty Ltd-Mineralogy Pty Ltd plant by 4.21 million tonnes. That is an increase of 15.76 million tonnes of greenhouse gases as a result of initiatives by the current Labor government.

Let me give credit where credit is due; I am not bashing the state Labor Party or supporting the federal coalition. Western Australia has had quite a number of extraordinary initiatives based on renewable energy. There has been the Albany wind farm, for example, which was introduced not by the Labor government but by a Liberal government. The mandated renewable energy target is a federal target to establish renewable energy as a component of our stationary power generation, and it was in fact a Liberal coalition initiative.

This motion from the Labor government calls for a more concerted approach from the federal government on climate change. Without pointing a finger, I would say that many of the initiatives that have been driving this agenda forward have, to some extent, had their genesis in the federal Liberal government, under pressure from the Australian Greens and the Australian Democrats. It is very dangerous to put up a proposition such as the one in the motion calling for the federal government to improve its act on climate change, as it leaves all of us open to inspection and audit on the progress that we have been making, and it leaves the state open to audit on what it has been doing on climate change. This is not a simple matter.

Hon George Cash: Didn't the state promise a six per cent reduction?

Hon PAUL LLEWELLYN: We will get to that six per cent in a minute.

Hon Simon O'Brien: I would like the mover to at least know something about what she is talking about.

Hon PAUL LLEWELLYN: I beg your pardon?

Hon Simon O'Brien: I was just being complimentary.

Hon PAUL LLEWELLYN: I have just been doing my homework.

Hon Simon O'Brien: Exactly.

Hon PAUL LLEWELLYN: However, do not let me lull the other side of the house into a sense of relief from responsibility, because I have not seen any Liberal or National member oppose these extraordinary initiatives that will drive the state's greenhouse gas emissions to 79 per cent of their 1990 levels by 2012. Carbon trading is a reality of our time. It is not something that -

Hon Murray Criddle: It produces greenhouse gas.

Hon PAUL LLEWELLYN: We will deal with carbon trading and how it produces greenhouse gases in a minute. Let us look at what it does for the economy and the liability that it exposes our economy to if we continue to produce excessive greenhouse gas emissions. The liability is like this: if we invest in another coal-fired power station, which produces one million tonnes of carbon emissions, we will pay for it. We will spend millions of dollars every single year in carbon taxes, and those assets will become stranded and will need to be bailed out by the people of Western Australia. It is not a small matter. If we invest in carbon-intensive industries and there is international trading in carbon emissions, we will be stranded with a huge cost deficit. The first thing that will occur is that we will squeal to the public purse to bail us out.

There is a solution to the climate change conundrum, whether we like it, believe it or smell a rat. Whether or not we can see the possibility of a huge carbon or environmental liability, there are very good reasons for us to embrace a new form of technology and a new way of organising our industrial activities so that we can meet our needs without costing the earth. First of all, we must set realistic industrial targets, not only because setting the targets will mitigate the impacts of climate change but also because they will set in place an agenda for industrial investment in those technologies that are able to deliver a low-carbon future. Those technologies are no different from driving Haulpaks around to mine the various minerals in the state. We could choose to have clean, safe technologies and invest in a renewable energy future. That would generate an enormous number of jobs and economic activity for the entire state. We could then set an emissions target that would put a constraint on our activities. Introducing an emissions target would force industries to become more efficient. Industries are currently spewing out tonnes of carbon dioxide. Whether or not we believe it, producing carbon dioxide is a by-product of our industrial process; in other words, producing excessive pollution is not a sensible strategy for any

economy. There is a saying that we should not do something in our own nests, which is a bird term. Think about it like that. Producing a lot of pollution and having an industrial economy that produces unnecessary amounts of pollution is like having the mentality of birds doing it in their nests.

First of all, let us look at this issue. We can modernise our economy and the power generation in our economy to reduce the amount of greenhouse gas emissions. We can invest in clean, safe technologies. We can clean up our industrial cycles. These measures would be a winning formula. It would not be a formula that said climate change was a burden on us and we must bear that cross. If we looked at it as an opportunity, we would see that we would create new, clean, safe economies. Climate change does not respect the ideology of this house or left or right politics. Climate change does not respect the international boundaries that we arbitrarily create between one country and another. It does not respect the difference between Hon Murray Criddle's family and Hon Louise Pratt's family. Climate change does not make a distinction between families. It does not make a distinction on the basis of religion. In fact, it affects everybody, regardless of whether they are Muslim, Hindu, Buddhist or Christian. Climate change is a matter for all of us and for which we must take some responsibility, not only because it will create a problem for us or will give us an opportunity for industrial development, but also because if we wrongly sit back and say that it will all be okay, we will be doing what people did in the 1950s when they cleared the landscape of trees and ignored the fact that salinity was happening. Salinity will be created on a global scale. That is what we are relegating ourselves to.

