

Sydney public forum (evening)  
on the Garnaut Climate Change

**Event:** Review Update 2011.  
*'Responding to climate change  
in our national interest'*

**Location:** Sydney Town Hall

**Compere:** Simon Marnie, ABC

**Speakers:** Ross Garnaut, Simon Marnie  
(MC)

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## Transcript:

ROSS GARNAUT: Thank you Lord Mayor. I was glad to see the video again and hear the Lord Mayor's statements about it. I've learnt a fair bit today from discussions here at City Hall. What Sydney is doing is really important and progressing strongly. And the context of that action in Sydney is one in which it's likely that early action is going to be rewarded.

The focus on decentralised electricity is going to provide some hedge against the several major sources of increases in energy prices and electricity prices in the period ahead. The major ones of which are not carbon pricing, but carbon pricing will contribute to it. So by getting ahead of the game in reducing emissions and becoming less reliant on very expensive network infrastructure then you can protect yourself against some of the other costs that are coming through the system.

There's been a problem in the Australian debate of carbon pricing that carbon pricing is being blamed for electricity prices that it's not contributing to. Obviously it hasn't contributed to any of the very large increases of the last few years because there's no carbon pricing yet. And over the next few years, without carbon pricing, if you just rely on the standard systems then electricity prices are going to rise very considerably.

If you can find low emissions, decentralised sources, led by energy saving - energy efficiency - then you're ahead of the game. For Australia as a whole, we're in the midst of a great struggle about whether Australia should encourage and do its fair share in an effective global effort to reduce the dangers of climate change.

It's a struggle over policy between special interests and the national interest. The conflict is not new. Indeed, it is always with us and always will be. But there are periods when the special interests have had the upper hand and others in which policymaking is strongly grounded in the national interest. And we do better as a country, as a society when we've got a strong independent centre of our political community ensuring that the national interest gets a fair hearing.

The outcome of the struggle will depend on whether we are able to rebuild an influential role for an independent centre of our political community - a role that has declined over the past decade.

There is no reason why carbon pricing should be a matter of partisan political division in Australia and it wasn't only a few years ago. In much of the world, perhaps everywhere except contemporary Australia and the United States, concern for global warming is a Conservative as much as a Social Democratic issue. The Conservative governments of Germany, the United Kingdom, France

and the Republic of Korea are playing important global leadership roles.

Many of you will recall that it was a Conservative leader, Margaret Thatcher in the United Kingdom, who first made this issue a big issue on the European policy agenda. And it's been a central concern of British leaders of Labour and Conservative persuasion ever since.

The Conservative Government in New Zealand, with Prime Minister Key out here this week, expresses satisfaction in the way its carbon pricing is working. Even in the United States, the most effective political leadership on climate change has come from a Republican governor of California and a Republican mayor of New York.

A concern to avoid dangerous climate change fits naturally within the Conservative tradition. It may be rational for the radical to risk the institutions of human civilisation in a throw of the climate change dice, just as Lenin saw merit in inflation in the capitalist countries. The radical may hope that the outcome will unravel the existing social and political order. It is strange for the Conservative to embrace such risk.

Nine months ago I was asked to update my 2008 review for the Government and to act as an independent adviser to the Multi-Party Committee on Climate Change. I took the same open mind to the update as I had taken through the 2008 review.

Regrettably, I have concluded that the case for Australia taking firm action to reduce greenhouse gas emissions within a global effort has been strengthened by the advance of scientific knowledge since the original review. Regrettably I say because it would have been very nice if the scientific evidence had suggested that it was all a furrphy, or at least if it had suggested that the earlier conclusions from the science had been overdrawn.

Unfortunately the opposite is the case. The extensive research and analysis carried out by my team and I in the update has not fundamentally changed my conclusions about the relative merits of regulatory and market based approaches to reducing emissions, so that part of my recommendations has been confirmed as well.

In 2008 I pointed out that Australia would be affected more by climate change than other developed countries. There are several reasons for this; we're already a hot and dry country with many areas of economic activity, including in agriculture, close to the margins of conditions under which similar activities are carried out elsewhere on earth, so that variations make us more vulnerable to being pushed out into areas of precipitation or temperature where normal activities are difficult.

Australia is also very vulnerable because of all the developed countries we are especially located in a region of developing countries. Developing countries will find it especially difficult to manage the consequence of climate change. There're risks of severe instability; the problems of our neighbours will become our problems.

And our terms of trade, or our export trade and the terms on which we trade, are much more dependent on economic growth in developing countries than are the terms of trade of any other developed country. And climate change will be deeply disruptive to economic growth in developing countries and therefore to our exports.

It is true that Australia has done well in the high carbon global economy of the past several decades, but we also have the natural resources and human capacities to do extremely well in the low carbon world economy of the future. We have the natural and human

resources to do well from biosequestration and geosequestration. We also have all of the low and lower emission sources of energy in exceptional degree.

The careful quantitative and qualitative analysis of my 2008 review demonstrated that it was in Australia's national interest for there to be an ambitious and effective global mitigation effort with Australia contributing its fair share. The update has confirmed that conclusion.

Fortunately the public discussion over recent months has narrowed the range of serious debate; that is intelligent debate about greenhouse gas mitigation policies in Australia. It is now a while since any but the fringe dwellers of the Australian public policy debate have denied that there is a warming trend. Nor is there now much serious denial that there is a substantial human contribution to that trend.

The excellent Productivity Commission report has settled the question of whether other countries are taking action to reduce the risks of dangerous climate change. The Productivity Commission report has also played a significant role in what is now a decisive victory for carbon pricing over regulatory intervention in the battle of ideas. Carbon pricing happens to be the low cost way of meeting national targets.

But if some countries want to use high cost means of reaching their targets, they are free to do so. We could put that in a different way of some countries want to shoot themselves in the foot by doing things in an expensive way; they are free to do so. We would be foolish also to meet our targets in an expensive way.

But in this world in which each country is reducing emissions in its own way, how do we work out what is a fair contribution from each country? The Productivity Commission set out to see whether it was possible to compare the efforts of different countries in reducing emissions by calculating an implicit carbon price for each. Upon close examination this turned out to be impractical, as well as conceptually inappropriate. In comparing levels of efforts between countries there is no alternative to looking at what is actually happening to emissions against some standard of fair shares in a global effort.

My review looked carefully at various approaches to determining fair shares and settled on something that I described as modified contraction and convergence as an approach that had reasonable prospects for international acceptability and which was as favourable to Australian interests as any plausible alternative approaches. This is consistent with emerging international approaches involving absolute reductions in emissions for developed countries and reductions in emissions intensity for developing countries.

The Productivity Commission was not asked and did not seek to determine what would be a fair share for Australia. A few commentators who sought to draw an implication that the Commission's report contradicted my statement that Australia was a laggard were wide of the mark.

My 2011 review update proposes that Australia should not seek to be a leader in global emissions reductions. We are too far behind many countries for that to be a realistic aspiration. I suggest that we should aim to place ourselves in the middle of the developed countries, so long as developing countries are broadly contributing their own fair shares.

Australia stands out for the modesty of our ambition with our bipartisan unconditional target of reducing emissions by five per cent by 2020 from 2000 levels. I say that in full acknowledgement that the number,

the five per cent, adopted by Government and Opposition, comes from my 2008 report. The recommendation in the 2008 report was that that reduction of emissions - the five per cent - would be appropriate in the absence of a global agreement, simply to keep alive the possibility of eventual agreement.

Well, I set out in chapters three and four of the final report why I think there is a global agreement that can be made to work. If a condition for doing more was the presence of a global agreement, that presence has been reached. We also stand out for how much of our emissions - how much our emissions are increasing relative to our modest unconditional target. The Department of Climate Change and Energy Efficiency estimates that with all the existing policies in place the mandatory renewable energy targets, solar programs and other measures, our emissions will grow by twenty-four per cent by 2020.

Since those estimates were made on 2020 emissions, under current policies we have had several gas liquefaction projects announced which would take that number higher still. If the world were to take effective action towards achievement of the agreed objective, the internationally agreed objective of holding temperature increases to about two degrees above pre-industrial levels, our fair share under the review's formula would require reductions of emissions by twenty-five per cent by 2020 and ninety per cent by 2050. Our share would be somewhat lower for less ambitious global action.

My update paper two on international mitigation progress in February and the final report at the end of May explain that there is an international agreement following the United Nations' conference in Cancun last year. There's been an extraordinary reaction from some corners of the Australian policy discussion to the way that I characterised international action on climate change in my final report. Those opposing action to reduce carbon emissions...

[Interruption by hecklers]

There has been an extraordinary reaction from some...

[Laughter and applause]

...from some corners of the Australian policy discussion to the way that I characterised international action on climate change in my final report. It's all there in the written speech.

[Laughter]

Those opposing action to reduce carbon emissions had built a protective bubble around themselves which was keeping out information and analysis of what the rest of the world was doing. My update paper on international progress and the final report helped to puncture that bubble. There's been a hysterical response from some of the people who had been living within the bubble. The only cure for this hysteria is the absorption of more information and acceptance of the realities.

The strongest reaction has been to my statements that the United States Government was committed to reaching its target of reducing 2005 emissions by seventeen per cent by 2020. That's the target that President Obama took to the Copenhagen meeting and which was confirmed formally at Cancun; seventeen per cent reduction by 2020.

And the President of the United States and his Cabinet have maintained that position despite the President's disappointment at not being able to have a cap and trade legislated through the House of Representatives after passage through the Senate.

They decided that they would reach that target by other means, principally regulatory means. And the high officials of the United States Government with responsibilities in this area, reporting directly to the President, have said to me that they would have much preferred economy wide pricing, but if that was blocked they would get to their target through more expensive means.

But given that there has been this hysterical reaction to my bursting of the misinformation bubble, let me provide a bit more information for this meeting about the way I formed the judgements about United States policy and action for the review update. In addition to exhaustive reading of the United States literature I had a series of meetings with the United States Ambassador to Australia, Jeffrey Bleich and his senior staff.