I will have the privilege of speaking in my first contribution to the budget debate in a little while and I will have more to say about creating a new economy and creating a new philosophy on how to organise our economy to ensure a future for all people, all religions, all races, all individuals and all families.

I took some risks when I said that Western Australia has led the world in climate change. I took some risks when I said that they were all initiatives of the Liberal and National Parties that are currently on the board as mandated renewable targets. I took a political risk in saying that this is something that the Liberal and National Parties have done by putting more on the table than the Labor Party.

Hon Ray Halligan: Why a risk? Aren't you talking facts? There is no risk involved. You are talking facts.

Hon PAUL LLEWELLYN: There are some facts, but the facts are that both sides of this house, and both sides of Australia's political environment, have been complicit in sending us down the path of increased greenhouse gas emissions, sulfur dioxide emissions and pollution. In other words, we have not embraced the technologies that will clean up our act. When we embrace those technologies, a new political economy will be created for Western Australia, which will be responsible for this generation, the next generation and all states, families and people. I do not want to get into the politics of blame. It is a historical accident that it happened to be the Liberal-National state government that put the money into the Albany wind farm.

Hon Ray Halligan: By an accident!

Hon PAUL LLEWELLYN: It was an accident. I am not blaming here; it just happened in that time frame. It was a very good initiative.

Hon Ray Halligan: You sound as though you're saying that it is inevitable and that whoever is in power at the time will get the credit for it.

Hon PAUL LLEWELLYN: That is precisely what I am saying. I am saying that technologies are emerging whether or not we like it. I am saying that renewable energy technology has an extraordinary back pressure and that we should embrace those technologies. There is technology to increase the efficiency of cars. The member should have look under the bonnet of Hon Louise Pratt's new Toyota Prius. That technology has emerged. We as a society will take up that technology because it makes sense. I am not denigrating the initiative of the Albany wind farm; I am merely saying that there is a technological imperative and that the government of the day can embrace it or not. I would prefer that the Labor government of this state embraced those technologies and pulled its finger out and did a whole lot more.

Hon Barry House: Hear, hear! Dr Gallop has claimed credit for the Albany wind farm about five times.

Hon PAUL LLEWELLYN: We will talk about all that and about who can claim credit for what. I am trying to move this debate out of the politics of blame and into the politics of the common good of society and the common good of industrial development in Western Australia. No technological impediments exist to moving forward to a more efficient economy. This should appeal to anyone who is interested in economic welfare, economic growth and economic development. There are no technological impediments to cleaning up our act. As the member has said, the wind turbines exist. We could have bought them 15 years ago. We bought a few. We could have invested a huge amount in renewable energy technology. An example is the blue gum industry. The blue gum industry in the south west region has expanded across the landscape at a huge rate. It is entirely driven by a taxation initiative. We need a series of taxation initiatives that will drive clean, safe technologies, whether they be wind turbines, solar power, clean, safe cars or hot water systems. We need to put in place the

programs and taxation and market initiatives that will drive those technologies. It is not rocket science. If a 150 per cent write-off were mandated for renewable or clean, safe technologies, those technologies would take off across the landscape. It is not rocket science; it is actually quite simple. There is no economic impediment, and I have said that there is no technological impediment, to taking on clean, safe technologies that will transform the industrial state of Western Australia from the world's worst greenhouse gas polluter - Western Australia, and not Australia, is per capita the world's worst greenhouse gas producer in the world - into a more sensible, clean, safe economy. What is lacking is not just a belief in whether climate change exists, but also political will. Perhaps it is a lack of understanding that the opportunities for clean, safe industrial development are there for the taking. They are there for any government to take right now. We are not in government. We are not even in the opposition.

Hon Murray Criddle: But you influence the government substantially.

Hon PAUL LLEWELLYN: We influence the government. We like it that way, and we will influence this government even more.

I will change tack for a moment and use another analogy. What is the war on terror all about? Is it really about terrorists? I do not think so.

Hon Barry House: It doesn't have much to do with climate change though.

Hon PAUL LLEWELLYN: It does not have a lot to do with climate change, but the analogy will come out eventually. The war on terror is good business. The war on terror is all about investment in surveillance technologies. It is all about investment in a military complex to oversee the movements of our own people. It is damn good for business. It is no coincidence that we are embracing this war on terror. What a great idea! I am not suggesting for one minute that we should be complacent, but the war on terror is good for business. Members should have a look at the security companies and the Australian Stock Exchange. War is good for the economy. If climate change is something to which we need to pay attention, bearing in mind the salinity bomb that we have kind of ignored, and we said that there would be a war on carbon, it would be a very big business. The responsibility of Parliament, government and any policy leaders in this state is to embrace the opportunities that are created through crisis. The Chinese script for crisis is the character for danger and opportunity, so the Chinese see crisis as danger and opportunity. We do not know what that danger is in climate change. However, we know that regardless of whether it exists, the opportunities are there and they make sense whether or not climate change happens. If we clean up our industries and make them more energy efficient and more material efficient, we will create a new opportunity. Danger and opportunity. If we think that the war on terror is good for business, the war on climate will be a whole lot better. We have to clean up the economy. It is not just our economy that needs to be cleaned up. It is not just this small backwater on the planet that needs to be cleaned up. There are six billion other people on the planet. Therefore, I must move an amendment to the motion. This is not a matter of whether people are to the left or right of politics, or whether they are Hindu or Muslim or black or white or upper or lower class, although if they are upper class, it is much easier to manage most things.