Following extensive consultations in America during the 2008 review, I spent a week in Washington in January this year for meetings with senior officials of all of the Federal Government agencies with responsibilities for environmental and energy policies, for mitigation of climate change, including the agencies with responsibility for funding the climate change mitigation effort. I was able to meet congressional officials on both the Democrat and Republican side.

The information on climate change policy and action represented - presented in update paper two, and in the final report, was cross-checked with senior United States officials. The important material on shadow pricing of carbon for regulatory purposes was amongst information provided in personal conversation with Secretary for Energy and Physics Nobel Laureate, Steven Chu. My judgements about the state of play on the international regime were informed by discussions with President Obama's Climate Change Ambassador, Todd Stern.

On the day after the release of the final report the Senior Advisor of the Democrats' staff, House Energy and Commerce Committee, Bruce Wolpe, wrote to me by e-mail. Quote: *I have gone through to check the discussion of United States related issues and find it completely accurate and learned.* The central judgements of the review on United States policy and action have been confirmed by the United States Ambassador to Australia in his interview with Lenore Taylor reported in the *Sydney Morning Herald* just yesterday, on the twentieth of June.

The final report - my final report expressed a concern that we could seriously damage future productivity growth and economic performance if the current debate over policy led to rejection of carbon pricing. Another caution is appropriate; we can do serious damage to the relationship with our friend and ally, the United States, if we allow false preconceptions to distort our view on United States Government policy and action on climate change.

Sure, there are anti-government opinions in the United States that was acknowledged in my report. We are taking a large step if we choose to favour the views of non-official dissentients over the official positions of the United States Government.

Carbon pricing accompanied by support for innovation in new technologies will allow Australia to catch up without putting prosperity at risk. Given our starting point it is inevitable that our early steps will be modest, however the framework that I have proposed is efficiently and easily geared up for a stronger contribution as the international mitigation effort is scaled up and as Australians absorb the reality of international action.

Under carbon pricing we will be automatically strengthening targets in line with stronger action and the rest of the world and I recommended

that that process of strengthening targets be intermediated through the independent advice of a climate committee with a similar role to the committee of the same name in the United Kingdom.

The carbon price will rise as the rest of the world does more because we will be linked to the world price through trade in carbon entitlements. Our carbon price will be the world price after we move to traded entitlements with international linking. Under my recommendations we'll have a fixed price for three years and we will then have a market based price linked to international prices. The international price will become the Australian price intermediated by the level of the Australian dollar.

If the resources boom in three and four years' time is still running with full steam, when we move to trading permits, the exchange rate will still be high and the Australian dollar price of permits correspondingly lower. We would then be tending to import a large number of permits and would be in a good position to pay for them from the proceeds of our exports. Indeed, the payments for permits would reduce the real exchange rate somewhat and reduce the downward pressure that the resources boom is placing on manufacturing, higher education, tourism, farming and other trade exposed industries.

If you are concerned about the effects of the resources boom on the viability of our steel industry then you'll be supporting stronger targets because that will take pressure from the exchange rate and it's the strong exchange rate which is damaging the steel industry and our manufacturing industry.

If the resources boom, on the other hand, has come to an end when we go to trade in permits in a few years' time then the exchange rate will be lower and the carbon price will be higher. We will see expansion of our low emissions industries in the process of doing more of our reduction in emissions ourselves, but the fall in the exchange rate and the larger investment and production in low emissions industries will help hold up economic activity after the end of the resources boom.

So there's an automatic calibration of our expansion of investment in low emissions industries under carbon pricing linked to international prices with higher carbon price and encouragement of more domestic activity, if and when we need stronger employment growth after the recurrent resources boom. So the type of arrangement that I have suggested, can be stabilising for the economy, both during the febrile period of our resources boom and after its inevitable end.

A few words on the carbon pricing scheme that I've recommended, you will have seen the reports that are indicating that I've suggested a starting price of twenty to thirty dollars rising over time, but fixed on a rising trajectory for the first three years and then movement to a market determined price.

A price at that level would put us more or less in line with current international prices at the current strong exchange rate and there'd be an automatic lift in the domestic price and in corresponding encouragement of investment in low emissions industries, with a fall in the dollar after the resources boom.

If the scheme were applied with a fixed price in the mid-point of the range I've suggested, around twenty-five or twenty-six dollars, it would raise over eleven billion dollars in the first year, rising a bit over the first decade. This is an advantage of carbon pricing over regulatory approaches to reducing in emissions. If you compare carbon pricing through a carbon tax or an emissions trading scheme with regulatory approaches, if you like direct action, the cost of regulatory approaches

are much higher than carbon pricing because with carbon pricing you provide an incentive for everyone in the economy - all small businesses, households - to find ways to reduce emissions at lowest cost. Whereas, with regulatory action you depend on the good ideas that the minister and his bureaucrats have had in directing resources to particular areas and they won't - and they might be cleverer than the rest of us but they won't think of all the things that millions of Australians will think of when they've got the incentive of a carbon price. So it's going to cost more under regulatory action than under a market based approach.

But one other difference is that a market based approach actually collects revenue because you're selling permits, whereas a regulatory approach doesn't collect any revenue. So while costs will have gone up in both cases, costs will have gone up more for the same amount of emissions reduction in the regulatory case. But in both cases costs will have gone up. But in the case of carbon pricing there is over eleven billion dollars of revenue that the Government can use for tax cuts or for adjustments of social security; support for innovation in low emissions technologies; support for biosequestration, storing of carbon in woodlands and soils and pastures and in other ways; and in assistance to trade exposed industries. The trade exposed industries will have the same increases in costs - well a bigger increase in cost with regulatory action - but there won't be revenue to provide assistance.

Under my suggestions, over half of the revenue from the beginning would go back to households as tax cuts or adjustments to social security. That proportion would rise over time. Initially about thirty per cent of the revenue would go to assistance to trade exposed industries. That would fall over time. I'm suggesting a fairly rough and ready approach to assistance of trade exposed industries in the first three years based on the Rudd Government's Carbon Pollution Reduction Scheme.

But I'm suggesting that after three years that should be replaced by a disciplined approach, administered by an organisation like the Productivity Commission that calculates precisely what is required. I think the rough and ready approach will, on average, over compensate trade exposed industries. The disciplined approach applied by an independent institution applying clear principals will lead to a reduction in expenditure on the trade exposed industries, which will allow increased tax cuts; increased support for innovation.

I know that the issue of electricity is of special significance in New South Wales because this is the state that's had by far the biggest electricity price increases and the regulators are saying that you should expect even bigger increases in the next few years. So let's spend a minute or two discussing some of the issues.

Australia's unusually emissions intensive electricity sector is the main reason why Australia's emissions per person are exceptionally large. And the transformation of the electricity sector has to be at the centre of Australia's transition to a low emissions economy. That's going to be important for simply taking emissions out of a very important part of the economy.

It's going to be very important as well because for some parts of the economy, including transport and some industrial processes, the cheapest way of reducing emissions is going to be electrification of processes that are currently fuelled by liquid fossil fuels and then the decarbonising of the electricity supply.

An example is the electric car which, if you can get your electricity from low carbon sources, low emission sources, then the electric car can become a very low emissions form of transport. And that will actually increase demand for electricity. You'll get the same pattern in some industrial processes.

A carbon price that passes through to household and business electricity prices will drive the reduction of emissions in the electricity sector. This will involve a switch in the predominant source of power used in generation. It will involve the building of new low emissions generation and the closure of high emissions generation.

It will also moderately reduce the growth in electricity demand in the short term and more strongly over the longer term as people economise on electricity use. And just to expand briefly on each of those points, in Australia - in much of Australia, while there'll be some substantial, quite rapid growth from a low base in renewable energy from the start, a lot of the burden of early emissions reduction will be shifting from coal to gas and then shifting from gas to renewables.

And that's exactly the process that we've had described to us in the plans for Sydney. And on the demand side, there are lots of international studies showing that if you increase electricity prices by ten per cent you'll get a reduction of consumption in the early stages by a few per cent. And then after people have had time to adjust by a larger amount, about seven per cent. So you'll get adjustments in the way that electricity is generated and also in demand.

For households, carbon pricing will raise the price of electricity unless you manage to decentralise and decarbonise your own electricity supply. The price increases associated with the introduction of a carbon price come at a difficult time, simply because there have been large recent electricity price rises that are not related to the carbon price.

And those increases in prices, recent and prospective, are mainly the result of the distortions in the regulatory system of network infrastructure that I've already talked about. They can be corrected, but it will take some time to correct them. The carbon pricing which will add to electricity prices but less than the increases in costs of network infrastructure, are going to get mixed up in people's minds.

I think that's a reason for treating the sorting out of the distorted regulation of our network infrastructure and distribution and transmission a matter of urgency.

You may have noticed in the newspapers recently some discussion of vexed questions of compensation for electricity generators. I've got quite a lot on the public record about that. But a couple of points to keep in mind there: if a lot of free permits are given to electricity generators, that won't stop them passing on electricity price increases.

If the introduction of carbon pricing will raise the cost of competitive power, of new power sources - and that scarcity will raise the price of electricity, the price you get in your bill - whether or not the generator has received free permits, if free permits are given to generators, they won't pass up the opportunity to pass on the value of those free permits anyway any more than if you inherit a house from your grandmother you'll take that into account and sell it at a low price.

Markets don't work like that. Electricity generators are no more generous to their customers than you will be with your inherited house. We shouldn't expect humans to act like saints and forego opportunities to pass on prices and giving them free gifts won't affect their behaviour.



There have been arguments that unless the generators are given very large amounts of money to compensate for the effect on the value of their businesses of carbon pricing then there will be risks to energy security.