Amendment to Motion

Hon PAUL LLEWELLYN: I move -

- (1) Line 1 - To insert before "federal" -
state and
- (2) Line 1 - To insert after "government" -
(with the exception of paragraph (b))
- (3) Line 6 - To delete after "economy;" the word "and";
- (4) To insert after paragraph (c) the following new paragraphs -
 - (d) the establishment of greenhouse gas emission targets to reduce the carbon intensity of the Western Australian economy to 50 per cent of 2000 emissions by the year 2050;
 - (e) the establishment of a robust mandated renewable energy target to a level of 20 per cent by 2020; and
 - (f) the establishment of a mandated renewable energy target of six per cent to be achieved by 2010.

We cannot change paragraph (b) because it refers to a federal government initiative. Paragraph (c) of the motion reads -

programs of public education which address the likely need for future public adaptation and responses to climate change;

That would be a damn good thing. We accept all of those points, and we will add another one. This is the killer. Are members listening? It reads -

- (d) the establishment of greenhouse gas emission targets to reduce the carbon intensity of the Western Australian economy to 50 per cent of 2000 emissions by the year 2050;

That provision seeks to implement a target to reduce today's carbon emissions by 50 per cent by 2050. That gives us 45 years. With the will and the technology available today, we can do it. We can transform the economy. We will start looking like a modern economy rather than a third world economy. We will manufacture clean, safe technologies here rather than importing them from other countries that we look down on. The amendments continue -

- (e) the establishment of a robust mandated renewable energy target to a level of 20 per cent by 2020; . . .

That amendment seeks to implement a target of a 20 per cent reduction of all our stationary renewable energy by 2020. I am getting help here from the attendant with a glass of water. I need it. This is my first go at moving an amendment. The water tastes good. I am being handed a pen. I can tell that this is trouble. I will continue and sign something in a minute. We are amending Hon Louise Pratt's document. The amendments continue -

- (f) the establishment of a mandated renewable energy target of six per cent to be achieved by 2010.

That six per cent rings in my ears. I remember hearing someone promise that figure. We are talking about a mandate by 2010. Members should not panic; any one of these amendments is achievable and we will enjoy the results immensely. They will result in a transformation of our economy and an investment in clean, safe technology. The kids will all be happy and say, "Thank God you did that."

I commend the amendments to the house; they are minor details that will improve the motion. The thrust of them is that members of both houses of Parliament should put their money where their mouths are. We should make the difficult decisions and make a stand for the next generation. We should not worry about whether we are right - it is a salinity issue - let us do something positive. Thank you very much.

The DEPUTY PRESIDENT (Hon Graham Giffard): Order! I will read the motion as it will be amended by Hon Paul Llewellyn -

That this house calls on the state and federal governments (with the exception of paragraph (b)) to provide the communities of Western Australia with the appropriate resources to deal with the likelihood of real and significant climate change, including -

Paragraphs (a), (b) and (c) are not amended in any way. Hon Paul Llewellyn proposes to insert new paragraphs (d), (e) and (f), which read -

- (d) the establishment of greenhouse gas emission targets to reduce the carbon intensity of the Western Australian economy to 50 per cent of 2000 emissions by the year 2050;
- (e) the establishment of a robust mandated renewable energy target to a level of 20 per cent by 2020; and
- (f) the establishment of a mandated renewable energy target of six per cent to be achieved by 2010.

HON MURRAY CRIDDLE (Agricultural) [3.26 pm]: They are very interesting amendments, and I will refer to them during my speech. The whole basis of this motion is extremely interesting. Its provisions could have an enormous impact on people in the country, especially those in the primary industry in which I am involved. I am always interested in the issue of climate change. Many people say that we should do something about it, but I always get the feeling that they do not know what we should do. That is the angle from which I will approach this motion. Many of the solutions to these issues might be found in uranium, and perhaps genetically modified foods and things of that nature, the use of which could reduce the output of greenhouse gases. However, it appears that nobody is game enough to pursue those issues. If the answer to some of these problems lies in those areas, that debate must be brought forward. At the recent grains conference I was listening to a chap who said that if we are to solve some of these problems, we must embrace some of the solutions that are available. This is not a narrow argument; it is about embracing the changes that will provide results. It is all very well for people to say that we must reduce greenhouse gases when they do not provide a solution. That attitude concerns me. Hon Louise Pratt just showed me a document headed *Climate Change: Solutions for Australia* produced by the Australian Climate Group. The introduction reads in part -

This group proposes the following set of solutions to lower the risk that climate change will reach a dangerous level:

1. REDUCE: Australia's political leaders must work with business and the community to take immediate action to cut our greenhouse gas emissions by 60% by 2050.