That's unlikely to be an issue at all. The question doesn't really arise in New South Wales because your electricity doesn't come from particularly emissions intensive generators. It's more likely to be an issue in Victoria where the use of brown coal makes those generators emit much larger amounts of carbon dioxide for each kilowatt hour of electricity.

But even there, for the reasons I set out in my review, I don't think that energy security is going to be an issue so long as we put other protections in place for energy security. And that can be done without handing out billions of dollars of your money.

The story of adjustment to a carbon price, once we have one and the adjustment to a low carbon economy, is going to be the story of innovation. And I think there's a reasonable chance that we will be in that world from the middle of next year. From the middle of next year, if my recommendations are accepted, we will have embarked upon the transformation towards the low carbon economy.

All Australians want to know where the new jobs and incomes will come from in a low carbon economy, just as they want to know where the emissions reductions will come from. And the answer that I would give when you put in place an economy wide carbon price introducing incentives for reduction and emissions and expansion of economic activities that are associated with less emissions, is that the reduction in emissions will come from everywhere.

You will get more cities and municipal areas taking the example of Sydney and seeking to adopt far-reaching processes of decarbonisation of their energy and electricity supply. There will be incentives to do that because electricity from the grid will cost you even more than it does now. Those who have already made a start will be rewarded for their early start by avoiding the increased prices.

You'll still get your tax cut or adjustment of Social Security, but you'll be avoiding the increase in carbon pricing if your source of electricity is already well on the way to reducing carbon emissions. Consumers in every household will use less energy and other goods and services that embody high levels of emissions and they'll spend more on other things. It's the spending more on other things that will increase employment.

Natural gas exporters will try harder to find opportunities for sequestration of fugitive emissions. Landowners will think hard about the parts of their properties that would have more value as carbon sinks than they do carrying sheep. Although those parts that have more value as carbon sinks might be a bit smaller with the big increase in wool prices in the last month.

Lots of people with clever ideas of doing things in ways that reduce emissions will find equity investors and lenders more interested than they were before. Every producer will think about whether it's more profitable to spend a bit to reduce emissions or to buy more permits. Millions of Australians will set to work finding cheaper ways of meeting their requirements and servicing markets.

We don't know in advance what the successful ideas will be, but I'm pretty sure that there will be extraordinary developments in technology and that the change will happen faster than we expect once we put the incentives in place.

Well, this is the fourth time that Australia has moved towards economy wide carbon pricing. Each time, the retreat of economy wide action did not mean the end of climate change mitigation policies. An array of regulatory interventions took their place with little effect on emissions, but large effects on the Australian standard of living.

So if Australia doesn't move forward on this occasion, doesn't introduce carbon pricing as a result of the current discussions, then that won't be the end of the matter. We can expect other regulatory fixes to spring up in its place at a much higher cost to Australians.

Of the many costs associated with trying to reduce emissions in an ambitious way through regulatory rather than market based approaches, perhaps the biggest cost will be the entrenchment of the old political culture of Australia; the culture of political pressures on government determining how money is spent. That's how you have to go if you're getting your emissions reductions through regulation rather than through market processes.

If we reject carbon pricing today the climate change policy debate will still be here tomorrow, but our hopes of dealing with it in a way that preserves Australian prosperity may not.

Thank you.

[Applause]

COMPERE:

Ladies and gentleman, now it's your turn to ask questions and they can be climate change 101 or they can be in the complex. As long as they truly are genuinely questions. I would ask you to make your way to one of the mobile microphones that are around the room and form an orderly queue in your way there.

While we do that, you mentioned there, Professor Garnaut, about some of the Conservative regimes that have been overseas, adopting these policies. But can you give me a broader picture of the overseas reception towards climate change initiatives?

ROSS GARNAUT:

Yes, there's a lot of action going on and if you had any doubt about that then the Productivity Commission report shows that. What I do in two of the chapters in the final report - it's available on the web, the review's web site, also published by Cambridge University Press last week - but I have summarised there the action of countries. All major countries have accepted emissions reductions' targets. For the developed countries, they're all having to look more ambitious than us, although ours is actually a bit harder than it looks.

Just to take some of the countries we talk about a lot, well look at Europe as a whole and remember that Europe is about half of the rich people of the world, half of the people of the developed world; about half a billion people in Europe - not just the European Union, but the Scandinavian countries, others that are not part of the European Union.

The Scandinavian countries have had carbon pricing since the early 1990s. And as a - and partly, as a result of that and other policies, their emissions per person is very low compared with ours. Just comparing Norway and Australia, Norway is a bit over ten tonnes per person, ours is over twenty-seven tonnes. We're the world champions in the developed world.

And some people say that we're so high because we have this very rich endowment of fossil fuels. Well, Norway, if anything, has an even richer endowment per person of fossil fuels with their huge oil and gas

resources. So that's an interesting comparison. The rest of Europe introduced carbon pricing later but has done a great deal.

The European Union has the carbon pricing through the Emissions Trading Scheme. But a number of the major countries of Europe - certainly Britain; Germany; France - have additional policies that go well beyond the Emissions Trading Scheme and additional carbon tax as well as the ETS and other measures.