It gives no indication of how to solve the problem but says that is what we must do -

2. TRADE: Establish trade mechanisms to trade greenhouse gas emissions, providing the business sector with a powerful tool to meet reduction targets.

That is not a solution. It continues -

3. ACT: All Australians to take responsibility for their own role in reducing greenhouse gas emissions by using energy more wisely.

That is just a statement that we must do something. It continues -

4. ADAPT: Put in place measures to minimise the impacts of climate change, from building improvements to deal with more intense storms, to investing in new agricultural industries which require less fresh water.
5. INNOVATE: New business opportunities must be developed and implemented as the rest of the world moves to low carbon energy futures.
6. LEAD: A leadership role must be taken to identify and implement solutions to reduce the impacts of human-induced climate change. As one of the wealthiest and best-educated nations in our region, we can share our innovations and technologies with nations of the Asia Pacific.

The point that I return to all the time in this debate is that that just indicates the problem; it does not indicate how we will solve it.

About 20 years ago a dramatic change came over the agricultural industry. We went to minimum tillage. There was an enormous saving in emissions from tractors and the like. Hon Kim Chance would know that well. We use about a third of the fuel now that we used previously, and we put in a lot more crop. Obviously, from that point of view, the efficiency regarding emissions is immense. However, I do not see other industries doing that sort of thing. We could go into other areas.

The agricultural industry has taken on another climate change issue. We have a new range of varieties that handle dry weather conditions in a tremendously better way. As a result of the research that has been done, there has been a wonderful change in the varieties available. I give credit to all those researchers. It means that we can now grow much better crops with less rainfall and so on.

Hon Kim Chance: We also have virtually the only grain industry in the world in which our grain drying is entirely solar.

Hon MURRAY CRIDDLE: Yes, that is true. The other issue that I wanted to touch on is that we also have what is known as deep ripping, whereby the soil in some land structures maintains the moisture in dry conditions very effectively. That is particularly so in the yellow country in my part of the world. That is an enormous advantage. The efficiencies in those areas are certainly great. Obviously, trees have been planted. We talked about solutions to the salinity problem. Certainly, in the agricultural industry people are embracing that without the tax incentives. I agree entirely with Hon Paul Llewellyn, who talked about taxation incentives. I believe that would be a good innovation. The arts have gained a lot of credit by having a tax incentive, and an enormous amount of work has been done in the arts area. The good thing about tax incentives is that the people who do the work would get the benefit on the land without all the bureaucracy that is around the place currently. I believe it is a very efficient way of getting the best possible result. Trees and so forth have been planted.

The argument about genetically modified organisms is another one that we must have a good look at. That argument could go on forever. However, if we can put in place a dryland wheat or a wheat that resists the damage that frost can do to the wheat crop, it would be of enormous benefit. The situation is similar with rust. If we could get a rust-resistant wheat, the benefits would be enormous. They are some of the solutions that could be put in place by the agricultural industry.

We have talked about other measures, one of which is wind farms. I was at Walkaway the other day when the Premier opened the 54-turbine wind farm there. It is an enormous venture, producing 90 megawatts of power. Of course, the Albany wind farm produces 20 megawatts, I think, and there is another one at Esperance that produces a little less, if I recall rightly. They are all good innovations. The interesting thing that the Premier said was that, with the innovation at Walkaway, the amount of energy coming from natural sources in that area has increased from about one per cent to three per cent, and his intention is to take it to six per cent. A minuscule amount of power is being produced from that sort of source. Of course, we also have solar power and hydrogen fuel cell power, which I have had a lot to do with. I know that a lot of other people have taken credit for it, but I well remember signing off on the initial stages of the project with BP in London, and I was also

involved with DaimlerChrysler in bringing hydrogen fuel cell buses to this state. Of course, there has been some advancement in that area, but it has a long way to go. The emissions from those buses are only water. It is an enormous saving, provided the hydrogen can be produced without causing another problem with emissions. That is of concern. If we extract hydrogen and leave carbon dioxide without sequestration back into the aquifers, a problem will remain. However, these are ways in which we can overcome the problem.

Hon Barry House: We could even have a nuclear power plant.

Hon MURRAY CRIDDLE: I started by talking about uranium. It is an issue on which discussion will have to take place. I would certainly welcome that discussion. I hear a lot of people talking about it. It is certainly one of the areas that we need to talk about. Of course, there are also enormous opportunities to get power from the sea without creating any emissions. We talked about that in the north. There is the opportunity to do that in the north because the tides are substantial. The movement of the water could generate power without any emissions. I believe we should spend more time talking about the options that are available and how we could put those options into operation.