Britain has recently – the British Government, the Conservative Government – recently accepted advice from the Climate Committee, the independent Climate Committee to adopt a target that will reduce its 2000 - it's 1990 emissions by half by 2025. Well, that's from a base that's already low.

Britain's got about three times the people of Australia - or the United Kingdom has and its total emissions are about one-point-seven per cent of world emissions. Well, with a third the people we're about one-point-five per cent of world emissions. So our starting point is much higher and Britain is in the process of cutting theirs by half in the middle of a deep recession.

China and the US are other countries that are on a lot of people's minds. I talked a lot in the speech about the US. China is strongly committed to reducing the amount of emissions relative to GDP. And I've got a chart in the - a graph in the report that shows how strong that is. China is doing a lot on energy efficiency. It's got the world's biggest programs in nuclear, biomass, hydro, wind and solar. And that adds up to a very substantial effort.

It's also - its total emissions are still growing because its economy is still growing rapidly from a low base. But the policies they've put in place have dragged emissions' growth down a long way from where they were when I first did the calculations a few years ago.

COMPERE: It just seems curious that we're told to watch what happens in the United States and China when we've got very many other examples that seem to be working.

ROSS GARNAUT: Yes. Now, I don't think either China nor the United States is a model for *how* to reduce emissions. They are doing a lot. They're imposing a lot of costs on their households and businesses. I think they could do it more cheaply with economy wide pricing. President Obama thinks they could do it more cheaply with an Emissions Trading Scheme, which is why he tried to introduce one. He got it through the Senate. He doesn't have control of the House of Representatives and it didn't get through the House of Representatives.

So they've fallen back on regulatory approaches. But their senior officers say, *we're going to reach our targets one way or another. We'd prefer to do it through an emissions trading scheme, that's the way to go, but if we can't - if we're blocked that way we'll find another way.*

In China, they've also adopted mainly regulatory approaches together with subsidies for various forms of low emissions energy. But they are experimenting with carbon pricing in half a dozen cities - half a dozen provinces and several cities. The way reform works in China - and I've been looking at it closely for thirty years - they try things out, the things that seem to be working they encourage and expand; the things that run into trouble, they drop.

They're doing that with carbon pricing now. It's quite possible, quite likely that that will lead to a wider and wider spread of emissions

pricing. But whether that does, they're doing a lot through other means.

COMPERE: To the gentleman over here at microphone number one and I would ask that you introduce yourself to the crowd as well.

TYSON VAUGHAN: Tyson Vaughan, Total Environment Centre. Thank you very much for your comments this evening, Professor. The chairman of the AER [Australian Energy Regulator] has come out today agreeing with you about transmission and distribution network service providers and gold-plating the electricity network. And this is the primary cause of increasing electricity prices. However, Minister Ferguson disagrees with this and is distancing himself from your comments.

So I'm wondering if you can discuss the findings in section eight of your report - or part eight of your report and how you can stimulate optimal demand side participation in the market. And also, what of coal seam gas in the transition to a low carbon economy and its fugitive emissions?

ROSS GARNAUT: Yes well, I won't make any comment on the Federal Minister for Resource and Energy's view on electricity regulation. I will endorse the views of the Australian Energy Regulator. The problem is that when we introduced the current system of regulation in 2006 - it's relatively recent - we introduced it with a whole lot of biases favouring the businesses that do the distribution of power. We set the rate of return on their investment too high. So they have got an incentive to have a maximum level of investment.

Not only that, but we introduced an appeal system where if they're unhappy about the rate of return on investment or unhappy about the amount of investment they make in distribution they can appeal it. But the users of electricity can't appeal. So you get a one-way ratcheting up of the rate of return and the level of investment.

That seems to be worse - well the evidence is that it's worse in New South Wales than in other states. Second worse in Queensland - or Queensland, New South Wales seem to be the two extreme ones. Probably that is exacerbated by public ownership of these assets in these two states because the rate of return required to make an investment profitable is lower when you're borrowing off the state's balance sheet and so the incentive for over investment is even larger.

The key to cleaning up this very big distortion is going to be adjusting downwards the rate of return on investment in network infrastructure alongside a more disciplined approach to approvals of investment. But I think just the reduction of the rate of return will get us a long way; we won't have such eagerness about expanding investment.

And there's one very particular thing that is very damaging. A lot of the demand for network infrastructure, for increased investment in transmission is driven by growing peak demand. Well, the current regulatory system creates incentives for the sellers of power to increase peak demand, because that will justify more investment on which they get a higher return.

Other countries do it the other way; they introduce an incentive to reduce peak demand which means you don't have to invest so much in the system. Well, we don't have to invest anything; we just have to substitute our incentives for over investment by the sorts of incentives for economising on investment that other countries have got.

COMPERE: That also answers one of Alan Jones' [City of Sydney] questions as well.

To the gentleman up at microphone number five please.