The other area I wanted to talk about is salinity. There are a number of options in the country to overcome salinity. It is not just a matter of planting trees. In fact, that is probably the least effective option. We could talk about drains and a number of other methods to overcome the problem with salt. The interesting thing about salt is that it was here for a long time before we came on the scene. If a person leaves the agricultural areas and flies towards Laverton, he will see big salt pans that existed there naturally many years ago. I admit that we have not handled the issue well. However, at present people are trying to overcome the salt problem. It is an enormous problem; there is no doubt about that.

Hon Kim Chance: And they are winning the battle.

Hon MURRAY CRIDDLE: Yes, some of them are winning. I believe some of the outcomes are quite interesting. A broad range of methods are being adopted, and they are having an impact in the right way. We do not have a huge problem in my part of the world, but I have certainly visited the wheatbelt quite often, and there is a big problem there.

I did not have the chance to go through Hon Paul Llewellyn's amendment because I stood to speak immediately upon receiving it. Therefore, I have not had time to think too much about it. Whether or not the Kyoto Protocol is signed, the issue is whether it will be of benefit. The outcome is the issue, rather than worrying too much about whether we sign it. We must achieve things. The issue that I have been raising throughout my speech is that of setting benchmarks without having a method of achieving them. It is fine to set targets, but as a community we need to know that we will achieve an outcome. That is the important issue on which we should focus. We need to make people aware of the situation. I do not believe all this business that making it mandatory that people perform will result in the best outcome. We must encourage people to understand what the dangers will be. Governments can give incentives in that direction. I agree entirely with Hon Paul Llewellyn's tax proposal. I believe tax incentives are a very good way to go. Rather than get the whip out and try to flog people to death, we need to give them incentives.

I did not intend to speak in this debate. However, having listened intently to some of the discussion, I must say that we can whip people as much as we like, but we must get an understanding across the community that we need to approach this issue in a manner that will be of benefit to the community, and we need to give incentives to people to perform in that area. It is not just a federal government or state government issue; it is a community issue, and we all need to focus on the way in which we handle the business of climate change and the outcomes so that it will be of benefit to us all.

HON SALLY TALBOT (South West) [3.40 pm]: I was a little surprised to see so few members on the other side of the chamber jump up to join the debate. I am interested to hear contributions from members opposite following my contribution. I thought they would have had an overwhelming urge to comment on the motion moved by Hon Louise Pratt, firstly, to defend their federal colleagues, particularly in light of the announcement earlier this month about the Asia Pacific Partnership on Clean Development and Climate - I will say more about that arrangement later - and the enormously inadequate response from the federal government. I thought members opposite would have mounted some defence of that position. I am interested to follow that argument when, or if, it is made. I also expected honourable members opposite to support Hon Louise Pratt's motion, particularly those members opposite who also represent the South West Region, which will bear the brunt of many of the likely outcomes of the changes that appear to be taking place.

I admit to being a little overwhelmed by some of the interjections from the other side of the chamber. I thought the days when the Liberal Party was synonymous with the flat earth society were well passed, but it seems that if the Liberal Party has agreed that the world is round, it is still pizza shaped. I am a little lost for words to know how to rebuff some of the suggestions made. I heard last week when the motion was moved members ask how

we could be talking about global warming when we had record rainfall in May and June! This indicated a great misunderstanding of the problems we face. Central to the concept we are increasingly asked to address is a wild fluctuation in climate, and I thought that record rainfalls earlier this year would have only increased people's anxiety about what was happening. In a similar vein, comment was made about our wanting to reverse the Industrial Revolution. Undoubted economic and social benefits arose from the Industrial Revolution, and this is not the place to go into that matter. However, it is almost self-evident that part of the challenge is to continue to provide for a relatively prosperous society with its standard of living by which certain benefits are extended to people who are less well off as well as to people who can afford this lifestyle. I was flabbergasted at the kinds of comments made. I hope to do my very small part in the next half-hour or so to address some of the matters raised in the motion.

I begin by asking a rhetorical question about the refusal to believe that a thing called global warming is happening. The very basis of the scientific principles with which we have lived and worked for 300 years or more is the presentation of evidence. I ask the rhetorical question: what sort of evidence might be produced that would lead honourable members opposite to say, "Well, you might have a point and we need to seriously engage with these issues"?

Hon Murray Criddle: I pointed out that for a while the agriculture industry has recognised it, and it is doing something about it. Don't assume it's not.

Hon SALLY TALBOT: Hon Murray Criddle made a very worthwhile contribution to the debate. I appreciated it. I was referring in my earlier remarks to comments from other members opposite who indicated an inability to admit, let alone to engage with, the problem. Hon Murray Criddle's contribution indicated that he does not situate himself in that camp.