DAVID MARK: Thanks very much. Professor Garnaut, I'm David Mark from ABC Radio Current Affairs. You said in your speech that there's no reason why carbon pricing should be a matter of partisan political division, but as you know it is. I wonder whether you could discuss whether you believe that the Coalition's approach of warning of a tax that's coming our way is harming the debate - the process in Australia at the moment.

[One participant applauding]

ROSS GARNAUT: Well, I'm not a political commentator but we do have a bitter public discussion of this matter at the moment, with a rancour that's unusual, in fact unprecedented in my experience in Australian public policy discussion. And I think the tone is set by the division at a high level in the political parties. We didn't have this a few years ago.

I've been accused by some people of being partisan on this issue by favouring carbon pricing over what's called direct action. But I haven't changed my position from the one that was supported by both political parties four years ago and three years ago and I've been asked to do an independent review of the carbon pricing policies. I don't think I would be doing an independent review with integrity if I changed my conclusions when one of our political parties changed its mind.

I think a lot of the rancour is coming from the bitter division in the leadership of political parties. I think it's very important that we get back to a more sober discussion of the issues.

DAVID MARK: So is that business - so is that...

[Applause]

DAVID MARK: So the question was, is that business harming the process?

ROSS GARNAUT: Oh yes, I think it is. Amongst other things it's very discouraging for people who want to make - who are well informed, who've got something to contribute, they're very discouraging if they're subject to abuse and attacks of various kinds, as many people who are well placed to participate in this debate have been.

DAVID MARK: Can I get you to expand on that because this afternoon you expressed - or you observed the role that partial analysis has played in the discussion of greenhouse gas emission economy?

ROSS GARNAUT: Yes, in the lunchtime talk to the Sydney business community I pointed out that one of the features of this discussion of policy has been that a lot of businesses and lobby groups that are trying to oppose any action on climate change have come up with economic modelling results that show so many loss of jobs and so on - we've had that from the coal industry recently.

But these studies seem to be based on simply looking at the unfavourable impact from part of the story, what I call partial - what economists call partial analysis, partial equilibrium analysis - and ignore some of the consequent effects. For example, if it were the case that - as the coal lobby were saying in the last couple of days - we'll get a slower growth in coal production for exports as a result of carbon pricing and the growth in jobs in coal - the coal industry - will be smaller - not even the coal lobbies say there'll be a reduction in jobs; it will be a slowing of growth of jobs.

If that were the case we would have reduced the level of investment in the industry, the level of activity. The resources boom would not be

quite as strong. The exchange rate would be weaker than it otherwise would be. And we'd lose fewer jobs in manufacturing. We'd lose fewer jobs from our universities where exports education is very important. We'd lose fewer jobs in tourism. We'd lose fewer jobs in financial services.

But with partial analysis you just look at the things that damage the industry. You don't look at the subsequent effects. And the lower exchange rate, of course, would help other parts, even of the coal industry. The only way you can look at - sensibly at employment effects of a policy change is through general equilibrium analysis, but we're not getting that from the business lobbies. We will get it from the Treasury when their models - modelling comes out.

COMPERE: Gentleman here to my left, mic' two.

DANNY HANNAN: G'day ladies and gentlemen and Professor Garnaut, my name's Danny [Hannan]. I'm the cycling advocate from Western Sydney and also the last six years I've traded privately on the US Energy Futures Exchange very successfully.

Now, if we analyse the Australian Energy Assessment report from 2010, Australia's currently importing about eighty per cent of its fuel needs and will be importing close to a hundred per cent within about ten years. That coincides with the International Energy Agency recognising the global peak conventional oil production was in 2006 and several very reputable authorities forecasting that there will be a shortage of supply event for oil in 2012 and declining supplies after 2014.

Wouldn't we be much better off for the Federal and State Governments to be investing, at a high priority, rail instead of roads transport? And...

ROSS GARNAUT: Well...

DANNY HANNAN: I haven't finished [laughs].

COMPERE: You will soon though.

[Laughter]

DANNY HANNAN: And from the same report, at pre-2009 production rates, Australia's coal reserves will be depleted in about ninety years. But there's also projections that the coal production will be doubling this decade which means that their actual economic reserves will last only about fifty years.

COMPERE: So the question?

DANNY HANNAN: So the question is, wouldn't we be much better in just going straight away and investing in rail transport and renewable energy than any other means? So that would reduce our CO2 emissions and provide our input - transport infrastructure and our power generation infrastructure into the future as fossil fuels are depleted.

[Scattered applause]

ROSS GARNAUT: Well, I think that we have hugely underinvested in public transport in our big cities, especially in Sydney and Melbourne and I think the costs of that to the economies of Sydney and Melbourne are huge. And the carbon issue, the emissions' issue is just one of the several very big reasons for correcting that and investing more in rail, light rail and more generally in public transport. There would be good reasons,

even without the carbon issue, but the carbon issue strengthens the reason.

On the peak oil question, I think we do have to accept that oil in particular is going to become scarce sooner than people have been anticipating. That strengthens the case for decarbonising all those activities that currently rely on oil; transport's the most important of those.