What would the evidence be to persuade members that the problem exists? I will not give members a lecture on the philosophy of science, but the entire basis of evidence is that as many things as possible are held constant as one thing at a time is varied to measure the outcome of that variation. I concede that there is a sense that the entire issue of global warming, by the very nature of evidence available, is an inexact science. However, that does not devalue the quality of the science or its results. I spoke recently to someone who has spent the whole of his professional life as a planner, and the last 10 years undertaking environmental work. He explained that a difficulty facing planners in the last few years has been that their projecting exercises were done on the basis of a set elapsed period. Ten years ago, projections were based on 100 years of climate readings. However, they realised five years later that the projections made on the basis of 100 years of data were completely skewed because the situation is changing so fast. Therefore, the exercise was undertaken again based on 50 years of data, and they found only a couple of years down the track that this data was also proving to be unreliable. Undoubtedly, the very science of planning and projecting from past data is under an enormous strain from the global warming phenomenon.

We return to the basic question: what evidence would convince people about this situation? I conclude my introductory remarks by pointing to the fact that the permafrost is melting. Permafrost is not meant to melt. Do members understand? What could the melting of permafrost indicate? I do not have the article with me, but three papers were summarised in the most recent edition of *The Economist* in an article outlining significant findings concerning the troposphere - that layer of atmosphere above the stratosphere, or the second layer up. This aspect relates to the question I asked about the evidence one might look for. A small body of evidence has indicated that if global warming is taking place, temperatures in the troposphere would rise in proportion to the temperature rises in the stratosphere. That appeared to be fairly logical. It appeared that that was not happening, and a question mark was left hanging over the discipline of climate science. It has been discovered in the past few months that a series of calculations - I will not attempt to describe them in detail, as I am not a mathematician; I simply refer members to *The Economist* - used to measure temperatures in the troposphere was wrong. The calculations have been adjusted, and the result shows that, indeed, temperatures are rising in the troposphere. It was all to do with the ellipses of the earth and satellite orbits. It is a very complicated science. However, it is just another piece of evidence that has slotted into place.

With all the concessions that global warming is not an exact science, I think that in the hundreds of years since we have been doing western science there is plenty of evidence to show that we can be unsure of the details, while still being convinced of the main argument. I concede that it is not an exact science, but I rapidly qualify that. I draw briefly on two reports that were commissioned, not by anybody who could be called a green fundamentalist, but by the coalition federal government. The first is the International Energy Agency report, which was presented to government this month, August 2005, and it shows that Australia's greenhouse pollution is spiralling out of control. Our carbon dioxide emissions per unit of gross domestic product, which is the standard way of measuring CO₂ emissions, are 43 per cent above the IEA average. That is a very significant discrepancy from the numbers returned by the averages. Even more disturbing - Hon Louise Pratt referred to

this statistic - is that the emissions from the Australian energy sector have risen by an extent that suggests that in the 20 years between 1990 and 2010 they will rise by 40 per cent. The other report I draw to the attention of honourable members is the federal government report on climate change, which is subtitled "Risk and Vulnerability", that was released a little earlier this year, in March 2005.

When I put all the evidence in these reports together I came up with a condensed list of eight points of concern: first, the loss of native flora and fauna; second, damage to urban areas, particularly on the coast where most of us live in Australia; third, threats to agriculture; fourth, threats to reefs, including the Great Barrier Reef; fifth, the disappearance - not just the damage but the disappearance - of the wet tropics in Australia, amongst which we would have to count Kakadu; sixth, an increasing number of environmental catastrophes such as floods, prolonged droughts, cyclones, heat waves and bushfires. Members can see the evidence I can present to question the interjection that was made about record rainfall in May and June. Seventh, there is a projection of 20 per cent less rainfall. Data from the south west suggests that this is coming to pass with alarming rapidity. Finally, the projections on the increase in the temperature. I know that when we hear figures like half a degree increase in temperature, which I think was the figure referred to by my colleague, Hon Louise Pratt, there is a tendency to think that half a degree is not very much. There is a difference between 18 degrees and 28 degrees, but half a degree is something we might not even notice.

An opposition member interjected.

Hon SALLY TALBOT: I am sure we can address that later in the debate. That is not the point that I am making. I want to point out that the projection for global warming up to 2030 - in the next 25 years - is a whole two degrees, and by 2070 the projection is six degrees Centigrade. These are not the kinds of temperature changes that just mean people have to run their airconditioners for a couple of extra hours. I refer members to the seven other points in my list: these are the things that will destroy the environment in which we carry out our everyday lives. These are not minor adjustments that we can make; it is not just about there being more hot days or fewer cool days. This signals a major change to the way that we live our everyday lives.

It does not seem that any of the data I have referred to so far translates as no cause for alarm, which is what the federal government would have us believe. My suspicion is that "no cause for alarm" is actually code for "no cause for action". Some members who follow these kinds of debates in the United States, or who are perhaps even "Bush watchers", might have noticed that George Bush tried to change the way that we refer to this whole issue of global warming. He decided, after the debate had been going on for some years, that he would politely discourage the use of, if not actually ban, the term "global warming". This is not the first time he has tried to intentionally change the language - I suspect he does it frequently unintentionally - but he decided that the American government would no longer refer to global warming and from now on would refer to climate change. We can certainly see that kind of sentiment and that kind of deliberate attempt being used to defuse a situation that might eventually lead to community calls for change. That same kind of sentiment is being played out on the national scene in Australia.