That will give impetus both to - it'll be one more source of impetus to investment in public transport and governments that don't deliver that will be punished for it. And it will also give impetus to the other forms - other fuels - other energy sources for private transport, the electrification of the car supported by decarbonisation of the electricity system. The higher oil price will speed things up.

We're not quite so certain to have prices driving economisation in gas and coal use because the scarcity of those resources will come further down the track.

DANNY HANNAN: There are reports - there are several, quite frugal reports that coal production is very near its peak at the moment, or economic coal production.

ROSS GARNAUT: Yeah.

COMPERE: Thank you for that. I will ask you to keep your questions condensed if you can because we are running out of time. To microphone number six in the centre of the room please.

BRIAN CONCANNON: Mr Garnaut my name's Brian [Concannon]. I'd just like to ask you about the media's role in the climate change debate. I don't know if anybody - everybody knows this or not but there are no laws currently in place [clears throat] - excuse me - requiring our mainstream media to tell the Australian public the actual truth. So they can basically lie to us blatantly with impunity about anything they like; they've been doing this about global warming. I believe there should be laws in place that bring about transparency and accountability.

So Mr Garnaut, most politicians are telling us that you can't argue about the overwhelming facts that prove that the science backing up climate change is irrefutable. But when you look at some of the truths and facts you find out about Climategate - the hacked emails into the...

COMPERE: I'm going to ask you to get to the point of the question please.

BRIAN CONCANNON: ...East Anglia Climate Research Centre, with the uncovered deceptions of global warming to be nothing...

COMPERE: I would ask people to keep their questions nice and brief please. So the gentleman at number seven please.

ROSS GARNAUT: Perhaps I can just answer briefly the question as I understand it. The climate science, the real climate science for people who spend their lives specialising in this area, the science that's supported by the academies of science, the peak science body in Australia, in the United States, in Japan, in Canada, in China, in India, in Germany, in the United Kingdom, in all of the countries of scientific accomplishment accepts that there is a warming trend in the world; that humans are making a large contribution to it and that unless we do something about the human contribution we'll be suffering big disruption of human life on this earth.

There's - that is the weight of true scientific opinion in the world and if the...

[Interruption by heckler]

COMPERE: Thank you very much. To the gentleman over there in mic' number seven. Thank you.

QUESTION: G'day Ross, I think you're doing some pretty good work bursting the bubble there, I'm very proud. Look, the question that I add to you, earlier you made a point about free permits for electricity producers and how they wouldn't necessarily be passed onto the household and that's why they're not an ideal situation. My question to you is...

[Interruption by heckler]

COMPERE: You've been given your opportunity to talk, thank you.

[Interruption by heckler]

COMPERE: I would ask you to respect the forum please, you have been given your opportunity to speak and I would ask you now to allow others to have their point of view.

[Interruption by heckler]

COMPERE: I'm not sure but I think he thinks global warming might be a hoax.

[Laughter]

QUESTION: Thanks very much. My question to you was, if the carbon pricing regime comes in, in this term of government and the next government decides that it doesn't want to keep it, given that it will already have been in place for some time, is there a risk that for the same reason electricity producers might not pass on the savings from free permits, that any increase in costs accrued under the carbon tax will not necessarily go back as savings to households if it's removed in the next term of government?

Do you think that that same principle applies in that situation, that even if it were to be reduced that we might be left with the higher costs and none of the compensation?

ROSS GARNAUT: Well, if an alternative government became the government and repealed the measures - and it won't be so easy to repeal 'cause you - to repeal a law you need support of the Senate as well as the House of Representatives - but if they were able to and if they maintain the current Opposition's commitment to reducing emissions by a large amount, then not only would there be a risk of the electricity prices remaining high, but there - being no means of compensating for them, it would be a certainty.

Because there would still be cost increases from the alternative means of reducing emissions, but without carbon pricing there would be no means of providing tax cuts and other household support.

QUESTION: Thanks very much.

COMPERE: We are unfortunately out of time and I apologise to those people that have been waiting at the microphones, but we are on strictly limited time here. I just wanted to say that when we look at business and government there must be things also that we as individuals can do towards this, whether it's properly analysing your paper or whatever. What would you like to see us walk from this meeting and do?



ROSS GARNAUT: Well, I think that it's crucially important that Australia move - after all this discussion now for years, that we now at this time move to carbon pricing and so right at the moment, the most important thing is that we participate in the public discussion, support the idea of carbon pricing.

And I don't say that as a partisan political thing. I hope that that will be done. With our support we will get legislation that puts a price on carbon; that we use the funds for a range of things, including supporting innovation in low emissions technologies. And I would then hope that the Opposition will find that governing the country is better and easier if they keep the carbon pricing.

So I think we can support it without taking a partisan position. It's a policy that will make life easier under a new Liberal government just as it will make it easier under a Labor government.

[Applause]

COMPERE: Ladies and gentleman, would you please thank Professor Ross Garnaut.

[Applause and some heckling]

- ENDS -

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