I have tried to get my head around what might be going on and why, in the face of what appears to be an overwhelmingly convincing body of evidence, national governments would try to water down language and fail to engage with the problem, let alone actively seek solutions. The only really convincing conclusion I can come up with is that we have a major problem with the kinds of metaphors that we use to talk about the place in which we live - the non-human environment. My colleague, Hon Paul Llewellyn, has already introduced a number of analogies and metaphors, which I might return to later if I have time, but I want to give members a very quick Cook's tour of some of the things that I think might be going on. Over the past 60 or 70 years, which is roughly the time frame in which we have begun to talk about the environment - some might say this has been a period in which we have talked about something called environmentalism - we have experimented with various mind pictures or metaphors to explain what might be going on. One that would have been most evident 50 or so years ago would have been something that might loosely be referred to as frontier ethics. This is the attitude to the environment that says that the environment is a vast, untapped, unlimited resource and it is up to human beings, with all the technological capacity at their disposal, to make inroads into this vast untapped resource. The term "frontier ethics" comes from the way that America was settled a couple of hundred years ago and, indeed, the way Australia was developed. If a person wanted to build a house somewhere, he just hacked down all the trees and got rid of the roots so they would not grow, he expanded his boundaries further and further, and the only real basis he needed to measure his success was the increase in those boundaries. In a way it is a more modern development of the rather quaint concept of stewardship to be found in the Old Testament. In the story of creation one finds that men - it was always men because women were just bits of rib - were put in charge of everything else. They were responsible for the wellbeing of the land, animals and so on. The concept of stewardship comes from that. I think that the concept of stewardship is a little more benign than frontier ethics, because a kind of duty of care went along with stewardship, which is not found in frontier ethics. Frontier ethics is much more of a slash and burn mentality; indeed, it is known in some formulations of that approach as

cowboy ethics. The big problem with that, of course, is that it is premised on an inexhaustible supply of whatever people need, whether it be fossil fuel, timber or whatever, for human existence. It is thought that there will be plenty of it and if people run out of it here, they will go over there and take somebody else's. That is clearly not the case. I would be very surprised to hear anybody dispute the fact that we are very much aware that many of our resources are finite.

That kind of frontier ethical approach gave way about 25 to 30 years ago to what appeared to be an improvement in the position. It asks how, given we have limited resources, we can reconceptualise what we are doing. That resulted in something that is popularly known as lifeboat ethics. One can detect an affinity with the way of thinking I am about to describe when one reads some of the rhetoric from the conservative side of politics in this country. Lifeboat ethics say that we are to imagine humanity as being in a series of lifeboats. The lifeboat in which the first world countries find themselves - for example, Australia - is exceptionally well managed. It has the right number of people on board because it fits in with the regulations on how many people a lifeboat can carry. It is adequately provisioned and has the right navigating equipment. All in all we are doing pretty well. The metaphor continues with the first world countries being in these hunky-dory lifeboats and the rest of the world being in the water, their lifeboats having presumably sunk because they were not as well managed as ours. We can see how this metaphor spins itself along.

The request is made of the first world countries to come to the assistance of some of the people in the water. When we ask ourselves whether we will do that, we must consider a number of questions. The most immediate question is how many can we take, because there are too many in the water to let onto our lifeboat without sinking it. The next question is, given that we might let some of them on, how will we choose which ones. The third question would be something like, if we let them on, how will they learn and should we not be giving them an instruction book on how to build a lifeboat and run it efficiently. That approach leads to a number of irresolvable problems. It is not a sustainable metaphor that leads to any place where people can act with any kind of compassion for anybody who has not been born and raised in a first world country in a situation of relative affluence. That model begins to break down. We can see that in much of the rhetoric that goes on at the national level there is this sense that Australia is okay. It is the smokestack economies of China and India that are causing the problems. How often do we hear it said that if only people in third world countries would stop trying to acquire refrigerators and airconditioners, we would not have such a problem? We can see how that rhetoric comes straight out of this lifeboat mentality. As I have suggested, it is a metaphor that breaks down very quickly if one imagines oneself as somebody other than a passenger in the Australian lifeboat.

Many other stories have been told about what sort of world we live in, and what sort of relationship we should have with our natural environment. The Gaea hypothesis was turned into a TV series, I think about 20 years ago. It is the theory that the earth is actually alive and is like a living, breathing organism. That starts from what seems to be a fairly promising point of view. It is certainly a long way from frontier or lifeboat ethics to see the world as an organic entity that has rights and exists in its own right. I still think there are enormous problems with that sort of model, not the least of which is that if it is assumed that the earth has a kind of existence over and above ours, people might be tempted to say that it does not matter what they do because the earth will claim its rights in the end and that there will be another catastrophic flood, which will wipe us all out, or whatever. We can write the whole scenario. I suggest that none of that is helpful in moving us along the path of coming up with a practical way of dealing with the challenges that confront us with global warming.

This might sound too simplistic to have any particular relevance, but I keep coming back to this idea: the crux of the problem is that human beings living on the face of the earth are not small and insignificant. The thought that it does not really matter what we do because other forces are there has fuelled so many of those other ways of approaching our relationship with the environment. I want to draw the attention of honourable members to one sentence that was written in 1995, which appears in a report of the Intergovernmental Panel on Climate Change. In a few words it puts into a scientific context the observation I am making; that is, the problem is that we are not small and insignificant. The sentence reads -

The balance of evidence suggests a discernible human influence on global climate.

It was one thing to suggest that there was or there is a discernible influence on forests. For example, people operating on a frontier ethic cut down millions of trees, and so they obviously had an effect. People have obviously had an effect on many other aspects of our environment. The amount of concrete that people have poured on the earth's surface is staggering, and in that sense it is blatantly obvious that people have had an effect on our environment. This sentence, however, states that the balance of evidence suggests there is a discernible human influence on global climate, and that is the issue which is throwing up these challenges to which we are really struggling at the moment to respond.

My suggestion is that we need a new model. I do not think we have one yet. I have lots of suggestions, and this is not necessarily the place in which I want to raise them. We clearly need a new model because we do not have a model that works. This phrase has been around for a long time, but it is equally clear to me that the solutions

we come up with must be joined-up solutions. This is not the kind of challenge that can be successfully addressed if people are working away in separate pockets of expertise. Perhaps the biggest challenge of all is to get scientists, philosophers, futurologists and all the people involved in this debate to talk to each other. Another of the well-documented phenomena of the past two decades of academia is that many disciplines have ceased to be able to communicate with each other because of the jargon and complexities of their areas.

I return to Hon Louise Pratt's motion. I believe that a motion of this kind is fuelled by a real and genuine fear that Australia is isolating itself from international action. I will spend a few minutes going into what some of that international action comprises to give a context to members for me saying that Australia is isolating itself. John Howard has spent the past nine years - although we probably could go back to before he was elected as Prime Minister - presenting himself as a kind of relaxed and comfortable 1950s man. However, it is fair to suggest that that image covers an agenda that is quite extremist in many respects. He is not a moderate on issues such as national security or Australia's refugee policy. He is certainly an extremist when it comes to industrial relations. We will wait to see the full text of that extremism spelt out in October. However, there is certainly no evidence coming from Canberra that he is running anything other than an extreme agenda on industrial relations. In fact, I would go as far as to say that this extremist agenda is based on a kind of ideological obsession with certain matters. He is certainly far from the comfortable and relaxed 1950s man that he has painted himself as, and we can see that also on his agenda on the environment. He is clearly very alienated by the stereotypical greenie. When someone says the word "green" and he shuts his eyes, he sees an image of somebody who thinks that to recycle is a virtue, that every tree is a good tree and that plastic is evil. He sees all the environmental issues in very black-and-white terms. I do not dissent from most of that green agenda, but I do not recycle because I am a saint; I recycle because it is sensible. I have seen landfill, I know what the problems are and I want to put all the pressure I can onto manufacturers to make milk in cartons that I can put in a recycling bin. I do not do that because I am better than anybody else; I do it because it is sensible. The kind of stereotypical greenie that I have just described scares someone such as John Howard. However, instead of responding in a sensible way by going out and talking to ordinary people who recycle because it is sensible - I use that as my own little metaphor - he goes to the opposite extreme. One might as well be a vampire when one talks to him about global warming.

A very odd thing is going on here, to which I want to draw honourable members' attention so that they can get a feeling for this issue. I have talked about John Howard's ideological obsession and his retreat into his own kind of fundamentalism when he is frightened by what he regards as green fundamentalism; yet, who do members think it was in 1997 who said -

We end the year having achieved this . . . absolutely stunning diplomatic success at the Kyoto conference. That was an extraordinary achievement, that Kyoto summit - an absolutely extraordinary achievement - and it was against all the odds . . . I mean, what we were able to do at Kyoto was, both, make a massive contribution to the world environmental effort to cut greenhouse gas emissions but also to protect Australian jobs.

That was John Howard. He went on to say -

. . . Thanks to the superb negotiating job that [Federal Environment Minister] Robert Hill did at Kyoto, we achieved a win for the environment and a win for Australian jobs.

John Howard said that in 1997. However, he was not alone. He did not stand in the party room and get howled down for having said that. The federal Minister for Resources and Energy issued a press release in December 1997 - in fact, on the same day - which said -

The Kyoto Protocol provides a sound basis for protecting Australia's export competitiveness . . .

Debate interrupted, pursuant to standing orders.

Sitting suspended from 4.15 to 4.30 pm